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BIO-TECHNOLOGY EMPIRE, COMMUNICATIONS AND BIO-POWER

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I want to argue that the possibilities of modern bio-technology place us upon a frontier equivalent to that upon which Vico's first men found themselves.[1] Today, we are called upon to rethink the human body. But, as I see it, this involves more than an exercise in the new biology.[2] Rather, in rethinking the body we simultaneously rethink the *body-politic*. This is because the new biology raises the threat of a *biocracy*. It thereby requires us to rethink our attachment to humanism and democracy. In order to show the urgency of the bio-political issues on the new frontier of life, I think it is worthwhile to review the concepts of empire and communication in order to show how far the inscriptions of power recast man's sensory and cognitive experience. To do so, we may turn to Harold Innis inasmuch as he considered empire to be "an indication of the efficiency of communication."[3] That is to say, he thought empire and communication to be inextricable valorizations of power. Moving from Innis to McLuhan, we can see how it is that the inscription of power first creates a *socio-text*, so to speak, a network or tissue of power whose external manifestation is empire. At the same time, empire organizes the *sensus communis*, shifting the ratios of experience and sensibility, to rewrite the socio-text into *bio-text*. We hope to clarify these notions through an historical sketch, or a genealogy, whose usefulness lies only in its contribution to connecting the sciences of power and life.

I. Bio-Power: The Bias of Communication

Innis and McLuhan inspire us to consider all political history to be inseparable from the history of bio-communication systems. Their work

subverts the dualism in idealist and materialist historiography because they never consider human history as anything else than an *embodied history* inscribed upon the *communis sensus*. History is human history or *bio-textual* because it alters our sensory and cognitive ratios but always in concert with the history of our land, its rivers and forests, its fish, fur and minerals.[4] It is the material history of these things that underwrites, so to speak, our mental and sensory histories told in our chronicles, monuments and laws. None of this is caught in the reduction of communication to the techniques of information transfer. Thus in a later time, Innis and McLuhan re-echo Vico's claim in the *New Science* that men first thought the world with their bodies and only later did their sensory mind yield to the scriptural mind with which we have fashioned the conceits of rationalism:

> The human mind is naturally inclined by the senses to see itself extremely in the body, and only with great difficulty does it come to understand itself by means of reflection. This axiom gives us the universal principle of etymology in all languages: words are carried over from bodies and from the properties of bodies to signify the institutions of mind and spirit.[5]

In the light of Vico's axiom, it is necessary to argue that the ground of universal science is the world's body — upon which we inscribe our local logics and ontologies — and that *the world's body is the ecological setting of all our sub-rationalities*. We thereby ground the rational sciences in man's first poetic logic, in his poetic history and poetic economy. We do so, not to pit human reason against itself, but rather to fund the rational sciences in the memory of their first anthropogenesis.[6] Thus, as Durkheim and Mauss recall for us, all later logic is grounded in the act whereby the first men thought the order of things with their familied bodies, creating the world's first severe poem:

> The first logical categories were social categories: the first classes were classes of men, into which things were integrated. It is because men were grouped, and thought of themselves in the form of groups, that in their ideas they grasped other things, and in the beginning the two modes of grouping were merged to the point of being indistinct. Moieties were the first genera, clans the first species. Things were thought to be integral parts of society, and it was their place in society which determined their place in nature.[7]

The first men thought society and nature with their bodies. Thus the first human world was a giant body whose divisions yielded the great divisions

of the universe, of society and nature. These first imaginative universals generated an embodied logic of division and replication from which later rationalized modes of categorization could be developed. Thus the myths of the first men, so far from being poor science, are as Levi-Strauss[8] has also argued, the indispensable origin of human order and commonwealth without which rational humanism and scientism are impossible conceits:

> It is noteworthy that in all languages the greater part of the expressions relating to inanimate things are formed by metaphor from the human body and its parts and from the human senses and passions. Thus, head for top or beginning; the brow and shoulders of a hill; the eyes of needles and of potatoes; mouth for any opening; the lip of a cup of pitcher ... All of which is a consequence of our axiom that man in his ignorance makes himself the rule of the universe, for in the examples cited he has made of himself an entire world. So that, a rational metaphysics teaches that man becomes all things by understanding them (*homo intelligendo fit omnia*), this imaginative metaphysics shows that man becomes all things by not understanding them (*homo non intelligendo fit omnia*); and perhaps the latter proposition is truer than the former, for when man understands he extends his mind and takes in the things, but when he does not understand he makes the things out of himself and becomes them by transforming himself into them.[9]

Let us recall Harold Innis rethinking the nature of empire and communication by rethinking its development in colonial Canada and from this margin deconstructing the monumental histories of the world's great empires. Just as he saw the fate of Canada pivoting upon its rival North/South, East/West axes to be a function of the changing role of the great staples of fish, fur, timber and wheat, so he read the history of the great empires as similarly pivoted upon the staples of communication on papyrus, clay and stone, in print, books, newspapers and radio. What is important in Innis' conception of the material history of power is that he never lost sight of the communicative struggle over monopolies of knowledge, or of the importance of regional resistance to communication empires that weaken democracy:

> Concentration on a medium of communication implies a bias in the cultural development of the civilization concerned either towards an emphasis on space and political organization or towards an emphasis on time and religious organization. ... The Byzantine empire emerged from a fusion of a bias incidental to papyrus in

> relation to political organization and of parchment in relation to ecclesiastical organization. The dominance of parchment in the West gave a bias towards ecclesiastical organization which led to the introduction of paper with its bias toward political organization. With printing, paper facilitated an effective development of the venaculars and gave expression to their vitality in the growth of nationalism. The adaptability of the alphabet to large-scale machine industry became the basis of literacy, advertising, and trade. The book as a specialized product of printing and, in turn, the newspaper strengthened the position of language as a basis of nationalism. In the United States the dominance of the newspaper led to large-scale development of monopolies of communication in terms of space and implied a neglect of problems of time ... The bias of paper towards an emphasis on space and its monopolies of knowledge has been checked by the development of a new medium, the radio ... The ability to develop a system of government in which the bias of communication can be checked and an appraisal of the significance of space and time can be reached remains a problem of empire and of the Western world.[10]

As we shall see later, Innis' sense of the threat of future monopolizations of communicative power requires that we not lose sight of this issue once power shifts into the new site of biotechnology and its computerized synthesis of space and time, establishing empire over life and nature ever more deeply.

Although McLuhan enables us to grasp an intervening stage in this development, his celebration of the electronic synthesis tends to dissipate the energy needed to reconceptualize modern bio-power. If in Vico foresight is farsight, then in McLuhan vision is re-Joyced into tele-vision. By way of Gutenberg, we are returned to our senses: the eye that left its body is restored to its center, a flickering omphalos. Thus, in a repetition of ancient symbolism, the modern house becoming a machine-within-a-machine whose aerial (*universalis columna quasi sustinens omnia*) hooks it into the universe, floating our home in a Milky Way of waxes, deodorants, famines, war and inanity. Vico's severe poem of the world's body is now inverted — Narcissus like — by a world technology that communicates nothing but ourselves desiring ourselves:

> To behold, use or perceive any extension of ourselves in technological form is necessarily to embrace it. To listen to radio or to read the printed page is to accept these extensions of ourselves into our personal system and to undergo the "closure" or displacement of

> perception that follows automatically. It is this continuous embrace of our own technology in daily use that puts us in the Narcissus role of subliminal awareness and numbness in relation to these images of ourselves. By continuously embracing technologies, we relate ourselves to them as servo-mechanisms. That is why we must, to use them at all, serve these objects, these extensions of ourselves, as gods or minor religions ...[11]

In the modern world our vocabularies of public and private space and the arrangements whereby we constitute individual and collective identities are increasingly disembedded from literacy. Our private senses, like our nationhood, have lost their closure. Indeed, if we follow McLuhan, literacy appears only to have been a switching point in the circuitry of retribalization:

> That the abstracting or opening of closed societies is the work of the phonetic alphabet, and not of any other form of writing or technology, is one theme of *The Gutenberg Galaxy*. On the other hand, that closed societies are the product of speech, drum and ear technologies, brings us at the opening of the electronic age to the sealing of the entire human family into a single global tribe. And this electronic revolution is only less confusing for men of the open societies than the revolution of phonetic literacy which stripped and streamlined the old tribal or closed societies.[12]

There is, however, an extraordinary falling off between the prophetic release of *The Gutenberg Galaxy* — which McLuhan considered a footnote[13] to Innis's concerns with the politics of communication — and his own uncritical acceptance of what we might call the McLuhanberg Galaxy. At first sight, we seem to be offered a more profound analysis of the structures of experience required to filter political power and its communicative media. In a critical comment introducing Innis's *The Bias of Communication*, McLuhan calls for the interiorization of Innis's theory of staples which would in effect reveal how the modern state is able to implant the circuitry of power into our very nervous system:

> What Innis has failed to do ... is to make a structural analysis of the modalities of the visual and the audible. He is merely assuming that an extension of information in space has a centralizing power regardless of the human faculty that is amplified and extended. ... Visual technology creates a centre-margin pattern of organization whether by literacy or by industry and a price system. But electric technology is instant and omnipresent and creates multiple centres-

> without-margins. Visual technology whether by literacy or by industry creates nations as spatially uniform and homogeneous and connected. But electric technology creates not the nation but the tribe — not the superficial association of equals but the cohesive depth of the totally involved kinship groups. Visual technologies, whether based on papyrus or paper, foster fragmentation and specialism, armies and empires. Electric technology favours not the fragmentary but the integral, not the mechanical but the organic. It had not occurred to Innis that electricity is in effect an extension of the nervous system as a kind of global membrane.[14]

Rather than pursue the *bio-political* issues in the bias of communication, McLuhan settled for a surrealist celebration of its commercial narcosis, scoring off realists at the expense of moralists. He thereby failed to see in television a political and commercial pace-maker implanted in *the body of desire* — not to release it — but to commit it ever more deeply to the logocentric controls of corporate and global capitalism. In this way, McLuhan abandoned the insights he once had from reading newspapers and listening to the radio, namely, that the mechanical bride marries us to the corporate economy and to its global extravaganzas. In such a marriage our political consciousness is reduced to a private and household amusement, inextricable from the rest of the show-and-tell that inundates us in the name of news and information.[15] In short, we lose sight of the problem of *the monopoly of knowledge*, as Innis called it, which is built into the administration of the media as instruments of bio-power.

II. THE BIO-TEXT: The Communicative Tissue of Power

I now want to show how, despite certain reservations, I nevertheless see McLuhan's thought relevant to the new contexts of biotechnology and its consequences for the body politic. To do so, I want to introduce the notion of the *bio-text*, i.e., the body as a communicative tissue upon which social power is inscribed, at first externally (*the socio-text*) and now perhaps from the body's very insides, if we extrapolate the possibilities of genetic editing. If this argument is at all persuasive, then we have underlined a distinctive contribution in Canadian social and political thought.

To the civilized mind, it is a mark of savagery that its people produce very little else than themselves. They do not much alter their natural environment and, as it seems to us, are thereby committed to a minimal existence. We think it is a mark of civilization when the individual is severely marked off from the state and the economy and even from his/her family. In this scheme of things, the individual is characterized by his/her power to negoti-

ate exchanges, to accumulate rights and properties that exercise and consolidate a separate identity. Thus the civilized individual is horrified by the nakedness of the savage man/woman because their condition reveals that they have not acquired the power to separate the public and private realms. The naked savage is a social body, a *socio-text*. Indeed, savage societies appear to be distinct from civilized societies precisely because they write themselves, inscribe or incise themselves upon the flesh of the savage — scarifying, cicatrizing, circumcising the body that civilized men and women withhold from society with the same determination as they guard their genitals. Civilized man is a phallocrat, his body is his own, exposed on its own terms, a charter of freedom. It is only in his prisons, mental hospitals and torture chambers that society still writes upon the flesh. As Kafka puts it:

> "... Whatever commandment the prisoner has disobeyed is written upon his body by the Harrow. This prisoner, for instance" — the office indicated the man — "will have written on his body: HONOR THY SUPERIORS!" ... Many questions were troubling the explorer, but at the sight of the prisoner he asked only: "Does he know his sentence?" "No," said the officer, eager to go on with his exposition, but the explorer interrupted him: "He doesn't know the sentence that has been passed on him?" "No," said the officer again, pausing as if to let the explorer elaborate his question, and then said: "There would be no point in telling him. He'll learn it on his body."[16]

McLuhan ignored the *disciplinary or punitive codes* that are the message in the media. However, once we do invoke this perspective, we can see that *all technology is bio-technology*. In other words, we have to begin (however briefly as in this essay) to analyze the various historical strategies whereby the living bond between the individual and society is ritualized (ritual is the origin of technology and the *socio-text*) and thereafter continuously reproduced in historically variable secular technologies of bio-power. Of course, the first technology was what Rifkin nicely calls "pyrotechnology" and this can be set off from the new "biotechnology" within which Rifkin again differentiates three further stages, i.e., genetic engineering, organism designing, and the engineering of entire ecosystems.[17] We shall turn to these specific stages, or rather the first two, in our later analysis of the political economy of the new *bio-prosthetics*. For the moment, what it is important to see is that in every case man's power over nature — or his power over life — is a power over himself (as *bio-text*) inscribed through the state and the economy, and its laws and sciences (*socio-text*). As I see

it, then, all of these disciplinary strategies of power may be thought of as bio-technologies. This move is intended as a deconstructive strategy — a deliberate "misreading," if you will — whose aim is to bring bio-technology as a series of specific biological and medical engineering practices within the realm of the bio-political. Thus we are concerned with how it is that in modern society we are devising a technology for rewriting the genetic code much as savage societies once rewrote the flesh — but in a different key, played first upon the body of desire:

> For capitalism is the stage in which all the excitations, all the pleasures and pains produced on the surface of life are inscribed, recorded, fixed, coded on the transcendent body of capital. Every pain costs something, every girl at the bar, every day off, every hangover, every pregnancy; and every pleasure is worth something. The abstract and universal body of capital fixes and codes every excitation. They are no longer, as in the bush, inscribed on the bare surface of the earth. Each subjective moment takes place as a momentary and singular pleasure and pain recorded on the vast body of capital circulating its inner fluxes, ... in short, there is ... a going beyond the primary process libido to the organization man. The dissolute, disintegrated savage condition, with the perverse and monstrous extension of an erotogenic surface, pursuing its surface affects, over a closed and inert, sterile body without organs, one with the earth itself — this condition is overcome, by the emergence of, the dominion of, the natural and the functional. The same body, the working body, free, sovereign, poised, whose proportion, equilibrium and ease are such that it dominates the landscape and commands itself at each moment. Mercury, Juno, Olympic ideal.[18]

The bio-technological history of the modern body is only now emerging. It involves a simultaneous rewriting of the history of the human sciences. This is difficult to understand because social scientists are unaccustomed to dealing with *the embodied subject* whose life is at stake in their enterprise.[19] We are, of course, speaking of the human discursive productions varying from poetry to medicine, from psychoanalysis to penology, from commercial jingles to the most sacred rites of passage. Here we must focus on the historical convergence of medical discourse and the vocabularies of state and economic power which operate on the new frontier of bio-technology. Our interest, as I have said earlier, is to deconstruct our preconceptions of political economy and of the physical body ruled hitherto either by force or by the seductions of private desires into a public economy. On the former view, the body is recalcitrant to political and socio-economic discipline. The

constraints of society and the state, so long as they can only be enforced externally, require terrible impositions of power and discipline to make an example of the poor wretch on whose body such pain is inflicted as will inscribe in the mind of the public the law's sovereign intent. A decisive shift occurs in the history of power once the state finds a medium of communication that enables it to exploit the connection between minds and bodies more directly than in its early theatre of cruelty. This shift occurs, as Foucault has argued, when the modern state discovers that the will to knowledge can be conscripted to rewrite the *socio-text* into the communicative tissues of life, extending bio-power to every vital function of individual and collective life:

> To analyse the political investment of the body and *the microphysics of power* presupposes, therefore, that one abandons — where power is concerned — the violence-ideology opposition, the metaphor of property, the model of the contract or conquest ... one might imagine a political 'anatomy' ... One would be concerned with the '*body politic*,' as a set of material elements and techniques that serve as weapons, relays, *communication routes and supports for the power and knowledge relations that invest human bodies and subjugate them by turning them into objects of knowledge*.[20]

Here, then, we find a history from Innis, through McLuhan to Foucault, and work of our own, describing an *archaeology of power*, moving from the state's territorial inscription (the *socio-text*), with its theatre of cruelty, to the state's discovery of the discursive production of human knowledge, desire, intelligence, health, sexuality and sanity as a communicative network of bio-power inscribed within the body, binding every body into a new Leviathan, or *bio-text*. Obviously, this history cannot be told in all of its detail by any single historian or social scientist. We are engaged here in an exercise of conceptual analysis and contrast in order to mark an historical divide. Thus the modern state in its therapeutic aspect is now concerned to legislate the origins and ends of life, to contracept and to abort, to marry, separate and divorce, to declare sane and insane, to incarcerate and to terminate life with more intensive strategies than feudal and absolute monarchies could muster. Of course, modern states also exercise power in foreign affairs, in wars and as a major component of the economy. These strategies of power are not always congruent. In liberal democracies state power simultaneously defends and undermines the mental and bodily integrity of its subjects.[21] At its lowest points, the state now practices forms of torture equal to the horror of Kafka's penal colony. In its seemingly benign form, the modern state like the corporate economy seeks to control

minds, to cajole necessary behavior into desire rather than to command it with the ultimate sanction of bio-force. In practice, the state and the economy move between these two extremes. Increasingly, however, the therapeutic state seduces us into conformity through our desire for health, education, and employment — not to mention happiness, at least as an American aspiration.[22] This is what I have in mind when I say all of our technologies are bio-technologies and that in turn they are all strategies of bio-power.

We wish, of course, to avoid genetic damage, and we may wish to counteract infertility or dangerous births. Our motives in this are at first humane. Yet our technologies for delivering our humanity in this respect may be inhumane. Indeed, there is already enormous concern of this score and considerable legislative activity that we cannot possibly recount here.[23] Our focus must be on how the basic metaphors of communications serve to extend *biocracy*. I do not want to exaggerate the implications of biogenetics for our political lives. Nevertheless, we should be aware that a double claim is entered in the debate on genetic engineering.[24] The first is, of course, the *technological a priori*, i.e., "if it can be done, it must be done." There is, however, a rider in the second claim which brings it much closer to the first, namely that, "in science, of course, what can't be done now, may well be possible *later*." Thus the only solid objection to the technological *a priori* is, "even if it can be done, it *shouldn't* be." Here, however, the life of science, and not only of the life-sciences, is likely to be invoked as the highest conception we have of ourselves. This view is likely to prevail, I think, because we now conceive of life itself as the very elemental structure of communication (the DNA code) into which all other discursive codes can be channeled in order to amplify the expression of life.[25]

Bio-technology must presently be seen in terms of two prosthetic strategies, one now largely available, and the other increasingly possible:

(1) *spare part prosthetics*
(2) *genetic prosthetics*

We might think of these as two strategies for rewriting the biotext from spare-part man to self-made man.

> In the mechanist vision, each organ is still only a partial and differentiated prosthesis: a "traditional" simulation. In the bio-cybernetic view it is the smallest undifferentiated element, it is each tiny cell that becomes an embryonic prosthesis of the body. It is the formula inscribed in each tiny cell that becomes the true modern prosthesis of all bodies. For if the prosthesis is ordinarily an artifact which supplants a failing organ, or the instrumental extension of a body, then the DNA molecule, which contains all the relevant

> information belonging to a living creature, is the prosthesis par excellence since it is going to permit the indefinite prolongation of this living being by himself — he being nothing more than the indefinite series of his cybernetic vicissitudes.[26]

The two strategies, although seemingly on the same bio-medical frontier, are in fact as far apart as early and late capitalism. That is to say, the economy of spare part prosthetics involves us in a combination of medical craft and commercial banking and distribution procedures. Such systems may be entrepreneurially or state managed and both may draw upon voluntary donors. As Titmuss has shown in the case of blood supply.[27] there are a number of problems with quality and continuity in the supply of spare-part prosthetics. These problems could be circumvented in a number of cases, if it were possible to anticipate genetic faults and to correct them at the DNA level. Indeed, to the extent that genetic engineering is possible, we might than implant the basic market rationality of efficiency and choice at the DNA level. That is to say, we could contemplate parental choice of biologically perfect embryos. A mark of such perfection, from the point of view of the parent, might consist of the embryonic replication (cloning) of themselves. If that were indeed a possibility, then biotechnology would finally deliver the myth of Narcissus from its mirror. Rather, as I see it, it would defamilize the body and the imagination of future individuals making them the creature of the dominant ethos in either *the market or the state as matrix*. Under such conditions the institution of life, and not only its bio-constitution would be radically altered. Our religious and political institutions, the Bible and Parliament, will cease to be our originary institutions. In the laboratory and the clinic life no longer has any history. Birth will become a consumer fiction like Mother's Day, and thereafter our hitherto embodied and familied histories will float in a commercial narcosis monopolized by an entrepreneurial and a statist biocracy, realizing the nightmare of 1984.

Genetic engineering is enchanting therefore because it re-animates *the myth of prosthetic man*.[28] It is all the more engaging since it appears that the bio-text for this refurbished myth is encoded in the basic material of life. Even though he dismisses much of the science fiction surrounding genetic engineering, it is nevertheless interesting to see how Medawar's formulation of the historical and demographic implications of bio-technology echoes the utopian dream of the administrative state with which we have flirted ever since Plato first devised the *Republic*:

> At the root of all genetic engineering lies ... the greatest scientific discovery of the twentieth century: that the chemical make-up of the