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Real People, Artificial Bodies

The human body has always endowed itself with artificial limbs and other devices to extend and multiply its capabilities in both a cognitive and an operative sense (Longo, 1999). But, now, information and communication technologies (ICTs) have not only come near to the body but are also entering it, for the time being in the formof microchips, but in time also in the formof implants or genome modifications to growthe peripheral devices thatwe desire.

ICTswere brought into effective service under the umbrella of medicine, not just at a preventive level, but also diagnostically and therapeutically (Katz, 2003). In Great Britain, experimentation then also insinuated itself into the domestic sphere in order to facilitate command over household appliances and any mechanism capable of being worked electronically. In the United States, ICTswere experimented with to facilitate the finding of missing persons.

The shift was therefore from the therapeutic field to quality-of-life engineering. Medicine is the platform across which this approach to the body and its penetration by various technologies has passed. The processwas very simple: Because the end (prevention, diagnosis, and therapy) justifies the means (penetration of the body), the progressive invasion of the body itself was allowed, as was the movement toward replacing all its various parts, first with artificial limbs and then with organs transplanted from living bodies, or even removed from corpses, or developed in the laboratory.

In this chapter I attempt to reconstruct the premises and one of the many fundamental processes that have made it possible for ICTs to penetrate the human body.The structural premises of the penetration of the human body by technologies are given, I believe, by the facts that:

• The boundaries of the body are very uncertain.

• The body has always been imagined as a machine, in the sense of both reducing the human body to a machine, and creating a machine similar to a human being.

The process that I have decided to analyze in its various articulations is the further separation of mind from body produced as a result of the development of artificial intelligence. I examine in particular three tendencies that increase the alienation of the body: (a) the mind setting itself up as the sadistic pole, and the body as the masochistic pole; (b) concentration of the mind in the male, and of the body in the female; and (c) development of the mind in theWest, and of the body in the so-called Third World.

The Boundaries of the Body

The first structural premise that has played a role in the social acceptability of the transgression of the boundaries of the body is their indeterminacy. To state that the body is enclosed in "topological" limits, indicated by the skin, is—from a communicative and operative point of view—arbitrary and substantially inexact (Longo, 1999). Given that the voice is an extension of the body, we could say that the body reacheswhere the voice does, that is, a good many meters away from the body itself.

Even Montaigne had something to say about the voice as a boundary zone of the body, and posed the problem of its nature. If the body belongs to the single individual, to whom do the words that come out of the body belong? Montaigne's conclusion was that the words belong half to the person who utters them and half to the person who listens to them.

Apart from the voice, the definition of the extent of the bodily "I" includes other elements too. Personal space, for example, is the zone that immediately surrounds the individual, and that, seen as a projection of the "I" in space, tends to increase the extent of the body (Sommer, 1967). Its defense, personalization, and control are indispensable not only for the expression of one's personal autonomy but also for the definition of modes of social interaction.

Clothing is another element that contributes to extending the bodily "I." By increasing the apparent size of the body, it gives the impression of a greater bodily extent (Lotze, 1897; cited in Flugel, 1992, p. 46): Whenwe are clothed,we occupy more space. Through the effect of "confluence," wrote Flugel, "the enlargement of the human figure, in reality due to clothes, is unconsciously attributed to the body that wears them, because that is the most vital and interesting part of the whole" (p. 98).

The Public Imagination and the Body as Machine, and the creation of the Machines similar to Human Beings

Another important premise that has permitted and favored the penetration of technologies into the body is that thehumanimagination has through the ages created a particular family of monstrous figures. In the most ancient structures of the imagination, which right from primordial times reflected the fact that the body was the first and most immediate technological tool,we find archetypal figures of the body as machine: the automaton, golem, android, and robot (Fortunati, 1995).

These figures however represent not only the common experience of the body as a fundamental technological tool, but also the specific envy that men have always felt for the capacity of women to give life.The automaton, the golem, the android, and the robot are incarnations of the male dream of using available scientific knowledge to create a human being.

In the history of humankind, these figures are a recurrent theme in various forms of narration, but they have also been the focus of continuous experimentation. For centuries humankind has experimented—even in concrete form—with ways of building a machine that will emulate a human being and a human being that is similar to a machine[1]. The practice started with the attempt to build machines that could imitate human beings. These machines were called "automatons" (thaumata).

The technology of automatons, prized by Aristotle because of their capacity to create intellectual surprise and stimulate theoretical questioning, developed rapidly in the Hellenistic period, and especially in the Alexandrian period, in the ancient science of Pneumatics (Ferrari, 1984, p. 225 ff.). In more modern times, we have gone from the automaton to the robot. However, this shift did not represent further development in the automaton, butwas a leap, a break in the process of construction of the machine/human being.

The leapwas illustrated particularlywell by Baudrillard (1990, pp. 64–66) as an attempt to pass from the mechanical and theatrical counterfeit of the human being that was the automaton to a technical principle that is able to produce the equivalent of a human being. If the automaton has to astonish and entertain in attempting to be more natural than the human being, the robot, thanks to its similarity to human beings, needs only to demonstrate its mechanical effectiveness in comparison with their capacity for work.

[1] This circular relationship between human beings and machines we owe to Herasistratus, the great Alexandrian anatomist, who was the first to build a marvelous automaton.

The latest chapter in the history of the machines that attempt to replicate human beings is artificial intelligence. Artificial intelligence has tried to construct a mind without a body, that is, an undisturbed intelligence that will imitate the "higher" functions of the biological mind, avoiding any interaction with an environment considered a source of distraction (Longo, 1999).

In practice, however, there has been no lack of applications in the opposite direction aswell, that is, in producing a human being similar to a machine. The idea of the living being/machine took on great importance with the development of experimental technology, especially for the construction of artificial limbs (Zanca, 1991, p. 33).

The French surgeon Paré (1509–1590), driven by the necessity of supplying artificial limbs for mutilated soldiers, developed arms and hands with complicated mechanisms. The project of dismantling the body/machine was to be carried on bymany researchers from the second half of the 17th century onwards, until it arrived at the present-day implant engineering of pacemakers, and so on.

In conclusion, our imagination has not found it particularly difficult to assimilate the process of penetration of technologies into the body, because for thousands of years it has been the domain for experimentation. Moreover, imagination and action have always been very closely intertwined in humankind's attempts to make the body match the machine, and vice versa. So today the penetration of technologies inside the body is actually less shocking than we might have imagined.

The Fate of the Mind without a Body and a Body without a Distorted Mind

The advancing penetration of technologies inside the bodywas possible because artificial intelligence had pushed the separation of mind and body toward a point of no return. This process, despite its notable results on the scientific plane in various disciplines, has ended up by weakening both the mind and body, as we see next. The separation of the mind from the body has distant origins and developed at various crucial moments in the history of the West, for instance the birth of the technology of writing.

It is the literate society, in fact, wrote Ong (1977, 1982), that experiences the separation of subject and object. When the unity of nonliterate societies breaks down, intellectual appropriation of an object can occur only through our separation, and thus our distancing, from it. In this way, abstraction is created, and knowledge becomes analytic. Every kind of experience is fragmented into uniformunits, becoming a function of the efficient management of both distance from and intimacy with the world and hence also the body (Ong, 1977, 1982).

Following on from this (and thanks also to Christianity), inWestern culture the management of distance from the body became a clear-cut separation and antagonism, the primary formof every dialectal opposition. The Cartesian conception of the body as res extensa, as a machine,was also important in this development; it was the premise that triggered the process of devaluation of the body that is today being radicalized to the full. And the Marxist analysis of alienation shows howthe capitalist system has made individuals extraneous to themselves, reducing them to mere containers of the capacity for work, and thus forcing them to bow to the commands of those who hold the means of production.

Today, however, the accelerated separation of the mind from the body induced by the development of artificial intelligence is accompanied by an inextricable knot of processes. As I said before, I here analyze three of these: (a) positing the mind as the sadistic pole and the body as the masochistic one; (b) concentration of the mind in the male, and of the body in the female; and (c) the development of the mind in the West, and of the body in the so-called Third World.

The Mind as the Sadistic Pole, the Body as the Masochistic Pole

The loss of the mind/body unity that leads to the construction of a disembodied mind, the progressive devaluation of the body, and the accentuation of the alien ation of the individual not only is being amplified but is undergoing a radical change with the development of artificial intelligence. With what effect? The most immediate consequence is that the body ends up being treated with destructive fury.

Despite many apparent indications that the body is being cared for—gyms, fitness regimes, diets—the body is in fact being subjected to real suffering (if not actual torture—e.g., self-inflicted wounding, piercing, tattoos, plastic surgery) and, on another level, forms of therapeutic rage. This attitude to the body reflects the fact that current modes of social relations tend to acquire concreteness and realness inside the body and implode inside it, with the result that individuals' extraneousness to themselves assumes dimensions that are often psychologically disturbing.

Let us try to reconstruct this implosion in broad outline, observing it from Foucault's viewpoint of the microphysics of power.Mythesis is that sadomasochism, understood not as a perversion but as a basic model of social relations seen as power relations, affects individuals in their deepest structural self. Sadomasochism has imploded inside individuals, leaving a mark on the relationship between their mind and their body.

To describe this process, let us examine anemblematic power relationship, that between man and woman. At a social level this relationship has always been formally presented as comprising a sadistic pole (man) and a masochistic one (woman). In his essays The Economic Problem of Masochism (1924), Freud (1978, p. 7) spoke of a particular masochism inwomen, and considered this tendency a drive, as away for female nature to express itself. I, in contrast, think this tendency on the part of women is a historical result, not an inclination of female nature.

In any case, the sadomasochistic man/woman relationship has always been at risk of being overturned informally in the domestic sphere, where the roles can be reversed (the man becoming masochistic and the woman sadistic). In fact, on a general level, individuals have probably always achieved a balanced fulfillment of sadistic and masochistic roles, seeing that, as Contri wrote (1983, p. 165), humankind has never resolved the problem of the black hole between impotence and arrogance. And it is perhaps the social dimension of behavior, as well as the extremely complex quality of networks of relations, that supplies us with an important key to reading the economy of the drives:

According to Freud, it is not by chance that we are dealing with mixtures of life and death impulses. There remains, however, the fact that this tolerance of pain is incomprehensible in itself. Freud too defined pain, understood not as the signal for flight but as a goal, as an enigma in respect to the economy of the life of drives. The question that at present underlies this enigma is why does the libido today, at a mass level, not manage to expel the drive to death or destruction from the body, toward the exterior? One plausible answer is that in a global society the social elements that generally facilitate expulsion are missing. It may be interesting to indicate at least some of them:

• A lack of paternal power, caused by the decline in authoritarianism and by the crisis of authority—this has led to a reactivation of the Oedipus complex at a social level.

• A lack of a political counterpower, of mass organization and collective projects for changing society—the crisis in political parties, trade unions, and movements has left the problem of political strategy unresolved, which is where drives of destruction, appropriation and will for power used to be concentrated, on the exterior.

• A great transformation of power and a hiding of its workings, so that it is now becoming divorced from property, money, and politics.

So a specific question arises: what sense of guilt in the collective unconscious, what social need for punishment, drives us to seek pleasure in pain? Freud perhaps would urge us to think of the space in the unconscious that does not differentiate between pleasure and pain and that is capable of guiding every action, obviously with different conscious motivations. Lacan, on the other hand, would perhaps eliminate the issue, saying that there is a pain drive in relation to the body and its boundaries (cited in Contri, 1983, pp. 170–171).

I prefer to think that the real answer to the aforementioned question is the lack of firmness that these generations had from their parents, and the great unresolved problem of primary and secondary education. Today, therefore, sadomasochism is introjected into the individual (and increasingly expressed in sexuality) through the breaching of the mind/body unity. As a result, the mind sets itself up as the sadistic pole and the body as the masochistic one. It is in fact the mind, inscribed in that body, that "rationally" programs the body's sufferings, that exhibits an increasingly boundless dominion over it and shows up its slavery.

It is the mind that cultivates the distorted idea that the body can be packaged at will, seeing it as rawmaterialwhose shape ismore or less modifiable. It is therefore always this mind that programs recourse to plastic surgery to make the face younger, to enlarge or reduce the breasts, to implant developed biceps, to reduce thighs, to shape the hips, buttocks, belly, and so on. It is the same mind that is overvalued at a social level, whereas the body is undervalued, or at most valued at an instrumental level.The mind, in the formof artificial intelligence, has shown that it can live without the body and allows itself the right to do what it likes with the body.

This attitude of impatience with and contempt toward the body is increasingly made clear and represented materially. Since the punks, we are less and less reluctant to exhibit the body suffering "creatively." Tattoos, piercing, self-inflicted wounding—all these signs speak of the suffering of the body. But they have little to do with the symbolic significance that they used to have. For the "primitive" they were a demonstration of courage or beauty, within a "warm" mode of thinking that did not recognize a separation between thinking subject and object, and therefore did not perceive a separation between mind and body (Lévi-Strauss, 1962).

For the citizen of modernity such symbols are the "cold" expression of an ornamentation that has cost pain. Its value in fact resides not somuch in the artistic quality of the sign as in the exhibition of the amount of pain that it cost.This representation of the sadomasochistic relation in the mind/body of the individual points above all to the fact that this relation has been internalized, that it is involved and therefore expresses a regressive valence. But at the same time it points to the fact that the ideological sticky mass that covers and distorts the structure and meaning of social relations no longer "holds," and is showing wide cracks in its social acceptance.

This suffering is represented in concrete terms in the body. But the body does not speak just for itself; it speaks, more broadly, for thewhole of nature and its sufferings. In the absence of a strong political pact with civil society, we are facing a similar kind of violence if we consider the inconsistencies and conflicts that the development of science is producing and that economic development is generating as regards nature. If this is the case, what is so sensational or so scandalous about the sadomasochistic use of technologies in a body already programmed to represent suffering, already made dependent on masochistic pleasure?

The Mind in the Male, the Body in the Female

When they penetrated the body, technologies encountered no lines of defense or trenches, but a defenseless body, if only because itwas still widely associated with the female. The separation of mind and body followed the same pattern as the traditional separation of culture and nature, in which historically the male gender was attracted to the first pole and the female to the second; so the present opposition between mind and body has attracted the male to the mind and the female to the body.

The male, having the power of elaboration, representation, and planning of the world, has more to do with linear thought and intellectualwork,whereas the female is more and more confined to speaking the language of the body. Despite the often important incursions of women into the sphere of education, the labor market, and politics, women continue to be assigned, often excessively, to the body.

This is another aspect of the implosion inside the individual of the modes in which the present structure of social relations is presented. That is, the man/woman relationship is imploded inside the individual, probably signaling an important moment in the move toward the androgynous. For a long time psychology has taught us that every human being has both male and female components, even if inmenthe male part is dominant and inwomen the female. But the phase that we are going through is forcing us all—men and women—to develop the logos (i.e., male thought based on rationality and logic) and not the metis (female thought founded on intuition and astuteness).

The thinking of globalization is linear, not circular. And at the same time, we are pushed to express a female attitude of care and attraction in relation to the body. Male power and economic sufficiency do not automatically make the male body beautiful any longer. In fact there is a growing male presence among consumers of cos metic products, beauty treatments, operations, and so on. The man increasingly has to spend money and dedicate time to take care of his body and to make himself attractive.

Given that everyone's mind has to incline itself to the male and everyone's body to the female, every individual has to be simultaneously more male and more female.We will all, therefore, have an increasingly undifferentiated sexual characterization. Sexual identity is already very uncertain and shifting today— and sexual practices are less regimented along precise lines.This newleap in the social construction of sexually less differentiated individuals does not however translate into changes in the sexual division of labor,which still appears very rigid.

Men, even if they are more female, are decidedly reluctant to take on the burden of half the domestic labor and the work of care, because this would mean a lengthening of their work day. For this reason the hidden opposition continues to be confirmed between work that produces goods, ideas, services, and strategies andwork that produces and reproduces individuals; betweenwork that is mainly male and paid and work that is still too female and unpaid; in other words, between value and lack of value.

This new order of masculinity and femininity, however, will have as a consequence not the valorization of the woman become more male, but the devaluation of the man become more feminine. Men's resistance to doing their "share" in the home is not enough to prevent themselves being devalued, because their new relationship with the body is already a way of devaluing them, and because they continue to be reproduced in a technologically underdeveloped sphere.

In fact, reproductive labor continues to be hardly affected by artificial intelligence,which is not able to resolve any of the difficult problems of domestic labor. Despite the promises often offered (Maldonado, 1997, p. 60), the effect on the house of technologies connected with artificial intelligence has in fact been seen in the productionof instruments that are in reality little more than gadgets (the intelligent refrigerator, the smart house, etc.).

And it is also in this insignificant formof gadgets thatcommunicative technologies have so far approached the body. Perhaps it is this marginal or superfluous importance of theirs that is responsible for the failed appearance of antibodies necessary to defend the integrity of the body.

The Mind in the West, the Body in the Third World

In post-Fordist society, the penetration of the body by technologies was able to take place without any great protests, because the body had been demoted to a mere work tool and had therefore become increasingly a "worker." At the same time, the mind, which is where the power of decision and command is concentrated, became more and more the "boss." What imploded here inside the individual is therefore the capitalist relation, the traditional class relation of bosses and workers.

All human beings have in fact become simultaneously bosses and workers, because their mind has a "boss" relation with the body treated as a "worker." On top of the old division between manual and intellectual work a more subtle division is being cre ated, between content—the capacity to work—and container—the body. This new division of labor, apart from strengthening the division between manual and intellectualwork, is strengthening the separation of the mind from the body, placing them in opposition. This paradoxical situation can only maximize the alienation of individuals.

Butwhat can aworker do without class consciousness? Marx understood that a worker class, to be that, in other words to become a subject capable of reformulating the social order,must not only refer to its technical colocation inside the production cycle, but also acquire a political consciousness. Unfortunately, the body has not so far expressed political consciousness or, rather, individuals have not become aware that it is on the body, indeed on the lost unity of mind/body, that a really crucial political operation is being played out.

The question is still more complicated by the fact that, at the same time, the dislocation of manual labor far from intellectual work has been favored, that is, the dislocation of production "elsewhere" in respect to planning and management. What has happened therefore is that more and more intellectualwork, creation, ideation, research, strategy, and command remain in the First World, whereas the "factory" (production processes, sometimes integrated with information technology [IT] systems) has been moved, often to the ThirdWorld, in a relation that is still one of subordination. The mind is concentrated in theWest, the body in the ThirdWorld. The dislocation, in this case geographical too, of the body serves to keep the body devalued.

The mind in the FirstWorld, even if it has lost close contact with its corporeal extension, has however gained possession of space in the sky, in the air, as a place of communication and information.This vertical expansion of theWest has been favored by the volatile aspect of the word. The extra space that has been gained is of occupation and dominion, because information serves to reduce uncertainty, more through the narcotic weight of its publicity than through the semantic or cognitiveweight of its message.

The Third World has remained insteadmore horizontal. It is enough, however, to belong to a place, to be born, in the case of theWest perhaps as mind, but in the case of the ThirdWorld certainly as body. In this context, the mind states its identitymore andmore in the singular (a single network), whereas the body's identity is increasingly plural. Indeed, it is becoming the more and more numerous bodies of workers,who share the condition of being subordinated, controlled, and commanded and subjected to a single categorical imperative:

obedience to a global or, rather, cosmic order. We are dealing with bodies without minds, and therefore in demand for material labor. It is obvious that the FirstWorld, precisely because it absorbs and is increasingly made up of intellectual work, is becoming rarefied and ethereal, increasingly mind separated from the body.

The ThirdWorld, in contrast, which houses production processes andmuch manual labor, is more and more bodies and gross matter. Imust however stress that the venture of the mind separated from the body, even in opposition to it, means on the one hand that the mind without a body is condemned to develop a limited and distorted intelligence, and on the other that the body without a mindmust be satisfied with a pseudointelligence.

If this analysis is correct, it means that the body is today the place par excellence of technological innovation and political struggle, and that, if a common reorganization can be made, it will be around the body, or better still around the body/mind unit. But, to answer my initial question about how we have arrived at the penetration of the body by communication and information technologies, allwe need to ask is:Howcould a body without a political consciousness ever have withstood its penetration by technologies?

Conclusions

In this chapter I have tried to analyze why the human body, which is the emblem of naturalness, has let itself be penetrated, without any great outcry, by technologies. It just remains to add that the coming near to and penetration of the body by communication and information technologies can be seen as the expression of a great male domination in the political and economic management of social processes. This has a clear ancestry of the logos and the archetypal figures of the imagination, ranging from the golem to robots and automatons. Therapeutic machines and means of communication will probably serve to open the way to constructing a body reduced to a machine. Individuals will be inserted in an IT architecture of the everyday that will make them act in tune with other machines of a very generalized automation process.At least three issues remain, however, that need further investigation:

1. The implosion of the power relationship (sadomasochism) inside the individual indicates that there is a use for technologies that respond to this logic. Are we facing a crucial phase of social reorganization?

2. The assimilation of machines inside the body follows the pleasure principle (the pleasure of well-being, the recovery of health, etc.), but includes a pact with the death wish. Does the grafting of the inorganic onto the living prefigure a stable fusion with the state of death?

3. Centuries after habeas corpus, globalization is going beyond the exploitation of the labor force as work capacity, to command and control over the entire body reduced to a machine, and above all, being exercised as a continuous cycle. Is the implosion of the capitalist relationship inside the individual a way of removing significance from this milestone of Western history?

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