

GENETIC JACOBINISM IN THE REPUBLIC OF CHOICE

A shorter version appeared under the title
THE LIMINALITY OF HUMAN REPRODUCTIVE
CLONING OR IN PRAISE OF THE WISDOM OF
REPUGNANCE

Key concepts introduced in this version:

*Adiaphorization – Asymmetry Thesis – genic (trans-
genic) perfectionism – self-eugenics, Mark I, Mark II and
Mark III eugenics – genetic Fordism, vertical and horizon-
tal – genotechnocapitalism, geno-economy – homo heter-
archicus, heterarchization – reverse questioning – ratchet
effect of naturalizations, propitiatory naturalization – sec-
ond-order or reflexive anthropogenesis – propaganda of
the technological deed – Platonic Preferentialism,
Heracleitean Preferentialism – Republic of Genetic Choice-
genetic general will of the species-soft genetic Jacobinism*

In a very recent book, a distinguished moral philosopher in the U.K., who has addressed in a systematic fashion major issues in public affairs and health care, relegates the question of human cloning to the realm of techno-futurology if not techno-fantasy, beyond the purview of ethics and perhaps of any kind of serious philosophical reflection, at least for the time being. This is really odd, because the question has been addressed at some length by philosophers of morality, of law, of biology, of technology, as well as theologians, for some time. Already in the 1970s, thinkers of the stature of Hans Jonas had addressed the great width and depth of implications as invited contributors to symposia on the matter, and of course in the last few years, after the Dolly landmark in 1997, the pace of pertinent publications has accelerated, and numerous publications and collections of papers have appeared by seri-

ous scholars in a variety of disciplines in a number of countries. Human reproductive cloning has not yet come to pass, as far as is known to the world, but there already obtains a corpus of thoughtful writing on the matter, as well as to be sure much facile even ribald comment from people who ought to have known better (by contrast animal cloning, reproductive or therapeutic, has received little formal philosophical attention, and the ethical or other issues raised by human therapeutic cloning have been overshadowed by those of reproductive cloning).

Human reproductive cloning (HRC) is most obviously assigned to the genus "reproductive technologies", or "new reproductive technologies", though it surely constitutes a distinct species within this genus, at the very least. For it is at least problematical whether the social, ethical, axiological, metaphysical implications of this potential new species of human reproductive technologies can simply be regarded as perfectly continuous with the previous or current technologies of medically assisted reproduction (in vitro fertilization) that have been implemented so far, and accepted so far, in the West, involving no solution of continuity of any substantial sort in any of the areas indicated. However, it should be noted that conventional *bioethics* restricts itself to ethical issues without much if any consideration of total axiological or "evaluative metaphysical"¹ implications regarding especially the status of the human person and the ontology of persons-in-society: it is not *biophilosophy* in a comprehensive sense which would seem a desirable project in this area as in every other (a restriction to ethics narrowly construed could be pretty constricting just as the restriction to epistemology has diminished the reach and interest of the philos-

ophy of science for so long). And even as ethics, conventional bioethics addresses and reflects on standard liberal Western moral values or a special package of these as if the liberal West were its sole constituency, *de facto* and *de jure*: it does not seek to take seriously, let alone to learn, from the cultural diversity within the West (and within the conscience of individual Westerners), let alone further afield, despite the acknowledged importance of descriptive (not normative) cultural relativism and the much-vaunted "conversation of humankind". It is as if it had never heard of the "polytheism of values", of incommensurabilities and incomparabilities such as a great thinker of contemporary liberalism, Isaiah Berlin², constantly addressed, of aporias, of the tragic sense of life (it is indeed remarkable how little the incommensurability problematic, still a troubling issue in the philosophy of science after forty years of discussion, and much invoked elsewhere, seems to impinge on bioethics, which might well appear as the most commensurabilist or commensurabilized of domains)³. The professional bias of conventional bioethics seems to be, when addressing new technologies, to come to a decision, normally one of ratification, rather than to spend too much time clarifying our intuitions, and exhibiting the many-valuedness of moral situations, to recall the teachings of varied moral traditions, to bring into purview manifold factors and considerations that tend to be neglected in a technological civilization with its bias towards the implementation of technologies. Conventional bioethics has lost all capacity to surprise, it rather seems like a game with pre-set constraints, as it moves to conclude "Yes", with

² This point hardly needs emphasis but one might recall "Two concepts of liberty" and see a good commentary such as the one by John Gray.

³ For a range of points of view on the issue of incommensurability in moral philosophy see *Incommensurability, incomparability and practical reason* edited by Ruth Chang, Cambridge MA 1997.

¹ For the concept of evaluative metaphysics see Nicholas Rescher.

more or less emphasis: I am reminded of the two party-system set up by the Brazilian military dictatorship in the 1960s which, according to the bon mot of the time, consisted of the party of "Yes!", and that of "Yes, Sir!".

What we might call the strict subsumption argument or perhaps The Perfect Continuity Thesis in all these areas and overall, held by perhaps the overwhelming majority of bio-ethicists and of those geneticists that have expressed an opinion in print, to judge from published debates, restricting itself to conventional bioethics, and its "monotheism of values", would justify the stance taken by the moral philosopher we referred to earlier that is, that HRC need not be addressed afresh in any depth now (or ever, certainly not after the *fait accompli*). This is because, according to conventional bioethics (i) we already know basically all there is to know at least in terms of moral knowledge about the new human reproductive technologies; (ii) we already know they are perfectly OK, by and large (the qualifications are matters of detail and circumstance), in terms of moral appraisal, or, in other words we have already come to a verdict, and that's final, and (iii) HRC is just another of these, there being nothing *sui generis* about it, in any ethically relevant and consequential particular.

Now claim (iii), it seems to me, is question-begging, because whilst there certainly are obvious positive analogies between HRC and the older reproductive technologies (RTs), equally obviously there are some dissimilarities crucially the asexuality of ARC, and whether this and all the implications and reverberations in society and the psyche that might spring therefrom (depending partly on how widespread the practice might become, and indeed the potential for so spreading), makes an essential or at least significant differences in the total axiological situation, is precisely what is at issue. Arguably the feature of asexuality or biological mono-

parentality is a novelty of far greater order involving a biotechnological intervention of far greater import than any of those involved in the human RTs that have become familiar in the last thirty five years or so. Those who object will undoubtedly regard the perfect continuity thesis as a prime example of the slippery slope: now it is true that the slippery slope argument has been used regularly against new technologies, so much so that its use has been assessed in this context almost exclusively⁴. But it is less often noticed that advocates of new technologies and most certainly advocates of human RTs regularly appeal to the argument that if a new or prospective technology is continuous with existing, already accepted one, then it should certainly be adopted, which is of course the positive version of the slippery slope argument (SSA).

Sociologists have often shown how entrenched technologies are so taken for granted, so backgrounded, so implicated in the fabric of our daily lives, as to become "naturalized", unquestioned, tacitly relied on, unthought about except intermittently on occasions of breakdown – and then to little effect, if one thinks of the scale of the social movements that have sprung from the breakdown of the great "economic machines" in great crises. Those who seek to legitimate technologies to come on the grounds that they are perfectly continuous with those already "naturalized" in this sense, or in the process thereof, seek to bring about, or to help along, a kind of anticipatory or perhaps *propitiatory* naturalization (that seems to be what much bioethics is about). More generally the argument seems to be that after a while, sooner or later, every technology including biotechnological, genoengineering, neurological, will be

⁴ Cf. David Lamb *The slippery slope*: the best text and the only book exclusively on the topic. It has been much referred to in texts on fallacies, informal logic and rhetoric.

"naturalized", at least in a progressive society. This principle applies then to technologies involved directly in what one might call *second-order* or *reflexive anthropogenesis*, the deliberate technological modification of the human by humans, in contradistinction to the technological modification, intended or unintended, of the non-human environment by humans or simple anthropogenesis, regardless of area, level or scope, permanence, heritability or irreversibility.⁵

The Central Dogma underlying this type of argumentation seems to be an *Asymmetry Thesis*, that resistance (resistance of any kind) to technological innovation of any kind is what calls for explanation and research (and remediation), not acceptance per se, and indeed the cultural lag thesis in the sociology of technology involved precisely this assumption (and some extent this applied also in the economics of technology). This has been qualified in regard to alternative technological options as indicated by the "QWERTY syndrome" i.e. the differential acceptance and entrenchment of an inferior technology and rejection of a superior one, though the specific example has been questioned. To my mind what is striking is how such technological projects have met with so little opposition given the staggering character of what they purport to bring about compared with the ferocity of the struggles over political proposals and social inventions and the general animus against "social engineering" (the increasingly widespread practice of genetic engineering, of human bio-engineering, never seems to count as "social engineering", no matter how

widespread, how novel, how unforeseeable in its impacts)⁶. Could it be that the ongoing and emerging technologies of second-order or reflexive anthropogenesis will elicit feeble responses than any surge of technological innovations since the early phases of the Industrial Revolution? This at a time when the evidence of global climate change and of the anthropogenic impact on the global climate, contested for so long within and outside the scientific community, is finally coming across to most people...

Most bioethicists would deny that the slippery slope obtains, on the grounds that there never is any such overwhelming momentum, irresistible thrust or drift, and hold that we could stop at any time, in a series of closely related biotechnological innovations if and when significant unwholesome effects were discerned (which seems more a matter of optimistic faith than of anything else, backed by a secondary thesis that remedial technologies for the mitigation or elimination of the damage technologies inflict often unforeseen can always be found in good time before large-scale irreversible harm has been done say to local, regional or planetary ecosystems. According to this standpoint, for any given technology N, a subsequent, N+1 remedial technology can always be found, in principle, and in good time too, to reverse or compensate for the ill effects that have ensued of any and every kind. Such staggering claims cannot be vindicated rationally: though arguments have a role, ultimately these are matters of faith, that in the last analysis pertain to the theodicy or eschatology of technology, not to the "public understanding of science" or "better science education".

⁵ This might be confused with a "reflexive anthropogenesis" which would involve a critical scrutiny of ongoing human-induced technologically and economically mediated modification (anthropogenesis) of the environment but by "reflexive" here I wish to draw particular attention to the modification of human beings by human beings through the instrumentality of advanced technologies of biological reshaping, particularly genetic and genomic engineering.

⁶ The historical semantics of the locution "social engineering" deserves a special study. Popper's strictures, it will be recalled were against holistic social engineering, not against social engineering as such, for he was a keen advocate of piecemeal social engineering and democratic social reform. Indeed, he is still being criticized for his social democratic predilections associated with his faith in the latter.

A tacit assumption in the (i) and (ii) theses indicated above is the presumption that once RTs have been accepted, they are here to stay, and because we have accepted them, we can take it for granted that the question of their overall axiological configuration, of value and disvalue, rightness or goodness, need not, or must not even be raised ever again. At least, some might add, within what one might call "the moral present" or the "moral space" of the West, the tacit boundaries of conventional bioethics although treated tacitly as what we might call the *total moral ecumene*, the field of legitimate participation in the moral conversation of humankind: perhaps those who insist or persist in questioning the validity of the acceptance are anachronics or outliers, moral aliens. But it is difficult to see how acceptance of RTs can be taken as conclusive as far as normative validity is concerned (a socialized version of the naturalistic fallacy) and how acceptance of each new RT, up to and including HRC, regarded as irreversible in fact and in reason and in value, by a kind of *ratchet effect of naturalizations*. This is odd, because according to the principle of the corrigibility, revisability or "the permanent control"⁷ of all claims, whether cognitive, methodological, theoretical, evaluative, subscribed to in Popperian or other critical rationalist terms, it could not be ruled out that in the light of subsequent experience with the field of operation, and other inputs e.g. of theoretical reflection with or about RTs or other emerging, broader or fuller contexts of appraisal we might come to reconsider and reassess what had been accepted (in a manner analogous to the proceedings of the hypothetico-deductive method or the procedure known as the "wide reflective equilibrium", though this leans perhaps towards excessive conservatism unlike the Popperian falsifi-

cationist version of the former). Reappraisals of the human past, not least of the recent past, in analytical, explanatory or evaluative fashion are the very stuff of cultural modernity: there is no reason to exempt current, accepted, even entrenched, technologies from reconsideration and reappraisal, in the light of their unfolding impacts, not least ecological and human-biological, and of better knowledge and understanding of these. We have after all come to cut down on the use of pesticides in the light of their myriad unintended biocidal and ecocidal effects, the constant X-ray testing especially of children that was current, unquestioned, mandatory practice for decades has been discontinued, the practice of lobotomy so enthusiastically endorsed for some time rejected, and other examples of acclaimed and widely used technologies being sharply reduced or discontinued altogether (of course even now there are those who demand more use of pesticides, etc.).

In an increasingly hyper-technological society we are becoming the nodal points for the intersection of multiple technologies and technological systems which through universal digitalization and informatization are increasingly interconvertible, both amongst themselves, and in and through us, despite our perhaps irredeemable partially analog nature, where in a pluralist society we had become the nodes for the intersection of multiple non-concentric social groups or circles⁸. Participation in a web of non-concentric, only partly overlapping, group affiliations was supposed to be a major factor in fostering the emancipation of the person. Whether location in cyberspace and in technological networks increasingly integrated may conduce to emancipation is arguable, for the person that could stand for the *homo*

⁷ On the "principle of permanent control" see Felix Kaufmann *The methodology of the social sciences*.

⁸ A thesis advanced by Simmel, notably in the text translated decades ago as "the web [sic] of group affiliations" and restated by Bouglé in *Les idées égalitaires*.

aequalis and partaking of varied intersecting groups found privacy and achieved moral autonomy, may not carry over as a node in universal digitalization and reticularization: perhaps the new type of human being the metonym of intersecting, criss-crossing, hyperlinked technological systems will take shape as a *homo heterarchicus* the locus of networking and the networking of networking and so on to any degree. The propaganda that apotheosizes the Information Age as a universal solvent of hierarchies of all kinds, much more effective and far-reaching even than political revolutions of classical liberal individualism of *homo aequalis* and the techno-economic changes of earlier ages of industrialism, would imply that the promotion of reticularity and omnilaterality would be optimific, and conducive to all good things, but can Kantian-type moral and intellectual autonomy be reinstated, even as an ideal, under these circumstances, or would the slogan of "heterarchy" stand euphemistically for *heteronomy*, if no longer in the organic, hierarchical community, or the 20th c. crowd⁹ but in an on line virtual community?¹⁰ Our three ages of a

cybernetic historiosophy would then be (1) the Age of Hierarchy (*homo hierarchicus*) of embeddedness in concentric organic and concrete communities, (2) the Age of Equality (*homo aequalis*) and the Abstract Society, moral individualism, and rational autonomous peers in non-concentric social circles, and finally (3) the emerging Age of permanent inclusive on-line Heterarchy (*homo heterarchicus*), with e-science, e-philosophy, cyber-sex, and so on, within its electronic quasi-concrete "virtual communities". To be sure the process of heterarchization is only incipient, for not everyone is on-line all the time with equal competence and receptivity, not every artefact has been interconnected by Bluetooth technology, not all technologies have been informatized and digitalized, and it will take time for the heterarchic mode of being to become fully "naturalized", despite all the incantations already in process of propitiatory naturalization, indulged by enthusiastic virtualizers.

But we don't in effect even in this kind of society just go on extending accepted technologies and arguing from their acceptance that analogous ones though perhaps more sophisticated or potent are therefore to be accepted likewise: sometimes we have gone back and rejected technologies that had become widely used and indeed to some extent *because* they had been widely used and used as in the case of the grotesquely massive and ever-growing utilization of pesticides in all sorts of ecosystems and agrarian systems so that the damage had reached global proportions and even insofar as

⁹ S. Moscovici *L'Âge des Foules*; for the mild version see David Riesman *The lonely crowd*.

¹⁰ We have coined this neologism, *Homo heterarchicus*, in order, in part, to pay homage to Warren McCulloch, a key pioneer of the Cybernetic Age, for it was he who advanced the concept of "heterarchy" in his famous studies of neural nets. But also in part to provide a counterpoint to some key macrosociological concepts advanced in the comparative study of civilizations. The concept of *homo hierarchicus* was formulated by Louis Dumont in his major studies of the Hindu caste system and utilized by him in his studies of a number of currents of European thought. His book on the social ontological presuppositions of Western individualism was entitled in the original *Homo aequalis* (the English translation of this book uses a different title). Curiously the modern type of character-structure in the West that David Riesman delineated as other-directed, succeeding the Calvinist conscience of the inner-directed person was partly explicated in terms of a technological metaphor supplied by none other than the theorist of Oriental Despotism, K. Wittfogel, that of radar, which presumably was supposed to be switched on most of the time (the inner-directed, conscience-driven or

self-steering man was depicted in terms of another new-fangled technological metaphor, that of the gyroscope, another, older cybernetic mechanism). From continuous attention to the radar screen and gearing oneself to its indications in the ever-changing presentation and representation of the self in daily life (Goffmanesque Man seems to proceed in this fashion) is not such a leap to being on-line and living on its terms, involving fuller and more vivid screens (soon to surround us everywhere), and abundant instant unceasing information on all sorts of predicates.

it is not irreversible calling for the utmost efforts of restoration ecology¹¹ We are surely capable of learning from experience (and that includes maturing self-reflection) and coming to see the impact of certain technologies and bio-medical practices in a new light, with an appreciation not only of past and current impacts, but also on future generations, a moral category which has become more salient owing to a considerable extent to technological change, whether directly or indirectly. Though this extension of the moral horizon for technological appraisal has been questioned by some moral philosophers (how can unspecifiable individuals have interests, or claims? can we possibly owe any duties to posterity?) it seems well-founded.

We don't just proceed then from hitherto accepted practices such as the RTs that have become established or even "naturalized" though never uncontested by some currents of opinion even in the West in the last twenty or thirty years or so (ad what a short period that is in the history of *homo sapiens sapiens*) to the consequential acceptance of a new RT, to be added to the existing repertoire because previous ones have become established (an astonishingly straight, direct linear inference, drawn sometimes by the very scholars who pay lip service to the coherentist, allegedly non-linear "wide reflective equilibrium" of Rawls-Daniels¹²: what is "wide" about this type of inference with its single input of precedence?).

Just as in our individual and collective lives we may come to see the past in a new way (though some might claim that repentance, remorse, guilt, expiation and the like no longer have a place or just a very restricted hold in our current ethico-political scheme by which Protean Man and Protean Woman live, in which responsibility for the past selves counts for so little, with few exceptions) so too in the appraisal of technologies we can also come to see the glorious recent past in a new way and not the present as but an extension of a presumptively valuable or even self-justifying repertoire. That indeed would be to participate in to condone what we have called the *ratchet effect of naturalizations* with no end in sight not only for RTs of any and every kind but for the whole project of unceasing second-order anthropogenesis. But there can be and there ought to be retrospective retransmission of disvalue or invalidation just as for the extensionalists there is a presumption of transmission of value and validity from the currently or recently accepted to the presumptively analogous emerging or projected bio-, genetic or reprogenetic or other biotechnology or RT. This kind of argument affords a nice and easy way to deproblematize and neutralize all the putative value-laden, profanation-seeming implications of technological novelties that folk ethics, common sense moral intuitions or gut-feelings, or religions may find, as is surely the case with HRC, very disturbing. But then technological innovation, not least with respect to human reproduction, can only proceed by constant *adiaphorization*¹³, even desacralization or denuminization of previously value-charged fields of human life and social practice, even strongly so: that was the case with modern

¹¹ What an economist has called "reverse serendipity", giving as an example the late discovery –or rather late public denunciation and in this sense late public discovery- of the adverse and often disastrous effects of pesticides on untargeted animals and humans after decades of massive and ever-expanding use throughout the world (Douglas Dowd *The waste of nations – dysfunction in the world economy* Boulder Co 1989, p. 83. But similarly we might speak of reverse moral serendipity when practices, not necessarily technological, are reappraised in the light of experience and reflection.

¹² Adverted in *A theory of justice* it has been developed by Norman Daniels in a number of papers collected in.

¹³ *Adiaphorization* might be called *strong naturalization* inasmuch as it implies not only acceptance or taken-for-grantedness but the voiding of value-implications, or value-stakes, the neutralization of what been charged with sacred connotations, reason enough for bitter disputes.

capitalism as Carl Schmitt pointed out in his account of successive neutralizations in the West (in the domains of religion where the term *adiaphoron* came into wider currency, of the economy, and of politics) and Schumpeter who saw the same modern capitalism, not science, as the destroyer of the pre-logical mentality of mystical participation¹⁴. One might even say that these processes enable technological innovation as much as knowledge and experimentation, though this process of neutralization can be partially reversed, as the example of animal rights protests and the shift in moral sensibility towards animal pain and suffering of the last two decades shows: not an inconsequential matter taking into account not only barbaric farming practices but also the yearly use of hundreds of thousands of laboratory animals, and the ongoing disputes over "genetically modified organisms" (GMOs), whose deployment is being pushed by the government in the UK *against* public opinion (not just "technology-push" or "corporation-push", but "state-push" also paving the way: it is not just nature that has got to be overcome). What we have called the ratchet effect of naturalizations or of acceptance/validation for every consecutive emerging technology which HRC defenders prominently appeal to as a knock-down argument (whilst at the same time vociferously denying any commitment to technological determinism), would only ensure an unlearning, unself-critical, self-satisfied conservatism sacrificing the openness of the future (so prized by liberals, and quite rightly) to the alleged necessity of an unexamined, taken-for-granted even triumphalistically proclaimed recent past.

The eugenic movement which flourished throughout the West between the 1880s and the 1940s advocated and worked strenuously towards major shifts in the reproductive prac-

tices and institutions. It was driven by a sense of urgency in the belief that genetic "stocks" ethnic, national, class-wise, perhaps the species itself were deteriorating steadily (there was for example much concern in the 1930s over the alleged decline of measured national intelligence in the UK),¹⁵ and this *dysgenic master trend hypothesis* that our societies are not only genetically sick but genetically deteriorating (a kind of Marx-like directional law or trend of genetic "immiseration" under capitalism), continues to be reiterated for instance quite recently by one of the most brilliant evolutionary theorist of our time W. D. Hamilton¹⁶. This classical or Mark I type of eugenics envisaged essentially, *faute de mieux*, changes in reproductive institutions, the laws, regulations and customs concerning who should be allowed to procreate, who should marry whom, who should be encouraged to have progeny, etc.: they diverged as to the relative weight of the social mechanisms, state coercion and suasive agencies (education, propaganda) that should be deployed in relation to what social strata (even in democratic countries such as Scandinavian nations and in some states of the USA, prisoners and those confined to asylums were favourite target populations for compulsory sterilization and even castration, if not (involun-

¹⁵ In recent years the "Flynn effect" has been reported. This effect consists in the steady increase in measured intelligence over the last decades: the more people watch television, the cleverer they get! However spurious this effect may be, at least this IQ inflation has stopped geneticists' concern over the issue of diminishing (measured) intelligence. The history of measured intelligence does seem a history of mis-measures, as S.J. Gould put it.

¹⁶ This appears in the second volume of his posthumously collected papers. H. J. Muller put this point as the "ratchet effect" of deleterious mutations. He campaigned for many years against over-ground atomic tests on the grounds that they were increasing the load of these mutations unnecessarily and dangerously, which partly explains the title of his biography *Genes, radiation and society: the life and work of H. J. Muller* by E. A. Carlson (Ithaca NY, 1986).

tary) euthanasia, as measures of coercive negative eugenics, practices that went on in some cases until the 1970s).¹⁷ They also diverged on the relative emphasis to be given on "negative eugenics", the remediation and prevention of dysgeny and on "positive eugenics" to foster genetic improvement in successive generations producing ever-higher average human types (in physical, intellectual and moral terms) in the happily eugenized populations. Basically the general tendency was to envisage negative eugenics as coercive, relying on the powers of the State to enforce sterilization of various categories such as the mentally deficient (a bill was put to the British Parliament to this effect, but was soundly defeated), as much or more than persuasive, and positive eugenics as entirely persuasive (with the aid of taxation perhaps).¹⁸

However if not the first, at least one of the first texts by a biologist at any rate to envisage not merely changes in reproductive *institutions* but in reproductive *technologies* on a scientific basis, drawing on the findings of genetics,

embryology and biochemistry, for the betterment of the species, was the geneticist, mathematical evolutionary theorist and polymath, was J. B. S. Haldane's pamphlet *Daedalus or the science of the future*, published in 1922¹⁹. Now this pamphlet is no mere historical curiosity, inasmuch as it had an immediate impact on the chattering classes (it was reprinted many times in the next few years). Amongst notable responses that ensued over the next five years or so in the U.K. we may note the following: it drew the interest of one of the first women journalists in Britain who went on to write a science fiction novel inspired by the problematic (recently reprinted and discussed by feminist scholars) and to marry the author, triggered a response in the form of a pamphlet entitled *Icarus or the future of science* (the very title indicates that it was meant as a counterblast to Haldane's),²⁰ later developed into a full-fledged book, by no less a figure as Bertrand Russell²¹,

¹⁷ Calls for compulsory sterilization of certain social categories defined in psychiatric or legal terms have been made in recent years by some minor public figures in the West partly on the fiscal grounds that the welfare state cannot cope with their progeny (this fiscal argument was also a standard Nazi argument). It has been alleged that a quarter of a million Indians were coercively sterilized in Peru under the Presidency of Fujimori which, if substantially true, would constitute the largest population to be subjected to this since 1945.

¹⁸ Even Keynes subscribed at least for part of his life, to an eugenic creed, with clear racist views, and sympathized with coercive negative eugenics, though he published little directly on these themes. This unpleasant matter has been very fully discussed with extensive examination of unpublished texts in the recent book by John Toye. No doubt some will see a deep connexion between this stance and his other more public doctrines on economic policy though this would seem to me far-fetched and lapsing into a clear-cut form of what used to be called (indeed has been called for the last hundred years or so) "the genetic fallacy" which, like "the ecological fallacy" in social analysis probably needs to be renamed to avoid confusion.

¹⁹ The American geneticist H.J. Muller was working on similar lines and wrote an essay on this theme in 1925 which he did not publish at the time, but appears in his *Out of the night: a biologist's view of the future* London 1936 (much praised by Haldane, who had also become a Marxist by that time).

²⁰ It will be recalled that Icarus was the son of Daedalus.

²¹ The book in question was *The scientific outlook*, published in 1931, a harsh critique of scientific projects of large-scale, thoroughgoing societal transformation through industrial, biotechnological, and psychological techniques or some combination thereof, and to some extent a devastating critique of contemporary science itself, not only as compromised in these specific projects, but more widely, inasmuch as it may involve "power-thought" or "power-knowledge" (the very expressions he coined, long before the immensely quoted Foucault, not to mention critical philosophers of technology), rather than knowledge for the sake of truth, out of the love of the world. In the first post-war reprint, in 1949, Russell noted the similarity of themes in Huxley's novel and his own book, coincidentally published in the same year. This work was reprinted again, in paperback, this year, as part of a project of reprinting a number of the works of the author. The flavour of Russell's argument may be conveyed by the following quote: "Science in its beginnings was due to men who were in love with the world. (...) They were men of Titanic passionate intellect, and from the intensity of their intellectual passion the whole movement

and was one of the major influences on Aldous Huxley whose novel *Brave New World*, also published in 1931, addressed the role of reproductive technologies especially ectogenesis (the entire reproductive process from fertilization to birth being carried out outside any human body) which Haldane had envisaged, and the factory production of fungible, interchangeable, genetically identical human beings (though not "clones" in the precise contemporary technical sense in that they were not produced by "somatic cell nuclear transfer", and of course they were co-natal, unlike cloned and clonees today, who belong to different generations) by a kind of *genetic Fordism*²² as well as psychological, psychotropic and social ones in a scientifically planned society.

Haldane's little book was significant in stressing perhaps for the first time the new role of biological inventions in shaping human society, the role of biotechnological innovations would be playing not only for the fundamentals of animal husbandry, agriculture, public health and nutrition (when conventional thinking about the future of the economy was still geared to physical and chemical inventions in both peace and war, and indeed the First World War has been characterized as a chemists' war and the Second World War as a physicists' war), but also more directly and intimately for the basic

structures of human reproduction. Though he missed the mark in expecting ectogenesis to come any time soon and represent the major RT in the biologically informed society, one could argue that HRC is the "next best thing" to ectogenesis, inasmuch as it constitutes in any case a radical departure in the basic form of human reproduction from the inception of the species if not since the inception of sexual beings in the history of life (accomplished first with Dolly). It should be noted that he saw the coming age of biological inventions not merely as biologically beneficial for individuals or for the species, but also as happily scandalous, pre-eminently morally and intellectually purgative, particularly in its "demonstration effects" undermining religion, the authority of priests and of received moral and legal codes regarding sexuality (from which he suffered personally and professionally), liberating the whole realm of human sexuality and reproduction from the extant conventional non-technological constraints. It would liberate as it were the forces or means (the new technologies) of reproduction from the extant social relations (i.e. the moral, legal or religious framework) of reproduction, separating not only sex from reproduction but also reproduction from sexual activity, if not in the then unforeseen HRC, at least possibly in parthenogenesis or ectogenesis, and both sexual reproduction and sexual activity in general from legal compulsions, at least beyond some absolute minimum²³

of the modern world has sprung. But step by step, as science has developed, the impulse of love which gave it birth has been increasingly thwarted, while the impulse of power, which was at first a mere camp-follower, has gradually usurped command in virtue of its unforeseen success. (...) Thus science has more and more substituted power-knowledge for love-knowledge, and as this substitution becomes completed science tends more and more to become sadistic" (op. cit., pp. 270-3).

²² It might be called "horizontal genetic Fordism" being the production of a multitude of genetically identical human beings at a given time. The techniques of human reproductive cloning would enable a kind of potential "vertical genetic Fordism", the production of any number of genetic copies of a given prototype over time in successive generations.

²³ The Marxist terminology is not accidental here, for Haldane was formally converted to Marxism in 1936, was for many years a member of the British Communist Party and wrote on the Marxist philosophy of the sciences. The geneticist and eugenicist H. J. Muller, who took his Marxism seriously enough to go and work in the Soviet Union for a number of years, used this terminology of forces and relations of reproduction. Regarding the separation of sex from reproduction and vice-versa, Baudrillard commented somewhere that we have moved from situation in the 1960s when the maximum of sex with the minimum of reproduction was all the rage, to a situation in which we seek to combine the minimum of sex

For our biologist these biological inventions would act, as was said of the telescope in the 18th c., as "moral artillery" to blow up the spiritual heavens, though Haldane went on to live and work in India (partly because it was a neutral country in the Cold War), expressing sympathy with the Hindu way of life: *vive la différence*, the plurality of civilizations!

Like many other technological innovations HRC will not be brought about by market-pull, let alone by the press or call of human need: if anything, it will be a matter of technology-push, or the drive to realize what may be technologically possible as such, and the credit, fame or notoriety accruing thereby to the first in the race, while justifications of other sorts can always be found aplenty after the event, even perhaps a market rationale, legal endorsement or non-prosecution as we have seen in previous RTs. Thus what might be called "*the propaganda of the technological deed*" has been more successful, more widespread, more condoned and more contagious than the tactics of the political "propaganda of the deed" adopted by the anarchists in the late 19th c. In the case of cloning of pets –so to speak "members of the family" some effective demand has already been expressed, and down-payments have already been made to at least one company in the US, but so far no deliveries have been reported: it appears to be a perverse conspiracy of circumstance that the bulk of the animal species indulged as pets by humans today are not amongst the most easily cloneable species. Nevertheless, the prospects of HRC must be seen within the structural-historical context of "techno-capitalism" (in which technological change has become recognized as the motor of

economic growth surpassing the other factors that have hitherto concurred with equal or comparable weight), soon to incorporate perhaps as an important sub-sector a *genotechnocapitalism* as techno-biological innovation has become a salient area of academic-industrial science capitalism or what I have called elsewhere "the techno-science of commodities" (and since the production of commodities is also the production of discommodities, it is also the techno-science of discommodities). This surge involves the current explosion of genetic and genomic information and information-processing capabilities induced by the race of the Human Genome Project (accelerated even more from outside the original community by the likes of Celoron), the commodification of epistemic things in genetics and biotechnology, the thrust of genetic engineering in all its phases including not only somatic (somatic gene therapy has turned out a great disappointment, though this may be changing) but also germline genomic engineering, the emerging global genetic market (certainly in animal and plant genes, though the collapse of the Human Genome Diversity Project shows how much resistance there is to the idea of a potential global human genetic market, a resistance which seems to have taken the geneticists involved completely by surprise) and the ever-expanding market for genetic services of varied sorts.

What has come into being is what may be called Mark II eugenics satisfying the following criteria which differentiate it from classical or Mark I eugenics which flourished between the 1880s and the 1940s:

- mobilizing the more recently developed technologies of genetic engineering not available in the epoch of Mark I eugenics, rather than aiming at changing social institutions and regulations directly as its prime instrumentality;
- It does not appeal formally and directly to the state, though presupposing state consent for

with the maximum of reproduction. The very abolition of sex, half-entertained by some utopians of the 18th and 19th centuries, as a follow-up to the termination of reproductive sex, has reappeared in the agenda of some sociotechnical cyberneticians.

genetic modification of persons *ex ante* or *ex post*, in a culture of rights²⁴ which will include genetic rights, rights discourse being virtually the supreme moral idiom of the epoch (of course rights will have to be enforced by the State against moral minorities or perhaps even majorities). By contrast, Mark I eugenics stressed above all positive and negative duties and obligations, the reproductive duties of parents to their children (including the duty not to procreate in cases of hereditary illness), and of prospective parents to their country and its future in a competitive world, and of all (including the State) to future generations, duties and obligations which would have been normally construed as of supererogation, but which the Mark I eugenicists would want to make strict duties and as far as possible legally enforceable as well as backed by enlightened public opinion. It cannot be said that they were reluctant in this for they were enthusiastic propagandists even resorting to the medium of films to get their message across, though they were also keen if not keener to do accomplish (macro) eugenic tasks from above²⁵;

²⁴ For Nozick, who advocates a kind of strong culture of rights, rights are invulnerable so presumably the rights to take part in what he called the genetic supermarket are also invulnerable.

²⁵ A leading American geneticist taking part in a Congress in Rome took the opportunity to write to Mussolini, another, eventually a Nobel Prize winner (H.J. Muller), then living in the Soviet Union, wrote a letter to Stalin. Hitler did not wait to be written to, though in any case he was congratulated by some American geneticists/eugenicists. Muller's letter to Stalin urged him to set in motion a vast programme of positive eugenics to encourage the reproduction of superior people now that class privileges and social inequality no longer obfuscated true inborn superiority, and advance the progress of socialism biologically, increasing its comparative advantage over capitalism in a distinctive way, barred, he thought, to capitalism. He did not get a reply. After he returned to the US, he was instrumental in setting up perhaps the first sperm bank the donors being Nobel Prize winners (as he was) and the like, so capitalism at any rate did prove somewhat receptive to his plans to encourage the genetic

- not targeting in general, at any rate not formally, special social strata, or other collectives (no reference to race or ethnicity as the suitable subjects of genetic improvement) and thus deserving to be called micro-eugenics or individualist eugenics, legitimated by the language of individual rights and of personal choice, in a climate of increasing geneticization of our self-understanding and self-explanation. "Our fate is not in the stars but in our genes", but whilst we could not change the stars in the framework of "astro-biology"²⁶, now we can change our genes—at a price, with the right technology—and therefore our fate (though perhaps the word "destiny" would have been more fitting in this context);
- market orientation: it serves the new market for high-tech genetic or reproductive services that has emerged and developed in increasingly sophisticated ways in the last thirty years, in conformity with the market ideology of the Republic of Choice, which is attaining, given the conjunction of the ideology and the technologies, perhaps its last and highest stage as a *Republic of Genetic Choice*;
- the macro-outcomes in the reshaping of at least national society, as a result of multifarious micro-eugenic, genetic interventions in individuals and families, or the possible nega-

upgrading of the country. It was however a far cry from this sperm bank and even all the others that have been set up in the US since then put together, and his extraordinary vision of further improving a socialist society (which he had regarded as a necessary starting-point and the only sound social and economic basis for his biological programme) eugenically to secure "genius" level for *everybody* within a few generations—and that, he stressed, would not be the end-state by any means. This vision was set forth in his book *Out of the night – a biologist's view of the future* London 1936. The book was published by the Left Book Club—it was obviously seen as a kind of Left Eugenics—and in the blurb his fellow-geneticist and fellow-Marxist Haldane stated that if Muller's proposals were adopted, the results would be as important as those of the Industrial Revolution.

²⁶ René Berthelot.

tive "externalities" of such geno-economic activities, appear deemed to be beyond its purview, or indeed anybody's, whilst they were the clear public target, and indeed the chief aim, of Mark I macro-eugenics.

Reprogenetics²⁷ or germline genomic engineering encompasses what used to be called negative and positive eugenics, including therefore enhancement perhaps the indefinite enhancement of every quality and attribute, physical or mental, of human beings with some kind of genetic basis, which can be compounded or reinforced even within a lifespan by activation or replacement of the "superalleles" installed in the pre-natally genetically improved subjects, so as to upgrade her or him genetically within his or her lifetime over and over again... Insofar as genetic improvement can now in principle at any rate take place in the individual's life-time in those who request and pay for it, we have now reached the stage in which *self-eugenics*, the genetic improvement of one's natural capital or natural assets, the project of natural capital accumulation of the genetic self, of revising one's genetic biography, or extending one's genetic curriculum vitae, may become possible (Sartrean existentialism never imagined this type of self-reinvention, which must surely count as inauthentic by its criteria). The emergence of self-eugenics would make for a further differentia for Mark II eugenics, or shall we call it Mark III eugenics?

All this of course in addition to the other techniques of *euphenics*, not only the correction of disfigurements but also the improvement of one's phenotype, especially the enhancement of one's looks, through such means as cosmetic surgery, which has been

typically individualistic from the beginning, neither aiming at social change nor part of social programmes²⁸. Nevertheless, waves of euphenic fashion and the pressures on both females and males in some age-cohorts for such interventions, given their increased availability, safety and sophistication and the extension of the legal market for euphenic services, may bring about not insignificant social outcomes. Some have already expressed concern that the potential *Republic of Euphenic Choice* may bring about not so much a freedom of looks as a kind of "MacDonaldization of looks" (though technological optimists, as is their wont, might well characterize such a situation in a quite different way, say, as one of the elimination of ugliness, the opportunity for the exercise of self-choice and the rise and rise of facial, euphenic standards!).

Now like every other technology that has come into play in human societies, including biotechnologies, HRC is likely to interact with these technological developments under the press of marketization and commodification of genes, organs and body parts ("the universal body shop"), and assisted reproduction services, and the moral climate associated with these trends. To appraise it solely in terms of the "preferences" of the to-be-cloned seems

²⁸ The novelist L. P. Hartley, better known for his other works, published what one may call, despite the oxymoronic ring, an *euphenic dystopias*, a rare instance of this little frequented minor genre, entitled *Facial Justice* (London 1960): reacting against the egalitarian ethos of British society in the Labour Government years of 1945-51, he pictured a society in which looks are standardized by compulsory surgical interventions, so that no one need suffer from being ugly and no one need be envied or admired for being beautiful, the ideology being that one's looks are totally unmerited, and yet the distribution of looks is very unequalitarian, and therefore calls for correction, just as other unjustifiable inequalities have to be corrected as a matter of social justice (hence "facial justice"). The novelist probably imagined that this kind of intervention would never become widely available or widely desired.

²⁷ A term coined by Lee Silver, an enthusiastic advocate thereof.

quite unrealistic, quite apart from the fact that, despite numerous disclaimers, there obtains a strong proclivity in economorphic modes of reasoning to imply that they may be taken to be determinate, given, fixed, imperious, self-contained, consistent or transitive, connected and complete, an ensemble of properties that might be called the ideal type of *Platonic Preferentialism*, favoured at one time by neoclassical economists of the Chicago variety. Note though that this dogma was always rejected by the Austrian variety of neo-liberal economics which leans towards a *Heraclitean Preferentialism*, with preferences always changing from situation to situation, never complete, or necessarily transitive, or well-defined, though both subscribe to the dogma of the Absolute Individual and the Sovereign Consumer²⁹. Now the Sovereign Consumer feels entitled to access the market for genes, as any other market, the market for genetic therapy, the market for "genetic capital" for self, and especially for correcting and enhancing the genetic resource endowment for progeny, this presumably being repeated in generation after generation, a process of genetic capital accumulation without definite predictable limits in which Genetic Capitalism may advance.

The project of HRC appears to embody the conjunction (in some ways rather uneasy) of two great dreams, one very, very old, the other having more recently come to the fore: the dream of the Perfect Copy and the dream of the Perfect Baby, combined in the Perfect Being. Though in an age of mutabilism or pan-fluxionism, it is likely to yield to the more compelling vision of the *ever more perfectible being* though it may coexist with it in the pluralistic Republic of Genetic Choice that is emerging (of course it

can harness other motivations, draw on other dreams, and in accordance with the principle of the heterogony of ends, it is likely to). It is one, but only one, of the many ways in which what we may call *genic (or trans-genic) perfectionism*, perhaps the single most salient, most appealing, most credible mode of perfectionism in the West today after the discredit of all other radical social and political versions, heir to all the ruined visions of radical and enduring improvement of human beings, is evolving³⁰. Perhaps we have not really learnt to live without illusions of omnipotence and intra-human redemption as all the sages have taught us, if we cleave to genic or trans-genic perfectionism or any other kind of perfectionism as our royal road out of our miseries. It is a perfectionism geared to individuals and individual choices, suited to an age of atomistic individualism: *prima facie*, it hardly seems consonant with the interests or affinities of *homo heterarchicus*, though both partake of digital information technologies as instruments. Technologically induced self-transformation, second-order or reflexive anthropogenesis writ small and piecemeal in the manner of genomic engineering, seems the way ahead under these circumstances.

Folk reactions to the prospects of HRC have been of great concern, even repugnance, mixed perhaps with a sense of resignation. The concern and the repugnance appear to be eminently sound and I entirely concur with the extraordinarily eloquent and insightful paper by Leon Kass entitled "The wisdom of repugnance" on this and other matters³¹. What about the resig-

²⁹ See for instance my two-part paper on "Risk and uncertainty" in *Episteme-Revista da Universidade Técnica de Lisboa* vol. 1.

³⁰ On the history and critique of the idea of human perfectibility in the West see John Passmore *The perfectibility of man* London

³¹ Leon Kass "The wisdom of repugnance" originally published in the journal *New Republic* in 1997, reprinted in various places, including *The human cloning debate* edited by Glenn Mc Gee (Berkeley, Berkeley Hill Books 2000) and in *The ethics of human cloning* Washington DC, AEI 1998.

nation wholly understandable in the light of the torrent of geno-hype and RT hype, and the ever greater geno-techno-market incorporation of all branches of life, human and non-human, the subjugation of more and more areas of privacy, intimacy and personhood to "technologico-Benthamite" canons (F. R. Leavis)?

In metaphysical terms, a Principle of Plenitude has operated in Western thought at first as a celebration of a fixed, value-laden, teleological Order of Nature, then as a heuristic for an all-encompassing evolutionary process and as a teleological principle of the sciences in general³², or as a principle of reason³³, more recently as a charter for technological development (though still important in cosmology and modal thought as in the analytical metaphysic of modal realism of David Lewis). In the latter form it is also known as the "technological imperative", or in more restricted and mundane fashion as the "Gabor rule", as well in other guises such as "can implies ought" (a reversal of the familiar Kantian maxim), identified by the systems theorist H. Ozbe Kahn in technology-worship. We can either let the Principle of Technological Plenitude work its way through or we can attempt to draw boundaries: there is an element of arbitrariness in any drawing of boundaries, but this does not make them necessarily indefensible or illegitimate, for any livable life has to be sustained by boundaries not given obviously by nature, though this liminality of the passage to asexual reproduction for human beings and the deliberate production of genetic copies, even if perfect seems more luminous than most in the matters of RTs, a kind of *tremendum*, a kind of utterly misplaced venture into the technological sublime. Of course, the claim that it involves a liminality, the crossing of major metaphysically significant threshold, a shift in some basic parameter of human existence would be totally rejected by many if by no means

all geneticists and bioethicists (though it would not be clear what, if anything, done by human scientists could possibly count as such for them). It would be foolish, however, to see this value and hermeneutic gap, as the clash of two camps, for science and against science, the enlightened and the obscurantist, the rational and the irrational (fearful, anxious, gloomy, much too ready to predict perverse outcomes and dangerous political utilizations of sound technologies). Rather, to paraphrase Whitehead, the mark of a civilized person is to stand unflinchingly for and by some distinctions and boundaries, in issues that he or she cares deeply about, however precarious and challengeable, even if he or she expects to be defeated, if only to bear witness.

In the same spirit we may cite Paul Ramsay who engaged with some of these questions concerning the ethics of RTs already decades ago (one of his books was already called *Fabricated Man*): "a man of serious conscience means to say in raising urgent ethical questions that there may be some things that men should never do. The good things that men do can be made complete only by the things they refuse to do". Or in other words, human rational autonomy, and the human capacity for good, call as much for *volonté* (Renouvier's serviceable term), as for positive volitions as *volonté*. This runs so much against the spirit of the times that it is unlikely to be heard, let alone heeded.

Never more so than today, at the juncture of liminalities in reflexive second-order anthropogenesis, the technological modification of the human being by some human beings who have assumed so to speak, not without arrogance, even with hubris, what we may call *the genetic general will of the species*. It may not be too far out to call their projects a form of soft genetic anthropological Jacobinism which may yet take over the Republic of Genetic Choice ("germinal choice" was an expression invented by H. J. Muller some decades ago when trying to set up his Californian sperm

³² Lewis S. Feuer.

³³ R. Kane.

bank to inseminate willing women with the seed of geniuses, after his great disappointment in the Soviet Union when the all-powerful Stalin did not comply with his eugenic programme)³⁴. Jacobinism involved the fusion of the executive, legislative and judicial powers: it refused any limitations of power according to a Constitution, indeed it refused any limits in the name of the people, as in this case genetic Jacobinism refuses any limits, any constraints, in the name of science or progress which replaces the people and its general will.

Unlike the geneticists/eugenists³⁵ who wrote to Mussolini or to Stalin (as H. J. Muller did, though he never got a reply)³⁶ begging them to implement without delay a State programme of eugenic reform in their countries (Hitler did not need to be written to but his eugenic deeds were much commended by at least some geneticist/eugenists), today, fortunately, all you need is to work through the market in the name of Choice

and with the immense help of profit-seeking ventures and corporations. The wondrous, cornucopian, Republic of Choice becomes an even more perfect Republic of Choice, by becoming a Republic of Germinal Choice, a Republic of Genetic Choice with genetic supermarkets and hypermarkets added on to all the others. You don't call this "social engineering" (such an ugly locution !), though "genetic engineering" or "genomic engineering" are noble things, since they consist of scientific, technical and social progress distributed via the market, without State direction, so that's perfectly all right, and legal to boot. Indeed if you can do it this way, all you need is the non-interference of the State or indeed anybody else (religious, moral, intellectual obscurantists, anti-science survivors, take note, and keep away!). Jacobinism via the market! The Jacobins missed their hour, but the biocrats or genocrats of the world have met their hour of destiny, not in a dictatorship or totalitarian system (though they did try their best in such regimes, and would very likely do so again, a few possibly with some pangs of conscience, but progress can't wait when the hour is ripe), not via state legislation in democracies, but at least in the first instance in market democracies which in the present conjuncture afford the greatest window of opportunity for biocratic and genocratic projects, for the diffusion of "genetic capitalism": they are unlikely to miss their chance this time, with greater knowledge and especially far better tools than they had in the 1930s or indeed since the first eugenic law was passed in the USA in 1907. Their hour of destiny, the hour of controlled geneticization of humans and society, of maximum genocratic drive, is also our hour of being subjected to their designs. We will be the guinea-pigs of yet another phase of the *Experimentum Mundi*, and more specifically the *Experimentum Humanum* of a supposed megalanthropia accomplished through genetic science and engineering. "Genetic capitalism" the last and highest phase of capitalism?

³⁴ It has recently come to light that IVF clinics in the UK have used extensively the services of such people as Danish medical students. Apparently, they have generally set a limit of 25 to the number of impregnations per donor, but this has apparently been significantly exceeded in some cases. We have therefore the surprising emergence in the individualistic contemporary post-modern West of very small family sizes (even with widespread "serial monogamy" or "serial polygamy"), of something like *genetic sultanism*, albeit with anonymous donors who perhaps did not indeed intend or expect such a number of impregnations. The anonymity barrier is under severe strain, as recent legal cases in the UK demonstrate, and may not survive much longer, though I notice that in Portugal it is still believed by naïve lawyers and judges that it is still secure. It will be interesting to see how sperm donors will react, not least the unwitting "genetic sultans" who will come to light under judicially enforced disclosure. In an age of revolt against patriarchy we seem to be content with the genetic counterpart of *genarchy*.

³⁵ The overlap of the two populations geneticists and eugenists was very considerable and indeed most geneticists were avowed supporters and indeed advocates of eugenics through textbooks, newspaper articles "educational" films and other channels (André Pichot *La société pure. De Darwin à Hitler*, Paris 2000).

³⁶ For some interesting comments on this see the work by A. Pichot.