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Climate Change and Shifting Technoscientific Agendas

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1. Introduction

The social studies in science and technology assume the perspective that knowledge and technology are built and legitimized in a certain context. A context that encompasses machines, texts, scientists, laboratories, imagination, power, interest. Considering any human construct, science and technology also embrace several social elements, and without a thorough observation in the practice itself, some might say that these elements would disappear from its composition. Science and technology would appear as necessary, functional, detached from the worldly concerns. The traditional epistemology and technology's philosophy guided us the belief that the real knowledge and its working technologies would not be related with these listed elements.

However, Thomas Kuhn (1995) in his study foresaw the sunset of these perspectives. As it is a common sense, the dynamics of conflicts and consensus in the scientific communities define the luck from different paradigms on the definition concerning the model of science. This definition presented the development of restrict groups, inserted in determined places from situated scientific practice, even though, it was considered the generalized symbolic dimension. Based on this, David Bloor (1991) assume that knowledge is what the community considers as knowledge. A community in which the cognitive content, values and practices are constructs grounded on the context.

Harry Collins (1992) characterizes this context based on the local general expectations of how the world functions. These expectations appear, for example, by the moment in which the scientist has to decide the way he/she should decide for an interpretation among several allowed by the experimental data. In other words, the practical problem of the interpretative flexibility caused by the data, the context of the practice argues with the generalized expectations around the given knowledge endorsed. The price of the defection of a group is the loss of referrals and political support.

Bruno Latour (2000) argues that the context of the scientific practice subscribes itself in the laboratories, or, better saying, in the calculus centers, from where the knowledge is purified from its extra-scientific elements and it is shown in the format of articles and books.

By its turn, the calculus centers are not devoid, purified by its context, from its agreements behind the walls, from its Tribe's idol. Laboratories also present the hierarchical marks from the scientific community. As Nunes; Gonçalves (2001:28) discuss:

> Some laboratories have the capacity to use or reproduce knowledge from determined central region of the system, within the calculus centers. Other would reproduce knowledge, that, besides being new or innovative, it would be declared as local or regional interest.

This is the core of the matter concerning the differentiation center/periphery in the international system of science and technology (ISST)[1]. There is an established hierarchy based upon the references of scientific excellence, issues and patents, that has dynamical stability, and that, concerning the knowledge building, operates in the distinction of the valid knowledge (concerning circulation strength) and non-valid (concerning circulation weakness). As Latour (2000: 371-2) affirms:

> In another words, we do not need to oppose the local Chinese knowledge to the universal European knowledge, but just two local knowledge (…) Who includes and who is included, who locates and who is located are not things that constitute cognitive differences or even cultural, but it result from a constant battle.

Referring to this constant battle, it is possible to mention the "Matthews effect", Merton (1968) discusses the system of reward in scientific life: the scientists who has more is likely to earn more, the ones who has less, is likely to earn less. The scientific system tends to "oligopoly" in which concerns the scientific credit in the calculus centers. Mentioning Merton (1968: 57) "The social structure of science provides the context for this inquiry into a complex psychosocial process that affects both the reward system and the communication system of science".

The gathering tendency of the scientific credit from the calculus centers influences the ones who pass through there, giving them differentiate conditions and it is reflected in the scientific product, namely, research, publication, patent, in a game where no one loses: the calculus center wins, besides the quality of its formation, the scientists win besides their competence.

> The judgments about the scientific capacity of a student or even a researcher are always contaminated, throughout his/her career, by the position that he/she occupies within the instituted hierarchy (the Great Schools, in France, or the universities, for example, in the United States) (BOURDIEU, 1983:124).

2. Center/Periphery

There are some locales in the globe which is central in doing the technical-scientific calculus, known by its pairs and, therefore, producers of knowledge and technology concerning the most power of decontextualization, circulation and definition. This condition was not established, nevertheless, as the Matthew's effect presume, it has major impact on developed science and technology, that is, it promotes the stability of the international

[1] About the differenciation center/periphery as a structural condition of the international system of science and technology, vide Neves (2009)

system of science and technology, better saying, it promotes the stability of the legitimate value that circulates through this system, and it happens to be validated as guiding principles concerning the good and bad technical-scientific practice.

The society, as a social system, has a central zone which invades the entire "ecological domain in which the society exists", as Shils (1992) affirms. The legitimate order of symbols, values and beliefs that controls the society is located in its center. In the case of science and technology international system, it is established a legitimate order through the construction of legitimate research agendas, ensured experimental practice, allowed imagery of the world, sanctioned paradigms.

Considering the international system of science and technology formed by trans-scientific fields (KNORR-CETINA, 2005), that is, social areas of scientific and technical production that whether expand itself or restrict itself based on the locale and global circumstance that is faced. One of the circumstances refers to the legitimacy of the practice that governs the field: the greater the proximity concerning the central practices, the greater the expansion. It is due to the legitimacy agreement, which says that the legitimate is legitimate because it finds support in its practices, publications, conferences and etc. In a general level, the definition of the main scientific system can be noticed as a battle which mobilizes the relation of resources.

> It brings into the game resources relations, for example, when it is occupied a scientific position, when money is distributed among the group of scientists or researchers, when it is elected a speaker to a scientific conference or even when the result is produced by a scientist incorporated into another's investigations (KNORR-CETINA, 2005, p.206).

It is needless to say that these resources are highly concentrated in the center. Thus, these relations are unequal, producing hierarchies that are mobilized, in a basic level, as power relations. The center concentrates resources, thus concentrates power of definition and expansion of the scientific practice that are not built. It is the main role of the periphery whether the acknowledgement of these scientific practices or its negation, the last, therefore, would bring the consequence that the science and technology distance themselves from the major values and it tends to be considered of a restrict and exotic interest, acquiring low capacity of definition and circulation.

3. The peripheral condition

To observe the international system of science and technology is the same as to face limiting conditions of scientific practice. We will refer here to the conditions less cited in literature when mentioning the differences between center and periphery in the scientific system. It is not related to the quantitative differences present in the international rankings from articles and patents, though. It is related to the previous conditions of the scientific producing, not the product itself, although the last is a direct consequence of the former. It is related, to be clearer, to the set of elements available to the scientists by the moment of the subject choice. It would be guided to the periphery because of the mentioned topics:

1. Local problems. Limited interest and even more aggravating is the fact of having few works to relate its consequences to the main interests in science;

2. Local imaginary. Collective beliefs – Brazilianness, anthropophagi, syncretism, tropicalism – that conforms concepts and theories to the symbolic local perspectives;
3. Local research agendas. It is related to the two former points; the first one is concerning the "peripherization" of objects and; to the second one concerning the paradigms.

It happens that such elements from the peripheral condition will guide the efforts to the local agendas, concerning the governmental initiative from the scientific and technological politics, or even the scientists practice.

The adhesion to the central research agendas is one of the system's requirement to the circulation of the science and technology to beyond its contexts of its construction. The local interest must be related to the global research interests (central), if it is wanted to reach the credits from the system of credit concession from the center of the science and technology international system. The closer from the central patterns of the investigation – "knowledge frontier" – quicker and more profitable will be the concession. The past decades, in Brazil, the scientific[2] production evaluation system has been awarded the scientists who publish in journal from abroad, supporting the creation of international researches network, and therefore, connecting local and global interests. In order to publish abroad, it is necessary to adhere the calculus centers, global agendas. It, concomitantly, reinforces the centrals and reproduced the differentiation in ISST.

The following discussions are focused at the last point and it seeks to relate it with the newest agenda suggested by the centrals, namely, the climate change. It is in vogue a process that intends to search a techno-scientific paradigm which corresponds to the general expectations of the sustainability of the global society, structured especially after the IV IPPC report (Intergovernmental panel for climate change, from the United Nations Organization). The perception that the society based on the intensive consumption of fossil fuel has come to the limit, associate also the emergency of its technological limit. Thereby, it is needed a new technological paradigm to the production, daily consumption, communication, transport, that satisfies the socio environmental requirements from this new society, that has already been denominated as a post-carbon society (SZERSZYNSKI; URRY, 2010).

4. The research agenda on the definition of hierarchical position

Research agendas are always under construction. We could relate the construction with the society structure in some moments, and it makes clear the close relation between scientific and technological interests in a capitalistic society. Among the areas in which this relation is clear are mainly the war industry, and then, we have health, telecommunications, information technology, biotechnology, nanotechnology and most recently, we have also the issues related to the environment. It is possible to affirm that among these research "latest agendas", the central science reproduced investigation patterns and results that guided the science into the leader position in the knowledge frontier. It was due to the periphery to follow this frontier and it could be done either changing politics focus, sending researchers to the new centers, or even transforming the whole society from the laws that ruled the

[2] Citing: The criteria of the National Council of Research (in Portuguese – CNPq) and the Coordenation of Specialization of Graduated People (in Portuguese – CAPES)

science until the most generic conceptions concerning nature[3] – the last is related to a very extreme situation, though.

This precedence on the agenda proposition is one of the defining elements in the science hierarchy, promoting - in all levels of scientific investigation, a difference center-periphery. The antecedence conducts to reference, and it is a scientific rule well documented by the specialized literature[4]. By verifying the construction of sector funds[5], politics of focusing the scientific and technological activity in strategic areas in Brazil, and it is possible to find that, first, the politics – as a whole – is laggard and, second, the thematic focus incorporate are related to the "latest agendas". Furthermore, many of the politics for the scientific and technological development had an *ex ante* meaning, that is to say that these politics were merely normative, with a symbolic meaning because it was not possible to develop those agendas propositions.

The preceding agenda determination guides, necessarily, to the publication os articles and patent depot. This dynamics, by the way, is a cycle: articles guide to new agendas that are guided to new articles. Based on this, this dynamic which restructure itself along the time, is detached from the global conditions of research necessities, we can mention here the biomedical research. Following Sumathipala *et. al.* (2004) less than 10% from all the worldwide sources aimed to biomedical researches is directed to the 90% of known health problems. The authors affirm that 93% of the avoidable deaths occur in under developing countries and, yet, just a small part of the research financing is directed to these illnesses in these countries. The central agenda satisfies just a part from what is considered as a global problem to the biomedical area, sub-representing a greater part of the raised problems for the local agenda. That is the reason why the expression "neglected illnesses" is used, because it does not take part in the major interests in the central researches. It can be said, thus, that the conditions of entering the SICT do not regard the local interests, sub-representing them, and, therefore, causing damage to a more equal agenda on science[6].

5. Adding numbers to hierarchy

The central hegemony, the precedence on the agendas proposition and the hierarchy are processes well known in the specialized literature end it seems to continue producing a differentiation between central and peripheral countries on the ISST, and it is assumed the risk of the distance of this positions to increase, and a factor that can explain this increase is the technology sophistication from the experience, for example, vide the LHC case – which cost 3 billion of Euro. Nevertheless, in the past few years, the data concerning publications demonstrates a different scenario that may be indicating major shifts.

[3] Concerning the most known case among us: "the biotechnologic war" in the 90 and 00 decades, which occur in politics, science and other society dimensions (vide Premebida, 2011)
[4] Vide, for exemple, Merton (1957).
[5] The funds were created in 1999 by the studying and Project financing named FINEP and it is related as subventions to biotechnology, spatial research, and energy among others.
[6] It gives place to many speculations, for example, to what Victoria and Moreira (2006) named "editorial racism", that is to say, the prejudice from the editors from international magazines against authors from the south hemisphere.

Considering the case of Brazil. Brazil has raised significantly its scientific production, and it is possible to note this raise considering the international publication ranking. If we take this criterion, in the period of 1991 to 2003, the country has doubled its participation in the global scientific production when compared to the former period, the increase was form 0.71% to 1.45% as the following table shows.

1991–1995				1999–2003			
Countries	Publication	Ranking	World share	Countries	Publication	Ranking	World share
Top 5							
USA	1174603	1	34.89%	USA	1284415	1	31.48%
UK	297940	2	8.85%	Japan	378029	2	9.26%
Japan	274849	3	8.16%	UK	364585	3	8.93%
Germany	248554	4	7.38%	Germany	346305	4	8.49%
France	193504	5	5.75%	France	249929	5	6.12%
Top 10 with less than 2%							
Sweden	58755	14	1.75%	South Korea	79777	14	1.95%
Switzerland	52539	15	1.56%	Sweden	78520	15	1.92%
China	48052	16	1.43%	Switzerland	73075	16	1.79%
Israel	37675	17	1.12%	Brazil	59361	17	1.45%
Belgium	36140	18	1.07%	Taiwan	54694	18	1.34%
Poland	31961	19	0.95%	Poland	54460	19	1.33%
Denmark	29333	20	0.87%	Belgium	53554	20	1.31%
Finland	25528	21	0.76%	Israel	49312	21	1.21%
Taiwan	24984	22	0.74%	Denmark	40340	22	0.99%
Brazil	24018	23	0.71%	Austria	38963	23	0.95%

Source: study by Glänzel et al (2006) based on the bibliographic data extracted from the 1991–2003 annual updates of the Web of Science (WoS) of the Institute for Scientific Information (ISI – Thomson Scientific, Philadelphia, PA, USA)

Table 1. Scientific output, ranking and world share in publications of the top 5 countries, the top 10 countries with less than 2% in the world and Latin American countries

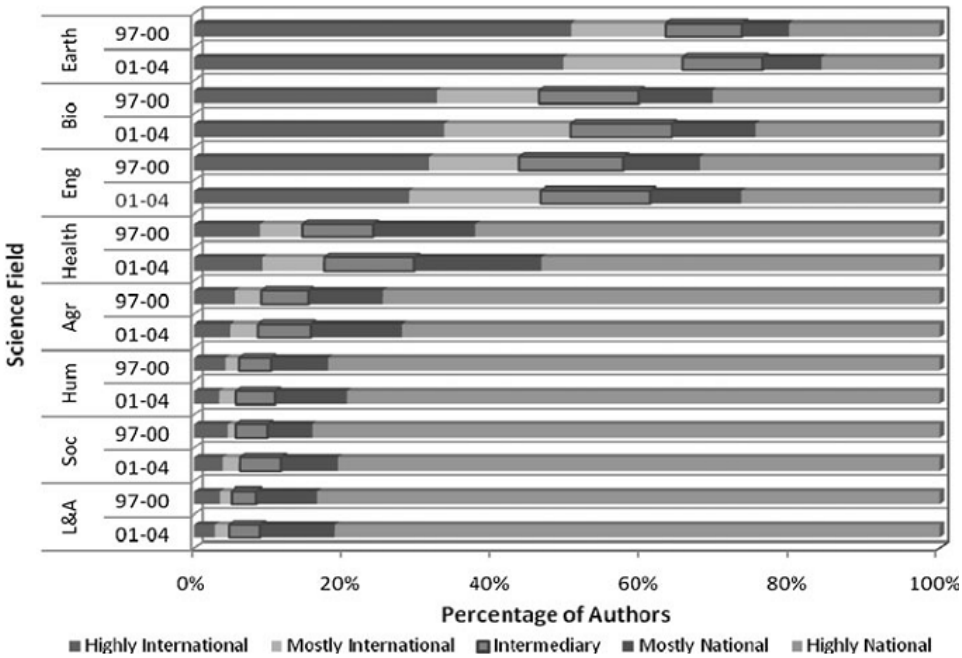
In recent article that seeks to measure the internationalization of Brazilian science in two different periods (1997 to 2000 and 2001 to 2004) Leite *et all*. (2001) affirm that "Comparing the two periods, the results also show that the proportion of researchers with highly international profile is increasing over time whereas the proportion of those with highly national profile is being reduced". In the same article, the authors observe that some areas are in greater evidence then the others in this growing process of internationalization. Considering it, "Earth and Exact Sciences, Biology and Engineering are the field with highest international publication profile, with more than 50% of researchers presenting an IPR[7] at least intermediary". The disciplinary field which gain more evidence in this stage of scientific Brazilian production are related in the table below

The current data confirm the raise and the impact of Brazilian science. In 2010, according to The SCImago Journal & Country Rank[8], Brazil assumed the 13th position in the ranking considering the impact of its journals present in the data basis Scopus. The same way, the raking from ISI/Thomsom Reuters, presents Brazil as one of the most advance concerning scientific international publications (KING, 2009). But what does it mean to the relation

[7] IPR (International Publication Ratio) is na indicator created by the authors to measure the size of the Brazilian production.

[8] The SCImago Journal & Country Rank (http://www.scimagojr.com) is a portal that includes the journals and country scientific indicators developed from the information contained in the Scopus® database (Elsevier B.V.).

center and periphery in ISST? What it is valid to affirm is that the hierarchy has carried few changes, even though some positions had changed. The United States still concentrate about 30% of the scientific and technologic worldwide production, reproducing, this way, its calculus centers, reinforcing its hegemony in ISST.



Source: Leite et all. (2011). Legend: N = 31,073 (1997–2000) and 33,006 (2001–2004). Only researchers with three or more publications between 1997 and 2004 were considered. Agr Agriculture, Bio Biology, Eng Engineering, Earth Earth and Exact Sciences, Hum Humanities, L&A Linguistics and Arts, Health Health Sciences, Soc Social Sciences.

Fig. 1. Distribution of Brazilian researchers among different groups of IPR and the effect of fields in 1997–2000 and 2001–2004.

6. A new tropical scientific agenda

However, there is something peculiar in the position taken by Brazil in recent decades in ISST when observing large areas of knowledge or paradigmatic standards of publication. According Glanzel et al. (2006, p. 75) these patterns can be divided into four:

> "I. the 'western model' with clinical medicine and biomedical research as dominating fields, II. the characteristic pattern of the former socialist countries with excessive activity in chemistry and physics, III. the 'bio-environmental model' with biology and earth and space sciences in the main focus IV. the 'Japanese model' with engineering and chemistry being predominant."

The Brazilian pattern, as can be seen in the table below (Table 2), fits in Section III, the bioambiental model form the concentration of scientific and technological activity.

Field	% in 94-98	% in 04-08	Increase in %
Agricultural Sciences	2.19	5.39	3.20
Plant & Animal Science	1.65	4.65	3.00
Microbiology	1.51	3.04	1.53
Pharmacology & Toxicology	1.06	2.84	1.78
Environment/Ecology	0.97	2.71	1.74
Neuroscience & Behavior	1.09	2.46	1.37
Physics	1.58	2.32	0.74
Immunology	0.96	2.25	1.29
Biology & Biochemistry	0.92	2.15	1.23

Source: King (2009).

Table 2. Brazil in World Science: 1994-98 vs. 2004-08[9]

The fact of being highlighted in this paradigm into the former decades brings many consequences to Brazilian science and technology, considering that a new technoscientific agenda is constructed nowadays because of climate changing in which will demand more answers from the bioenvironmental paradigm in terms of knowledge and technology. This demanding are impacting science, politics and economy.

> That is, there is not only a greater collection of public opinion, as well as the world economic leaders seem to be engaged in competitive new paradigm of clean growth. While this technological competition can generate positive indirect effects for all countries that can not commit can compromise its savings in the future (MOTTA et al., 2011: 18).

The social context in which speeches are built concerning the climate changing characterizes itself by the awareness of environmental hazards distributed globally, which has required scientific and technological responses to reduce these risks[10]. Taking the case of agri-environmental technologies, it emerges a new discourse which serves to the defense of "sustainability", but at the same time, it must be justified by their "productive efficiency". In Brazil, this format of research justification in the agri-environmental field assumes a fundamental dimension of the scientific practice considering the positioning of the country into the international division of labor, as exporting country of agricultural *commodities* and scientific organization, from the available resources, thematic differentiation and researches fields, and also what concerns the merely cognitive scope, relating to technological knowledge produced in lights of demanding from its national context, vis-à-vis the new global context.

The issue of climate change has entered the political agenda of the central countries of the globe. The problematic context of "environmental risk", "green policies" and "ecological

[9] Based on percent share of Thomson Reuters-indexed papers, ranked by percentage in the five-year period, 2004-08.
[10] Check Stern (2007).

engagement" reflected in the new knowledge and technologies, which are already composing the new agri-environmental[11] paradigms in science and technology, crucial to economic performance in the next decades, specially Brazil, given the centrality of the country regarding biodiversity and food production. Thus, nowadays, the issue of climate change will reconfigure the dynamics of ISST, imposing these appropriate themes from the equation that charted the new technological paradigm, to "sustainable" technologies

There are compared advantages to Brazil when talking about environment and agricultural production. There is to say, there is a background into this research field that cannot be disregarded. It can be mentioned and detached the study of tropical diseases by FIOCRUZ[12], tropical agriculture from EMBRAPA[13], environmental sociology, American Indian anthropology from local knowledge. All these areas have been consolidated in the national scientific system, creating a "tropical research agenda" for the country, which has, whilst incipient, recruiting local to scientific problems. Incidentally, one of the greatest scientists the world, the neuroscientist Miguel Nicolelis, recently launched what he called the "Tropical science manisfest: A new paradigm for the democratic use of science to social and economic transformation of Brazil." It is possible to observe what the "scientific agenda tropical" could offer.

> It is this tropical science that will make it possible to humanity to maintain and enlarge its sources of clean energy, to produce enough food and water to billions of human beings (...) Also cultivate natural biomas, where it is possible to extract new medicines and cure for several diseases, to preserve the climate services and also ecological that would put the global warming in recession and also to recognize and avoid the new agents which could be able to destroy the whole human race. This new model means to free Brazilian science from uncritical subservience of the imported models (...). (NICOLELIS, 2010)

This new tropical agenda research was recently the subject of a publication (Bound, 2008) with a rather suggestive name: "Brazil, the natural knowledge economy." According to the report, Brazil's natural resources are a source of innovations although it is still precarious, innovation system, and that if we look with the eyes of the economic knowledge, we could easily characterize it as a economic natural knowledge. Natural resources would give Brazil prospective advantages in the context of global warming.

> Most importantly, they (resources natural) highlight the propitious timing when climate change, the environment, food scarcity and rising worldwide energy demand are at the forefront of global consciousness. What changed between the maiden flight of

[11] Here, I refer specifically to new systemic ecology, to new material research to biomass fuel, among others.

[12] Fundação Oswaldo Cruz (Fiocruz), vinculated to Ministry of Health of Brazil, is the most prominent institution of science and technology into health field into Latin America. Founded in 1900 by the sanitarian Oswaldo Cruz, Fiocruz stands out for combat health problems related to the tropics (Yellow fever, malaria, Chagas disease, Aedesaegypti).

[13]The Brazilian Agricultural Research Corporation (EMBRAPA) under the Ministry of Agriculture, Livestock and Food Supply of Brazil, was established in 1973. Recently has excelled in research and development of tropical varieties.

> the 14-bis and the maiden flight of the Ipanema[14] is not just Brazil´s capacity for technological and scientific innovation, but the rest of the world´s appreciation of the potential of that innovation to address some of the pressing challenges that confront us all (BOND, 2008:14).

This is an unreasonable[15] optimism. The recognition of comparative advantages do not mean that they are used. Also does not mean that it exploitation may be translatable into new scientific paradigms. The construction of a new scientific agenda may have limited its scope or impact to the context of construction, without influencing local epistemes on global dimension ISST. That is to say that it is very affordable, taking into account the history of world science of reproduction, building a scientific agenda with relevance to tropical regions, which coexists the same kinds of problems and to which this new agenda seeks to give answers. It seems, finally, that science coexists with peripheral issue, as discussed in the literature, from circulation (Latour, 2000). Latour and the theorists on *actor network theory* support the argument that to become a fact, every single idea must pass through the hands of a multitude of actors with different interests and strategies, which are not predictable and much less have any commitment to the original idea, which makes it (inevitably) unrecognizable when it circulates. Against it, those involved with the idea must accomplish two things: "enlist other people so that they participate in the construction and the fact that control the behavior expected of them to make their actions" (Latour, 2000:178). It seems to me that the problem of building a tropical science resides in the first case, which thus invalidates the second.

Peripheral Science has a low capacity of recruitment of actors, especially those who take strategic positions for the knowledge circulation ISST: journal editors, peer reviewers, teachers and students in calculus centers, entrepreneurs, among others. If the case is to enlist in the tropics, then it brings the problem of low network density technoscientific built there, and the absence of central calculations able to add scientific capital that exceeds the conceptuality of knowledge and technology built. In this sense, it seems that the reference to "tropical context" argues against the ability of movement of knowledge built in this context. Unless it purifies itself, although, depriving it.

7. Concluding remarks

Purifying the peripheral knowledge of the science references marks the science in these contexts. The likely local relevance becomes irrelevant when your site is the periphery of the ISST. Thus, although all knowledge starts from certain location, the location really matter where it goes, if it is assumed some differentiation center / periphery in ISST. It is important mainly for the " relevance administration" of scientific products (KNORR-CETINA, 2005). According to this formulation, the scientists always seek to answer, in the introductory

[14] 14-bis and Ipanema aircraft models are developed in Brazil. The first was built in 1906 by AlbertoSantos Dumond and the second was built in 2005 by the Brazilian company Embraer and is thefirst commercial aircraft to operate entirely on biofuel.

[15] Some recent studies indicate that the United States leads the development of low carbon technologies and that China was the country with the highest growth rate of patents of these technologies in the last decade. This knowledge translates into projects already leaders in wind, solar and methane destruction (MOTTA et al., 2011).

sections of their articles, the real intention of the article. Therefore, for example, it can be summarized the relevance of the research results in what they present as innovative to the field in question, the response of a given disease, the solution to environmental problems, economic, and finally, to the problems mentioned by the scientific agenda which it links.

> The relevance of the elaborated practice in the introduction is, above all, a speech phenomenon related to itself, instead of being a phenomenon related to the practice. So, I want to say that the relation of generalized sources that ate integrated to the scientists, to the potato processing industry, to the population who benefits with more and better proteins or to the United States which benefit with the control of the waste, is not related to the practice of scientists. (KNORR-CETINA, 2005:256).

So, it is administered according to the relevance of other elements presented in the scientific and transscientifics, emphasizing what, ultimately, would favor the publication of the article. In the scientific center, the relevance is ensured by the local agenda (global) from the research what makes a legitimate context. In the periphery, it is needed to purify the context and references to local problems. It should, therefore, "manage the irrelevance," giving up the agendas of peripheral research.

It was not advocated in this article the argument of the impossibility of change in the hierarchy of the international science and technology. The calculus centers are shifting and also they are in constant variations, being subject to exemplary works and advanced technology. But, also, it cannot be disdained the tendency that some of the hierarchy spots tend to be constant – as it has been shown along the history of science and technology. Yet, it is advisable to have in mind that within the center of scientific and technologic production emerge another calculus centers, anticipating its global agenda, methods and paradigms – consensual- in the system as a whole, including its periphery.

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More than the usual academic textbook, the present volume presents sociology as terrain that one can virtually traverse and experience. Each version of the sociological imagination captured by the chapter essays takes the readers to the realm of the taken-for-granted (such as zoological collections, food, education, entrepreneurship, religious participation, etc.) and the extraordinary (the likes of organizational fraud, climate change, labour relations, multiple modernities, etc.) - altogether presumed to be problematic and yet possible. Using the sociological perspective as the frame of reference, the readers are invited to interrogate the realities and trends which their social worlds relentlessly create for them, allowing them in return, to discover their unique locations in their cultures' social map.

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