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Biopolitics: Biodiversity as Discourse of Claims

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1. Introduction

My research interest with biodiversity as a discursive phenomenon dates back in 1996 when I was working as a Junior Sociologist at the International Rice Research Institute (IRRI). I was involved with the Institute's flagship project on rice biodiversity- a multi-country component project interested in documenting the cultural dimension of rice genetic conservation at the community and farm levels. I was puzzled by the seemingly oxymoronic juxtaposition of rice and biodiversity. Soon, I discovered that my initial notion of biodiversity is as limited as my understanding of its origin as a concept.

When I was invited to write a paper about biodiversity for this volume, I was tempted to organize my key arguments around the politics of biodiversity (as it has been the original line of inquiry of my previous academic work on the topic). My reason was that the concept has been given birth by political claims of conservation biologists and evolved, henceforth as a form of political activism involving new sets of interest groups. However as an environmental sociologist who has been intrigued by the discursive nature of political claims, I decided to use a title that truly reflects the tricky nature this notion. Tricky because the conventional notion led many of us to believe that the politics of biodiversity was inaugurated by the way it has been used by the international community to promote common economic and political ethos (e.g., Convention on Biological Diversity). I disagree. My position was that the politics of this concept goes as far back as to the very day of its coinage. Tracing the genealogy of biodiversity as a discursive claim is a more strategic and encompassing way of reframing the issues it implicates. Phrased differently, it is my position that the discussion of the biography of the concept we call biodiversity is to highlight not only the politics that goes with it, but to call attention to the sociological relevance surrounding its current usage. Thus the thesis of my chapter is twofold: I submit that:

i. Biodiversity is a politically charged concept as *its birth is politically instigated;*
ii. Biodiversity is a politically charged concept as *it is invoked to further political agenda.*

In order to amplify the major thesis of the chapter, I divided the discussion in two major parts. Part 1 elaborated on the scientific context that led to the naming of this concept. Part 2 highlighted the power play that goes with its current usage. Respectively, the former tackled the genealogy of biodiversity; its birth as a social construction to justify a call for collective

action; while the latter documented how biodiversity as a political *tool* has been appropriated by and forms part of, the discursive armory of three grassroots epistemic communities[1] as they advanced their respective political agenda.

2. Genealogy: The birth of biodiversity

Before 1986 the term "*biological diversity*" or "biodiversity" is non- existent. This word was invented by a group of American conservation biologists in the conference "The National Forum on *BioDiversity*" held in Washington D.C. in 1986. Walter Rosen (who probably coined the term) organized the gathering with the support of Edward Wilson. The activity was under the joint auspices of the National Academy of Sciences and the Smithsonian Institute. The group felt that a new catchword was needed to promote nature conservation and to make people aware of the lurking dangers of species extinction. The neologism apparently was created to replace several other terms, viz. ecosystem, endangered species, natural variety, habitat and even wilderness, that had been in circulation in promoting nature conservation (Nieminen 2001; Sarkar 2002).

2.1 Biodiversity as a scientific activism

As a rare example of scientific activism, biodiversity then was originally conceived to be a scientific tool aimed to achieve certain ends: to prevent worldwide loss of species diversity, to alert the world that species extinction was rapid and problematic and to catalyze and solicit public interests and action (Lane 1999). Biodiversity as an *organizing* concept was invented as a *communicative tool* in the broader political arena. It was conjured up from the need to communicate and act in a concerted effort (Norton 2003). While the history of the term is relatively short[2], it already has sparked distinctive philosophical debates. Some of these are entangled in the very definition of 'biodiversity', an issue, which becomes the hallmark of some of the present political, environmental, and social aporia. To date there has been no universally approved definition of biodiversity within the community of scholars with the exception, of course, of the original one proffered by the organizers of the 1986 Washington convention.[3] Since then, biodiversity as a concept becomes so stretchable a term there seem to be no chances of bringing it back to its original usage.

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[1] Haas (1990) defines *epistemic community* as a "professional group that believes in the same cause and effect relationships, truth test to accept them, and shares common values; its members share a common understanding of the problem and its solution." Naess (2001) improves the concept by both limiting and expanding the category. He limits it by referring to scientists only and expands it by invoking the transnational networks of these scientists. As a network, epistemic community provides a "pool of expertise and authoritative knowledge which is necessary basis for collective action" (p.32). See also Bauhr's (2000) discussion on epistemic communities and international political co-ordination. However, as used in the present paper epistemic community is not limited to scientists and experts, but embraces knowledge claim-makers such as social movement, organization, or advocacy groups.

[2] According to Takacs (1996) the word "biodiversity" did not appear as a key word in Biological Abstracts, and "biological diversity" appeared once. In 1993, biodiversity appeared seventy-two (72) times and biological diversity nineteen (19) times. Now it would be hard to count how many times "biodiversity" is used everyday by scientists, policy-makers, and others.

[3] The conservation biologists may have crudely defined biodiversity as the number and variety of distinct organisms living on earth. The Convention on Biological Diversity in this light is just an *attempt*

2.2 Biodiversity as feature of nature

As if to lighten the vagueness of the term and the confusion it generates among its scientific users, two complementary schemes have been proffered the hub of which are the issues of (i) pinning down a precise definition (i.e. *definitional problem*) and (ii) operationalization of its indices (i.e. *application problem*).[4] These schemes are complementary in the sense that the first served as the take off point of the second. The second approach, on the other hand, did not abandon the optimism of the search for categorical definition. Rather, it fleshed out the ethics and practicality of such process.

2.3 Policy discourse

The first scheme has been advanced in a paper presented during the 2000 London 3rd Policies for Sustainable Technological Innovation in the 21st Century (POSTI) Conference on Policy Agendas for Sustainable Development. The approach divides biodiversity into two parts when analyzing its use in environmental policy namely: (i) biodiversity as a feature of nature (i.e. the variety of species, phenomena, and processes that exist in nature); (ii) biodiversity as a policy discourse (i.e. a concept and a discourse that is used to argue for the need of nature conservation, and in legitimating different conservation policies). As explicitly argued by Nieminen (2001: 2) "Biodiversity as the essential feature of nature is foremost the realm of scientists, it is the realm of scientific measuring, categorization and theorizing. Biodiversity as a discourse, on the one hand, is the realm of policy-making, administration and communication."

Biodiversity along the first divide refers to the pure objective status of the variety of living organisms, biological systems, and biological processes found on Earth. This bias is aptly captured by the following definition articulated by its staunchest supporter- Edward O. Wilson:

> "*Biodiversity…is all hereditary-based variation at all levels of organization, from genes within a single local population, to the species composing all or part of a local community, and finally to the communities themselves that compose the living parts of the multifarious ecosystems of the world.*" *(Wilson 1998: 1-3)*

As a policy initiative, biodiversity is embedded within the "rhetorical resources for identifying the responsibilities, characterizing social actors and groups, praising and blaming, criticizing conventional knowledge or accepting it, legitimizing courses of action or political strategies and for promoting the factuality of otherwise contestable claims" (Nieminen 2001: 3). In other words, biodiversity is a form of social standard that can be used to evaluate human actions in relation to utilization, conservation and management of the benefits of biodiversity.

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to standardize or a result of a *compromise* between divergent but quite similar claims (i.e. the scientific claims).

[4] In relation to this, Sarkar (2002:132) inquires: "The term biodiversity has remained remarkably vague and its measurement equally capricious. Is allelic diversity part of biodiversity? Or only species? What about individual differences? Do we have to worry about community structures? Is the number of species appropriate measure? Do we have to take rarity and commonality into account? Or should we worry about differences between places?"

It must be noted though that whether conceived as an objective feature of nature or as an object of policy initiatives, biodiversity remains to be a '*discursive* (or linguistic) creation' of stakeholders - originally of the conservation biologists and later on of policy makers. It is difficult to pin down an exact definition of discourse. The works of Fairclough and Wodak (1997), van Djik (1997), Jaworski and Coupland (1999) and recently, of Wetherell, Taylor and Yates (2001) attest to this problematique. Generally speaking though, discourse refers to the actual practices of speaking and writing (Woodilla 1998, *see also* Gergen 1998). Hall (1992) posited that discourse is a group of statements which provided a language for talking about – i.e., a way of representing- a particular kind of knowledge about a topic. Hence, when *statements* about a topic are made within a particular context, the discourse makes it possible to construct the topic in a certain way and viewed this way, they are constitutive of identities (Hajer 2003; Norton 2003) as discourse allows something to be spoken of by limiting other ways in which the topic can be constructed (see Foucault 1987; Burr 1995; Parker 1992).

As the social history of biodiversity attests, conservation biologists who invented the term did not merely *describe* what they see as biological diversity; but the very act of description constitutes the object so described. The following quote from the book '*Making Nature, Shaping Culture*', poignantly captured this strong constructivist theme:

> *"Nature exists only through its description, analysis, mapping, and manipulation… What we call as objective reality is constituted by both the actual physical configurations of elements in things and in human conceptual frameworks (theories, definitions, and 'facts')… It is our ordering of the information received by our senses that constitutes the picture of 'all that is' and that we refer to as nature" (Busch et al 1995: 3-4).*

The second scheme muses not so much on 'how' to define biodiversity. Rather it inquires as to 'why' define the concept in the first place. It bolstered the constructivist stance described above by stressing that words like biodiversity do not correspond to pre-existing objects, individuals and categories[5] (cf. Hajer 2003). By act of (usually implicit) choice, the development of a vocabulary of terms to discuss observable phenomena 'constitutes' the objects and categories humans recognize and manipulate linguistically. According to Norton (2003) communicative '*usefulness*', and not '*truth*' should determine our definitions-usefulness implies careful examination of our shared purposes toward which communication is directed, which ultimately leads us back to the subject of social values and commitments.

Within the context of second scheme, we could neither find nor create any '*correct*' definition of biodiversity, for virtually there is none. What we could and must strive for, instead, is to look for a definition that is '*useful*' in deliberative dialog regarding how to protect and preserve biological diversity, however defined. Our categories including biodiversity must be developed from the need to '*communicate*' and to '*act*' together within the broader political ethos (Norton 2003).

Quite obviously, the second scheme interrogates both the possibility and utility of precise definitions. It sensitizes us to the fact that carefully worded definition is not a necessary

[5] This position is quite similar to that of Escobar (1999) who argues against the possibility of pre-discourse reality.

guarantee that a cooperative discourse would ensue or that concrete actions will be taken. On the contrary, definitions may alienate, either by *silencing* or *relegating to the background*, the local 'voices' of those who may have equal and valid stakes on the very issues these definitions bring about.

3. Claimants: Biodiversity as political discourse

From the conservation biologists to policy makers to the general public the currency of the term biodiversity mutates in unimaginable forms. The concept has become a buzzword that serves to promote the various political, economic and cultural agenda of scientists and decision-makers as well as of individuals, communities, institutions and nations (Escobar 1999). With its usurpation by these new sets of articulators came newer modes of discourse, hence a whole new array of meanings and usage. Biodiversity has become a *masterframe* used by the epistemic communities of various stakeholders. As a masterframe from where all sides draw meanings, biodiversity looses its '*signature meaning*'.[6] A fascinating consequence of this development is the blurring of the distinction between the scientific discourse (of the experts) and the popular discourse (of lay or non-expert) (Haile 1999; Nieminen 2001, Dwivedi 2001). As Eder (1996: 183) observed:

> "*Biodiversity becomes a collectively shared ideology undermining the hegemony of science and at the same time seriously weakening the position of traditional environmental organizations and movements as primary mouthpiece of the environment.*"

At this juncture I would like to showcase three of these epistemic communities – the ecofeminist group, indigenous ecology movement, and the Association of Southeast Asian Nations (ASEAN). Each offers a distinctive perspective using equally distinctive sets of categories and claims. It is not my purpose to present an exhaustive description of each of these epistemic communities, except inasmuch as they relate to the purpose of current discussion.

3.1 Ecofeminism: Women/nature nexus

Ecofeminism is an environmentalist version of feminism. Although a heterogeneous front in itself, ecofeminists are united by a common bond celebrating the *conceptual links* between domination of nature and the domination of women (Moyer 2001). Buhr and Reiter (2002) outlined three of these conceptual links between women and nature such as (i) historical connections (the effects of the Enlightenment and the death of nature; (ii) metaphorical connections (same value dualisms operate to subjugate women and nature); and (iii) epistemological connections (challenges reason and rationality, ways of knowing).

It is within the purview of the third mode of conceptual connection that ecofeminism launched its most radical claim in relation to biodiversity and women. Quoting Rocheleau (1995: 14) Martine and Villarreal (1997) contextualized the link:

[6] I define s*ignature meaning* here as the intended definition of biodiversity as conceived by those who coined the term, that is, by the group of American conservation biologists, who introduced the term in the 1986 Washington conference. Its signature meaning then was related to the promotion of nature conservation and to make people aware of the dangers of species extinction (Nieminen 2001).

> *"… a particularly interesting discussion arises concerning the conservation of biodiversity. It is generally agreed that the knowledge, skills and practices needed for the conservation and development of plant genetic resources is critical for the preservation of biodiversity, which is linked with sustainability (FAO 1996; Bunning and Hill 1996). Such knowledge, skills and practices tend to differ along gender lines. Some authors sustain that women's knowledge is at the core of sustainability: "As the bearers of knowledge and the practitioners of the science of survival women contribute to and have a major stake in protecting the biological basis of all our future lives and livelihoods."*
>
> *"While men have generally engaged in cash crop cultivation (usually mono crops) throughout the Third World, women are more likely to be in charge of subsistence crops, which they cultivate in home gardens, a farming system that contains high levels of biodiversity. In Thailand, home gardens managed by women were found to contain 29% of non-domesticated species (Moreno-Black et al., cited in Bunning and Hill 1996). In the Andean region, women were found to plant diverse potato seeds according to their traditional knowledge, in order to combine the desirable attributes of frost resistance, nutritional value, taste, quick cooking time and resistance to blight, while their husbands followed the mostly male extensionists advice to plant only one species (Rea, as cited in Bunning and Hill 1996).*

Extending these lines of argument, ecofeminism declared that since women are *custodian* of a wealth of cultural information about diverse species of plants and animals, any attempts to undermine biodiversity are tantamount to downplaying the epistemological investments of women in the conservation and management of biological diversity (Erasga 2011; *see* Shiva 1993). Concomitantly, any attempts to appropriate, say through biotechnology, or alter that state of affair (i.e. monoculture regime), are considered subversion of that special bond between women and biodiversity (Zweifel 2000).

3.2 Indigenous peoples: Knowledge as identity

Over thousands of years, Indigenous Peoples (IPs) have developed a close and unique connection with the lands and environments in which they live. They have established distinct systems of knowledge and taxonomies, innovations, and ecological practices relating to the management and exploitation of biological diversity on these lands and environments. Oldfield and Alcorn (1991: 4 cited from Warren 1992) clarified:

> *"Much of the world's biological diversity is in the custody of farmers who follow age-old farming and land use practices. These ecologically complex agricultural systems associated with centers of crop genetic diversity include not only traditional cultivars or 'landraces' that constitute an essential part of our world crop genetic heritage, but also wild plant and animal species that serve humanity as biological resources."*

For these reasons and more, IPs' clarion call for radical changes is transformed into a social movement which equaled the tenacity and steadfastness of ecofeminism in upholding their rightful position in relation to biodiversity issues and concerns. Traditional people insisted on the recognition of their unique yet equally valid knowledge claims regarding their culturo-natural resources and the practices surrounding the utilization and management of such resources (Erasga in press; Tauli-Corpuz 2000; *see also* Warren 1992; Davis 2001).

I think the concept of "*indigenous ecology movements*" (IEMs) typified the implications of this sociological development. According to Myer (1998) indigenous ecology movement is not a

single, well-defined entity, but rather a broad rubric used to group a variety of voices, notably Northern environmentalism or Southern indigenous groups. But more than just a movement with alternative set of political and economic action plans vis-à-vis resource management and utilization, IEMs offer different ways of understanding biodiversity especially through their epistemologies of nature as rooted in traditional ecological interactions guided by ways of knowing based on intimate co-existence with nature.[7] Warren (1992:3) stressed:

> *"There are many aspects to indigenous peoples' claim and interests in the natural environment and biological diversity. Indigenous peoples seek recognition and protection of their distinct rights in knowledge of, and practices relating to the management, use and conservation of biological diversity. They also seek introduction of measures to prevent exploitation of their knowledge, and compensation of financial benefits from the use of their knowledge, innovations and practices."*

Clearly, the biodiversity discourse of Indigenous Peoples serves a variety of interests. These multiple interests challenged, first and foremost, the positivist discourse of science that puts premium on objective, and most often, economic features and benefits of biological diversity. IEMs' position transcends this purely utilitarian and opportunistic stance in favor of the spiritual and uniquely cosmovisional nature of human / nature relationship- a relationship that contextually reconfigures the pluriform hybrids of people and their environments. IPs conception of the integrity of the cultural and natural served as a powerful paradigm in creating ecologically sustainable ways of life (Erasga in press).

3.3 Third world: Resource is security

Quite similar in their agenda regarding the political economy of biodiversity, the member-states of the Association of Southeast Asian Nation (ASEAN)[8] have finally launched a new wave of national and regional security discourse that assigns a strategic dimension to nature and the resources it contained.[9] This security discourse is inspired by the Association's "joint endeavors" on sustainable development broadly articulated in its collective "security and development" agenda. In her analysis of this agenda Hernandez noted (1995: 38):

> *"To be sustainable, development in its economic dimension, must be sensitive to its excessive demands on both natural and human resources as well as its negative impact on the physical environment.*

[7] Two excellent works can be mentioned: One is Escobar's (1999) documentation of the struggle of the *Proceso Comunidades Negras* or PCN (Process of Black Communities)-- a network of more than 140 local black and indigenous communities in the Colombian Pacific region. His analytical frame is called cultural politics. The framework suggests that cultural practices are the measure of defense of both nature and culture epitomized by their very notion of biodiversity as "*territory plus culture*." Another is Martha Johnson's (1992) edited book entitled *Lore: Capturing Traditional Environmental Knowledge* -- where she documented the convergence and divergence of western science and *traditional environmental knowledge* (TEK) in different cultural contexts including Canada. The documentation aims to provide evidence that TEK is not necessarily inferior to science. Rather, it may present an analytical and taxonomic approach operating at a different level of abstraction.

[8] Compose of the Philippines, Viet Nam, Thailand, Indonesia, Malaysia, Brunei Darussalam, Singapore, Cambodia, Laos, and Myanmar.

[9] Development is broadly defined but includes the ecological, social, economic and political dimension.

Within this discursive platform, environmental resources have been assigned with a definitive status that directly impacts on the Associations' burgeoning conception of security. The discursive shift in the status of biophysical environment as "*resources*" unavoidably ushered a new mode of thinking in terms of national vis-à-vis regional cooperation. In this context, biodiversity i.e. biogenetic resources of plants, animals and microbes found in the environment, are no longer seen as neutral elements of a physical border separating nations and their peoples. Environment as container and refuge of biodiversity is no longer perceived as a lifeless frontier demarcating nations and their cultures. Rather, environment and every genetic resource it contains are now considered integral and strategic component of the ASEAN's national and regional security. This new political discourse is based on the emerging definition of political and economic security that sees environmental protection and sustainable development as key organizing principles. Peria's (1998: 5) analysis of the ASEAN's changing notion of the potential of environmental resources rightly concludes that:

> *"Given the growing scarcity of the world's resources and the insatiable demand for it, security should be redefined to include the matter of safeguarding the integrity of a nation-state's natural resources."*

Notwithstanding, this new perspective is anchored on the insights that given the enormous economic, scientific and strategic potentialities of biogenetic resources,[10] (which are most often found in underdeveloped and developing regions of the world with equally diverse cultural communities), national security is unthinkable without incorporating biological and genetic resources as key factors (cf. Dupont 1994).

Perhaps this new notion of "genetic resource as security" is engendered by a notorious character of environmental problems – transbouderiness.[11] The region as a whole has experienced a series of environmental catastrophes such as deforestation, pollution, migration and climate change.[12] Moreover, regional conflicts may become the palimpsest of these environmental problems. Thus, solving environmental problems besetting the ASEAN-member nations is tantamount to addressing ongoing and potential regional conflicts that go with them.

Overall, the voices of the ecofeminists, IEMs and the ASEAN represent the grassroots discourses of biodiversity both as a feature of nature and as a social construct. Being the latter, they serve as powerful interpretations of how humans relate to nature and vice versa. These interpretations are embodied in their cosmovisions and epistemologies of nature and increasingly inspiring their discourses of development couched on their vulnerable positions within the power-relation contexts.

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[10] These potentialities are enormous in terms of its medical, cosmetics, and warfare applications on top of the economic benefits that go with them. The state of the global bioprospecting initiatives being commissioned by gargantuan pharmaceuticals of North America and Europe epitomized such usefulness of biogenetic materials from diverse species of microbes, plants, and animals (Erasga 2003).

[11] In the case of pollution, transboundary pollution is pollution that originates in one country but, by crossing the border through pathways of water or air, is able to cause damage to the environment in another country (OECD 1997).

[12] The 1997 haze from Indonesia's biggest forest fire is an example. The haze covered vast areas in Malaysia, Singapore and elsewhere in the region.

4. Conclusions

From the discussions above, three complementary conclusions can be derived:

i. if discourse is political in nature, it follows that environmental discourse is a political conversation / negotiation about nature;
ii. the *power-inspired construction* and *power-driven usage* of biodiversity concepts alert us to the emerging political nature of environmental discourse in general; and,
iii. biodiversity discourse should no longer be seen in the light of its original usage (i.e. nature conservation). Rather, it must be seen as a sociological construct that defines the emerging status of nature as social entity.

The first conclusion is a necessary implication of the nature of discourse in general. Discourse according to Foucault is the production of knowledge, and ultimately the production of Truth itself. Overlaying this nature of discourse within the frame environmental negotiations could mean this insight: "that when environmental scientists are producing information about and from their researches, they are in a way, producing discourse which is as much political as the knowledge produced by policy makers in the government." This makes scientists as equality political as the policy makers in their particular point of view, agenda and passion to pursue them.

The second conclusion is a necessary implication of the first one. From the discussion above, we see those conservation biologists and their cohorts were acting political when they started mobilizing people to do something about a problem that endangers the survival of people- to stop the immanent lost of species forever. Their activism is a show of how valid their information is vis-à-vis the danger they are alerting the world about.

The third conclusion reinforces the malleability of environmental discourse. On the one hand, when policy makers started concocting policies about the environment, they are claiming something as important as the claims made by environmental scientists. On the other hand, when environmental scientists blamed the environmentally destructive lifestyles and cultures of people, they are factoring in the social to the seemingly purely technical problem. Examples are many: pollution, solid waste, acid rain, and deforestation.

To fully capture the essence of these conclusions allow me to quote a sociologist when he attempted to justify the role of social scientists (notably sociologists) in making sense of our environmental challenges. He writes:

> "What are topics like solid waste, pollution, acid rain, global warming and biodiversity doing in sociology text? The answer is simple: None of these problems is a product of the 'natural world' operating on its own. On the contrary... each results from the specific actions of human beings and are, therefore social issues.... sociologists can make three vital contributions to ecological debates. First, sociologists can explore what 'the environment' means to people of varying social background… Second, sociologist, can monitor the public pulse on many environmental issues, reporting peoples' fear, hopes and fears… why certain categories of people support one side or another on controversial issues. Third, and perhaps the most important, sociologist can demonstrate how human social patterns put mounting stress on the natural environment" (Macionis 1999: 584).

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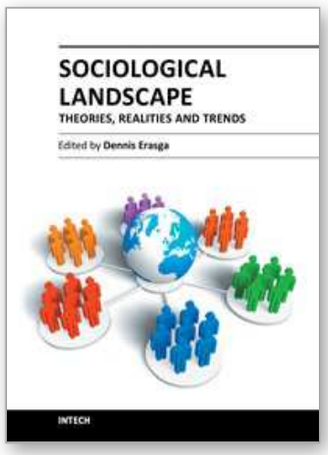

Sociological Landscape - Theories, Realities and Trends
Edited by Dr. Dennis Erasga

ISBN 978-953-51-0460-5
Hard cover, 428 pages
Publisher InTech
Published online 28, March, 2012
Published in print edition March, 2012

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