Informatics monoculture, permaculture and construction of a counterhegemonic sociability [1]

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Abstract

This article is dedicated to exploring the sociopolitical implications of the concept of "informatics monoculture". The standardization of cultural practices based on the dissemination of digital technologies leads to a concept of universality which is implicit in the wide acceptance of the computer as a fundamental tool of human culture. This universality is seen as part of the hegemony of capitalism, with its presumption of a "cult of quantitative efficiency". The example of permaculture is used here to illustrate a counterhegemonic movement.

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Introduction

On a previous occasion (CAZELOTO, 2008a), we discussed the hypothesis that the apparent diversity of cultural practices in cyberculture[3] is reducible to a set of homogeneous procedures, interdictions and tools based on the mediation of informatics equipment[4]. We call this set, as well as the practices associated to it, "informatics monoculture":

> More than the omnipresence of microchip-based machines, informatics monoculture is a form of valuing a single logic (the informatics logic), driving to the social periphery the practices and behaviors not compatible with this logic, together with the actors and social groups that are unable to adapt (CAZELOTO, 2008a, p.7).

More than a descriptive tool we are interested in using the concept of informatics monoculture to evaluate critical and political implications in the dissemination of cultural practices based on the use of the computer. The core issue of this work is the relationship between informatics monoculture and the exercise of hegemony in advanced capitalist societies, within the context of cyberculture, as well as the possibilities of specific social groups to challenge this hegemony.

This approach refers to the finding that informatics monoculture implies a notion of *universality*: telematics has expanded the use of computers beyond its original sphere in the military-industrial complex (as we will see later herein), transforming it into a machine considered, at least in principle, useful and desirable for a growing number of human activities, in any context and without taking into consideration earlier traditions, knowledge and cultural practices. In the context of cyberculture, the applicability of informatics seemingly knows no bounds, be they historical, geographical or contextual. Everything is always convertible into network currency[5]: *bytes* and *pixels* become faithful depositories of human sociability.

Presupposed universality allows one to link the idea of informatics monoculture to the

[3] We see cyberculture here as a set of quotidian practices, values and representations that emerge based on the generalized dissemination of informatized tools. As a historical era, cyberculture becomes visible and theoretically apprehensible starting in the 1980s, whose technological milestones are the dissemination of the personal microcomputer and of telematics (the merging of informatics and communication technologies).

[4] Informatics equipment is not limited to the computer, although the computer is its paradigmatic representative. "Informatics" refers, above all, to any and all electronic devices for information processing and transmission.

[5] We call *networks* the physical and logical infrastructure responsible for information sharing in telematics, as well as the set of actors and institutions implied in the process.

notion of *hegemony*. We derive this concept from the classical texts of Gramsci, for whom, briefly, hegemony is the ability of a social class to make its particular interests prevail as universal ones. Hegemonic values are immediately recognized as the expression of the truth or as natural facts that should be accepted by anyone with common sense, independently of their context. Hegemony "(…) is not just politics, but also a cultural, moral fact, one of world conception" (GRUPPI, 1978, p. 73).[6]

From the broad scope of Gramsci[7], one particular aspect is of interest for articulation with the concept of informatics monoculture and for a critique of cyberculture. This aspect is the relationship between hegemony and technology.

In concrete terms, hegemony is not limited to an abstract set of widely accepted values and ideas, but is hypostasized both in the material apparatus and in the institutional constructions of society. Hegemony is present concretely not only in social relationships but also in the objective world which provides the conditions of possibility of social life.

It is therefore possible to extend the concept of hegemony to the development of the technological apparatus in force at a given historical moment. The idea we put forward here is that what appears in culture as *natural technological development* at a given time is simply a possibility that has become effective because it is anchored in a set of ideas and values constructed by hegemony. Hence, the technology-standard in force in a society is the one which, among all the possibilities that remained virtual, incorporates aspects of the hegemony of the dominant social group. Technological development is not an objective and neutral given, but the result of a certain way of envisioning the world and man, a form that is amply induced by hegemonic thinking.

The correlated notion of "counterhegemony" will therefore be broached here in an equally biased manner: it encompasses, in this work, only the set of practices and discourses that, at first instance, rise up against the imperatives of the technology-standard in force within a given social context and its postulations in order, in the second instance (positive), to propose the latent possibility of another relationship, that of a new form of articulation between technology and society. However, this work is not about a utopian or idealistic construction founded upon a transforming voluntarism. Within the ambit of cyberculture, counter-hegemony is the recognition of contradictions inherent to the technology-standard that enable its ethical defeat through the development of alternatives that remain implicit within the core of hegemony itself.

[6] In this paper, we use Luciano Gruppi's compilation, since the concept of hegemony in Gramsci's work is scattered from his youthful writings to prison notebooks.

[7] In Gramsci, the concept of hegemony has a much broader scope and is utilized to interpret the entire constitution of a historical bloc on the most varied levels, encompassing simultaneously the infrastructure and the superstructure.

The necessary and the contingent

Stephen Marglin (1996) uses this idea of hegemony concretized in the technical apparatus (although he does not use these terms) by demonstrating that the organization of production around the concept of "industry" was not a "technical imperative" but a strategy developed to support a certain division of labor and justify a model of domination. For this author, it was not industrial technology that required the world of production to be split between bosses and workers. Instead, it was the desire to maintain the previous social differentiation that led to the development of industry according to the pattern in which it developed historically. As a social actor, the "boss" is not (and never was) "necessary", except within the scope of the hegemonic values of capitalism.

Marglin's analysis is pertinent from the standpoint of an archeology of industrial labor relations, but the very dynamics of continuous interweaving between hegemony and technology ends up by relativizing the notion of "necessity". Having become hypostasized in the technological apparatus, the hegemonic thinking that conceived the separation between "boss" and "worker" ended up being reinforced by the conditions of use of industrial machinery, and was reflected in the education system (division between technicians and engineers), in legislation, in the imaginary, and in the entire social fabric. Thus, the boss effectively became "necessary" because to demand his dispensability implies questioning the entire industrial model as it occurred (which historical socialism, for example, was unable to do). All the industrial development of the 20th century was devised based on the postulation of the social division of work, which made it extremely difficult to propose a new model of production "without bosses"[8] starting from the *existing* industrial machinery and organization. The development of the factory rendered the "boss" effectively necessary, and to deconstruct this need it would be necessary to think outside the parameters created by the model of production. For this historical model, the figure of the "boss" emerged as "natural".

Similarly, the concept of informatics monoculture aims to highlight the process of naturalization of the "need" for digital devices as a historical construct tied to the hegemony of capitalist thinking. Informatization is not a technical imposition or the natural development of human knowledge, but the result of certain investments (economic and passionate). However, once in motion, informatization rearranged social and productive relations, creating a context of its own need. Therefore, to think of informatization as "necessary" is to claim, simultaneously, the indispensability of the current social model, since the informatics monoculture originates from an

8 In the socialist production model, it does not matter if the "boss" is the capitalist (and his deputies) or an employee of the state bureaucracy. The factory of socialist regimes differed little from its equivalents in the capitalist world, except for the regime of ownership.

extrapolation of the usefulness (both imaginary and concrete) of the computer.

A brief history of informatics

Any technological apparatus is only necessary, in principle, within the social context that legitimizes it. The operation that hegemony performs is the extrapolation of this original need, causing the values associated with technology to be assimilated outside of its context. According to this principle, the computer "overflows" its original scope to invade countless numbers of cultural practices, which range from the expression of religiosity to affective relationships.

But what is this "original scope"? To answer this question will require a brief interpretation of the history of informatics from the viewpoint of its practices of usage. [9]

We assert that the original scope of informatics is the search for a certain notion of "efficiency". Before the advent of the phenomenon of telematics (the merging of informatics and communication technologies) and of microinformatics, the computer was an ungainly calculating machine that required heavy investments in infrastructure and a highly specialized technical team to handle it. Hence, it was an "efficient" machine, i.e., capable of carrying out a large number of operations in a short period of time and to hold information with relative security. Created within the military-industrial complex of the United States, the computer gave the treatment of information the necessary speed to follow along with the development of the productive forces promoted by Fordism-Taylorism, representing a notable gain in "efficiency" in critical sectors such as administration and banking and financial services (CAZELOTO, 2007).

Microinformatics expanded the scope of use of the computer, enabling it to penetrate the domestic sphere and especially small businesses, in view of the drastic reduction of investments required in infrastructure. Commerce began to benefit from the possibility of storing and distributing information at a relatively low cost, increasing the "efficiency" of its transactions.

Having reduced infrastructural costs, the next major step was to simplify the forms of handling, eliminating the need for costly technical training of users. Graphic interfaces emerged, definitely enabling informatics to advance into quotidian life, since working on the computer became more or less intuitive, or at least simpler and faster to learn.

However, in this same phase, the computer was still a device restricted to niches of users with specific interests, principally involving the sphere of production. One of the main "domestic" applications was text processing: the activity of writing supported by informatics beat the most

[9] We are aware that, in the space of this article, this endeavor will inevitably result in a series of omissions. However, the indications that are possible here will suffice to demonstrate our argument by abstracting historical details.

advanced electronic typewriters in terms of "efficiency", establishing itself as the technology-standard in this area. The graphic interface also introduced the novelty of the computer as entertainment, but until then, this market niche belonged mainly to video game consoles.[10] Due to its intrinsic relationship with productive "efficiency", few people felt the need to own a computer for domestic use.

The huge expansion of the computer into the experienced world only took place in response to the merging of informatics and communication technologies – telematics. The modem and the applications deriving from it promised an unprecedented increase in communication efficiency. The computer allied the speed of a telephone call to the perenniality of a written document: for the first time, a text sent in real time could be stored and read at a later time. The fundamental value of the "efficiency" of informatics had reached communication, enormously expanding the range of applications of the microcomputer.

With the availability of informatics in daily life and the expansion of its applications through communication, the criterion of "efficiency" – typical of the logic of the productive apparatus – entered the experienced world with a hegemonic value in industrial societies. *Accepting the need for the computer in quotidian culture is equivalent to accepting "efficiency" as a universal value*.

Today, this instrumental vision of "efficiency" remains as the backdrop of the Internet. There is a real obsession with speed, transmission and storage capacity, and with the number of connections.[11] How many friends does one have on Orkut? With how many people can one "talk" on MSN? How many people access one's blog? How many users are on this discussion list? The need for communication on the Internet is normally justified in terms of "efficiency": it is the most adequate means to reach a large number of people, or to transmit information in the shortest possible interval of time at the lowest possible cost.

Critique of cyberculture

The concept of informatics monoculture reveals its potential from the bias of a genealogy of the universality of the idea of "efficiency". It allows one to identify, following the path opened by Gramsci, the stages of the construction of a counterhegemonic movement in the field of critique of cyberculture. These stages range from the concreteness of limited particularistic claims (still within the parameters compatible with the hegemonic need for "efficiency") to the construction of an

[10] Chronologically, this period is equivalent to the 1980s.

[11] Pierre Lévy (1999, p. 123-134), for example, goes so far as to claim that the mere capacity to connect constitutes part of the "program without objective or content" of cyberculture.

ethically superior world vision. The Italian author calls this movement "catharsis":

> The term catharsis can be used to indicate the passage from the merely economic (or egoistic-passionate) moment to the ethical-political moment, in other words, the superior elaboration of the structure into a superstructure in man's consciousness. This also means the passage from 'the objective to the subjective'. The structure, the superior force that crushes man, who assimilates it unto himself and that renders him passive, is transformed into a means of freedom, into an instrument to create a new ethical-political form, giving rise to new initiatives (GRAMSCI apud SIMIONATTO, p. 43-44).

Then, the movements for digital inclusion are an example of the "merely economic" moment. They reflect not a critique of cyberculture, but its incompleteness. These demands come from groups excluded from the advance of cyberculture, but that want to become integrated to it as a way to avoid a substantial decline in their material conditions of existence. What is sought is the "democratization of efficiency", or its availability to all sectors of society (CAZELOTO, 2008).

In a second moment, in a still only partial overcoming of immediate economic interests, a new form of critique emerges, this time of the concrete forms of appropriation of informatics devices or their institutional regulatory milestones. At this level one finds arguments ranging from the degeneration of information into merchandise to the problem of proprietary ideas and intellectual productions, from the "control society" to the decline in educational standards. Although this level of critique remains within the parameters of productivist hegemony because it accepts the presupposition of informatization (and its conception of "efficiency") as a universal value, it represents an advance in relation to the economic moment, since it attempts to modify the parameters upon which integration to the hegemonic logic are based. The insertion of cyberculture into itself no longer suffices, for it is necessary to reform the social institutions that support the informatization of the quotidian so as to provide an insertion considered more just and suitable not only for the individual but for the whole of society.

This is, for instance, how Sérgio Amadeu da Silveira (2003, p. 29), an activist of the movement for free software, defends the inviability of proprietary programs in the quest for digital inclusion:

> The struggle for digital inclusion can be a fight for counterhegemonic globalization if it results in appropriation by communities and by groups socially excluded from information technology. However, it may be no more than a way to extend globalized localism of North American origin, i.e., it may end up being simply another way to utilize a public effort of

poor societies to consume products from central countries or else to reinforce the oligopolistic domination of large transnational groups.

It should be emphasized that this level of critique is entirely valid and necessary. However, it does not exhaust the possibilities of construction of a deeper counterhegemonic strategy.

On the other hand, the concept of informatics monoculture seeks to reflect upon the validity of informatization itself, or rather, about its pretension of universality. It identifies informatization of the quotidian with the hegemony of a productivist form of thinking, founded on a specific notion of "efficiency", which, however, is neither unique nor necessary. It is not a question of taking as counterhegemonic the mere negation of the computer itself. Counterhegemony, in the field of critique of cyberculture, lies in the denial of the *universality* of informatics devices, i.e., in the affirmation of spheres of culture and of the experienced to which the logic of the computer (with its elementary assumption of quantitative "efficiency") has no access. It is therefore about bringing informatics into its concrete context, stating that its applications are not ideally valid for all social groups, at all moments and in all places. In short, a deeper level of criticism emerges from the refusal to accept informatization as *a value in and of itself*, proposing the recognition and valuation of cultural practices not mediated by digital technology.

In the field of critique of cyberculture, a social counterhegemonic movement, both consistent and radical, presupposes not the "Luddite" contestation of computers (which is also a universalist form of discourse), but the deconstruction of the informatics monoculture, bringing technological and cultural diversity, as a superior ethical value, to the center of social development. What is sought is not the dissemination of informatics, which, in principle, is a claim fully compatible with the hegemonic logic, but the valuation of a culture in which all forms of participation are accepted and encouraged. Hegemony is only broken in the wake of a widespread intellectual and moral reform that aims at a "superior moment" (GRUPPI, 1978, p. 2). The ethical superiority of the "technological polyculture" is evident upon subordinating the development of technology to the common interests of society. It is not a question of "converting" the excluded, but of integrating them with their knowledge and manifestations, independently of the criterion of "efficiency".

Thus, for the construction of a superior ethical moment, which is the vocation of counterhegemony, the terms of the debate must be refused when they postulate, beforehand, the need for informatization, since this need is already created by hegemonic thinking.

These forms of counterhegemony have been practiced at the edges of advanced capitalist

societies. To illustrate this possibility, we elect the so-called permaculture movement as a preliminary example.

Permaculture: a counterhegemonic practice

The fact that few people are familiar with the term "permaculture" is, in itself, an indication of how closely it is associated with marginal practices. The principles of permaculture were created in the 1970s by the Australians Bill Mollison and David Holmgren and the word is a blend of the terms "permanent" and "culture". A possible concept is "a design system for the creation of sustainable human environments (MOLLISON; SLAY, 1994, p.13). Permaculture is based on the principle that an environment is only sustainable insofar as it reduces to a minimum the quantity of inputs required for the production process and the emission of wastes out of the system.

Permaculture design began as a way to utilize local traditional knowledge allied to contemporary technologies to build self-sustainable agricultural environments, but

> (...) it has come to mean more than domestic food self-sufficiency. Food self-sufficiency makes no sense unless people have access to land, information and financial resources. Therefore, in more recent years, permaculture has encompassed appropriate financial and legal strategies, including strategies for access to land, business and regional self-financing. Hence, it is a complete human system. (MOLLISON; SLAY, 1994, p. 9).

Generically, a first approach to permaculture is to consider it as a set of ethical and technological principles aimed at enhancing the self-sufficiency of human settlements, collaborating simultaneously to the development of the ecosystems in which these settlements are located.

Albeit little known in Brazil, in the 1990s permaculture already had more than 20,000 practitioners on every continent. More than a form of ecological design aimed at self-sustainability, permaculture has the characteristics of a community, with its norms, practices, values, and particularly, with a group of legitimated practitioners who identify themselves as *permaculturists*. The sign of admission to this group is a certificate called a PDC, *Permaculture Design Certificate*, issued to those who participate in a training course. Its translation into Portuguese maintained the acronym PDC, and the course is known as "Permacultura, Design e Consultoria" or simply "Certificado de Design em Permacultura."

PDC is not just a certificate that attests to the knowledge of permacultural techniques, but is

a sign of belonging to the international community of permaculturists. Permaculture does not have hierarchical forms nor does it necessarily constitute formal networks, so there is no institutionalized form of communication or association among all permaculturists. There is, however, a series of organizations that bring people together to exchange experiences, information and courses, only some of which are authorized to issue the PDC certificate. These organizations assume the form of permaculture Institutes or Stations. While permaculture Institutes are more structured organizations focused mainly on the exchange of knowledge and experimentation with the principles of permaculture, Stations are smaller properties, sometimes belonging to a single family, which act as meeting and support sites for the network of permaculturists. A Station is a human settlement (a home, small farm, village, etc.) whose residents apply or develop permacultural techniques.

In Brazil, the community gets together mainly around two associations: the networks PERMEAR and RBP (Rede Brasileira de Permacultores). The former comprises several membership modes: Permaculture Institutes, Permaculture Stations and "autonomous" permaculturists, while the latter is composed of four large institutes and is affiliated to the Latin America permaculture network (PAL).

On the Internet, permaculturists exchange information on the sites of two networks, as well as the sites maintained by the Institutes and some Stations, in addition to the three most important discussion groups ("Permacultura Br", "Permacultura Mg" and "Falando de permacultura").

Why is Permaculture counterhegemonic?

Permaculture can be seen as a counterhegemonic movement on several levels[12]. Counterhegemonic, in the sense not of mere opposition to the dominant thinking, but of its defeat. Here, Gramsci (and Lenin before him) converge in the Hegelian notion of *Aufhebung* (defeat) "(...) as negation and adoption: a denial that is to assume, overcome" (GRUPPI, 1978, p. 35). It starts from a current state (capitalist hegemony), taking into account the contradictions of this state, to build a new set of postulations and values.

[12] Gramsci links the construction of hegemony to the consensus obtained historically by the "organic intellectuals", i.e., the class whose function is to sediment the ideology of the dominants. "The intellectuals are the "deputies" of the dominant group who are chosen to perform the subordinate functions of social hegemony and political government." (GRAMSCI, 2006, p. 21). One of these functions is to create "(...) the "spontaneous" consensus of large population masses to the orientation of social life given by the fundamental dominating group, a consensus born "historically" from the prestige (in, and therefore, from the confidence obtained by dominating groups due to their position and their function in the world of production" (GRAMSCI, *idem*). As we will see later, the denial of the universality of the merchandise-form in the name of autonomous production contradicts the mercantilist logic that is the basis of the consensus of capitalism.

Firstly, from a broader point of view, permaculture is underpinned by ethical ideas that do not correspond (and sometimes directly contradict) the fundaments of market logic. Capitalism, as a mode of hegemonic production, has as its horizon the transformation of all human practices and the entire environment into *merchandise*, proposing, at least implicitly, universalization of the market as a material and symbolic support for human relations, while the ethics of permaculture goes in the opposite direction. By working for self-sufficiency, permaculture presumes the "demercantilization" of certain practices, notably those that refer to the transmission of culture, to the growing of food, and to the entire set of inputs necessary for human survival. The work carried out by permaculturists is only aimed marginally at the market and is often performed voluntarily, in the form of collective work tasks. Eventual excess production is preferentially exchanged without being converted into currency (trade) and monetary gain (when there is any) is subordinate to community and environmental values.[13] Thus, permaculture proposes a form of appropriation of work that is devoid of the fundamental characteristic (in the capitalist mode of production) of *hetero-determination* (GORZ, 1982).

Permaculturist Rosemary Morrow (S/D, p. 11-12) summarizes permaculture ethics in four interconnected principles:

1. Take care of the Land
2. Take care of people
3. Distribute excess production
4. Reduce consumption

These fundamental principles unfold into other, more pragmatic ones:

1. Everything works in at least two ways
2. Find solutions, not problems
3. Cooperation: non-competition in work, communication and economy
4. Do sustainable things
5. Work where it is worthwhile
6. Use everything to its maximum capacity
7. Bring food production back to the cities

13 The association of permaculture practices and networks of so-called "solidary economy" that support initiatives such as "social currencies" and cooperativism is common.

8. Help make people independent
9. Minimize maintenance and energy expenditures to achieve maximum production

Evidently these principles are applied distinctly (and sometimes are not applied at all), but they reveal a set of values that clearly guide a counterhegemonic practice in the sense that they induce non-consumerism, non-competition, autonomy and solidarity as matrices for work and for social relations. They are not merely the constitution of a social utopia, but a set of ideas that have been adopted by an expanding community.

Although permaculture practices are immediately recognizable as counterhegemonic in that they seek to understand the product of human work beyond the merchandise-form, it is interesting, in the context of this article, to highlight its aspect more directly associated with the critique of cyberculture: permaculture denies any pretension of technological universality and builds into its practices an idea that differs from the idea of "efficiency".

Because it is not a set of techniques or a fixed doctrinal body, permaculture modifies itself daily through the concrete actions of its participants and enthusiasts, driven by a common ethical vision that develops from a more or less explicit set of principles, always seeking contact with local and traditional technologies.

This is an important aspect to be highlighted: there is no given set of technologies, but a system of interpretation of the physical environment in which man, producing in a way that is adapted to its context, can take his sustenance from the relationships established with the environment. Permaculture starts from the postulation that, although some technologies may inspire similar solutions in different places, they are not universalizable, in other words, they should be articulated to local contexts.

Similarly, there is a resignification of the concept of "efficiency" that goes beyond strictly economic and quantitative aspects. The notion of "efficiency" is extended to the ambit of an ethics of the human relationship and to a responsible treatment of the environment. From this standpoint, family and urban food production is more efficient than agroindustrial production, even if it implies, at first instance, a reduction of scale and of economic gains.

In permaculture, the notion of efficiency is not universal: each concrete context requires a specific solution to obtain particular results. Therefore, it is like a "technological polyculture" that takes into account not only technocientific advances but also local traditions, culture and skills. The use of the computer, therefore, is not discarded but subordinate to other criteria that vary according

to the specific situation.

A part of the knowledge produced by permaculturists circulates through telematic networks in the form of specific discussion lists and sites, but this does not imply surrender to the informatics monoculture. For certain contents, in certain contexts, the notion of "efficiency" associated with the computer is accepted and assimilated as a possible tool for given and well-circumscribed purposes.[14]

In practice, permaculture suffers influences from the hegemonic environment of cyberculture. As an open movement without centralized control, deviations from its proposed ethics end up occurring and many permacultural actions end up incorporating market practices. Courses are sold, consulting services are rendered, books are published for the profit of publishing companies, and talks are given with an entry fee.[15] But these "deviations" do not invalidate the principle that proposes the construction of a "technological polyculture" at the heart of cyberculture, deconstructing the "need" for informatics monoculture.

Conclusions

The concept of informatics monoculture presents a possibility of creative and constructive appropriation through critical thinking in cyberculture. It is able to shift the focus of counterhegemonic debates and actions outside of the parameters established by the dominant system, proposing a radically different way of facing the relationship between society and technology. The most conservative and authoritarian aspect of cyberculture is revealed through the concept of informatics monoculture, enabling one to perceive as violence that which the advertising discourse builds as seduction, i.e., the valorative dominance of a single technological form underpinned by a restricted and instrumental vision of "efficiency".

The fact is that other forms of sociability (such as permaculture) not centered upon chip-bearing machines remain viable, even though they may be devalued by the hegemonic force of the informatics monoculture. These are forms of being and of living that reject the need for informatics to affirm a plurality (always contextual) of forms to relate with the world, in which the computer is not excluded in principle, but that submit to other contextual parameters and needs. They are forms

14 The dissemination of courses on and research into technological solutions among participants of the network is one of the examples of the use of telematics in permaculture.

15 There is an intense debate among permaculturists about the ethical ways to obtain financial resources. Charging for information is generally accepted, provided it remains within the limit of coverage of the costs involved in the process of dissemination, and provided there are ways for people without financial resources not to be deprived of access to knowledge.

that seek the construction of a notion of "efficiency" that includes ethical and responsible relationships among humans and between the human sphere and the environment.

The concept of informatics monoculture thus fulfills its role of being, in truth, the critique of informatics monoculture, contributing to broaden the repertoire of counterhegemonic movements in the deeply authoritarian conditions of cyberculture.

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