

Chapter 4 Sustainability: Notes on human relationship with the environment in Baja California Sur

Capítulo 4 La sustentabilidad: Apuntes sobre la relación humana con el ambiente en Baja California Sur

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Abstract

The human relationship with the environment in Baja California Sur has undergone an extremely interesting process, since it managed to remain in balance from the time of the hunter-gatherers until the 20th century thanks to its insularity; However, based on bibliographic and newspaper analysis, interviews and participant observation, our inquiries suggest that it is, perhaps, in the last three decades of the 20th century with the inauguration of the transpeninsular highway that the ecological balance that was sustained during several centuries. Indeed, with the inauguration of the transpeninsular highway in 1973, new extractive industries and also new inhabitants arrived, in addition to the increasingly large flow of visitors that also damages and pollutes, proof of this is that COVID-19 arrived by plane on board of an Englishman invited to a wedding in Cabo San Lucas.

Sustainability, Environment, Society, Insularity

Resumen

La relación humana con el ambiente en Baja California Sur ha vivido un proceso sumamente interesante, pues logró mantenerse en equilibrio desde el tiempo de los cazadores-recolectores hasta el siglo XX gracias a su insularidad; sin embargo, con base en análisis bibliográficos, hemerográficos, entrevistas y observación participante, nuestras indagaciones apuntan a que es, quizá, en las tres últimas décadas del siglo XX con la inauguración de la carretera transpeninsular que se rompió el equilibrio ecológico que se sostuvo durante varios siglos. En efecto, con la inauguración de la carretera transpeninsular en 1973 llegaron nuevas industrias extractivas y también nuevos habitantes, además del flujo de visitantes cada vez más nutrido que también daña y contamina, prueba de ello es que el COVID-19 llegó en avión a bordo de un inglés invitado a una boda en Cabo San Lucas.

Sustentabilidad, Medio Ambiente, Sociedad, Insularidad

Introduction

Addressing issues that have emptied so many inkwells, such as ecology and the environment, has placed us as researchers on the slippery slope of fear of redundancy. Therefore, this text does not intend to be more than a diverse vision of a problem that concerns us all.

Considering the importance of the conflictive relationship between society and nature, we proposed through these notes, to provide an overview of its evolution in Baja California Sur (BCS), seeking to understand from different theoretical perspectives the natural and social processes that shape current realities.

The systemic and multifactorial nature of the problem led us to conduct a literature review that would allow us to present a non-exhaustive, but representative overview of the theoretical development in this regard, based on epistemological proposals that attempt to understand it with an articulating, transdisciplinary and complex lens.

The review of these materials led us, first, to consider the possible forms of relationships that hunter-gatherer groups had with their habitat before the Jesuit occupation and the environmental impact that the arrival of missionaries, soldiers and miners brought about by significantly modifying the ecosystem through the establishment of ranches, the introduction of new plant and animal species, as well as the channeling of water from the wetlands.

We then describe how the process of transformation of the Southern Californian ecosystem occurs as a result of the growth of cities, the increase in population based on national and foreign migration, the coming and going of different economic and productive activities, in addition to governmental decisions that determine the legality or illegality of actions, ranging from the construction of highways and the expansion of communications, to the indiscriminate exploitation of nature as a resource, as in the case of open-pit mining.

The doubts we had regarding the current forms of the relationship between society/Nature in BCS, led us to form a heterogeneous focus group, whose members shared their opinions, since we consider that the interpretations of the inhabitants of our environment, the knowledge and representations that are configured around the subject, considerably broaden our view of the direction that the environmental problem is taking in our entity at the biota and cultural level.

More and more people are concerned about the future of the planet, often from different scientific perspectives and angles of activism, but all agree on the importance of a series of necessary rethinking in all aspects of human life and the value systems that underpin them, especially in relation to the habitat, the ways in which we have appropriated Nature, calling it a resource, and have used science and rhetoric to legitimize our empowerment.

For this reason, the present work explores, with a kaleidoscopic, holistic and even eclectic view (to approach and value other knowledges). It is a joint approach by two anthropologists and a semiotician, a team that starts from the need to approach research problems as complex processes configured in a complex network, in a system where ecosystemic and cultural aspects are equally important. Our notes seek to approach, first of all, the cognitive processes themselves to theoretical-epistemological and methodological perspectives capable of being constructed and understood in and with the subjects/objects, to be analyzed and to confront our approaches on the Sudcalifornian reality with diverse theories and categorizations of academic and scientific character such as theories on superficial and deep ecology, bioethics, environmental holism, cultural ecology, second order epistemology, semiotics and complex thinking. It is a productive eclecticism, a transparadigmatic kaleidoscope to address a natural/social problem.

The way in which humanity has configured its relationship with the environment in the different stages of its history, serves us to understand the current state of affairs. In practically the entire planet, it seems that the first humans had not even conceived a notion of superiority with respect to their habitat; that idea was coming with the passage of time, the invention of artifacts and social structures of power. Baja California Sur is interesting, in this sense, not only for the fact of being our homeland (which should be enough), but for being considered at the same time inhospitable and seductive, always challenging settlers and migrants to look for different ways of sustaining human life.

The environment as a widespread concern

Science first turned its eyes to the environment at the end of the 19th century, and this interest gave birth to a new discipline: ecology. Among its initiators was the German biologist Hackel in 1935. For his part, the English botanist Tansley conceived the central notion of ecosystem, which distinguished the object of study of this discipline from those of other natural sciences.

In 1969, for the first time, there was a link between scientific ecology and awareness of the problem of the degradation of the natural environment, which affects food, resources, health and the psyche of human beings. In this way, progress was made from ecological science to ecological awareness. (Morin, 1996)

Indeed, scientific and social concern for the environment gained momentum in the 1960s, and this concern, expressed in the way of thinking and feeling of a large part of the societies of the time, spread from then on to the entire planet. The notions of nature and the position of human beings in the ecosystem transcended the scientific sphere and became part of the agenda of uneasiness for ordinary people.

We can then consider that scientific-technical development in this case and in many others served as an activator of social subjectivities. That is to say that the results of studies and research, through dissemination processes, had the necessary effect: the awareness of the members of society and with it the personal concern for the environmental situation and even the need-obligation to be informed about new knowledge on the subject. In spite of the fact that the common person and everyday life usually remain outside the ideological influence of scientific activity, to which, at best, they are a passive recipient, in the second half of the 20th century, in the face of the constant growth in the circulation of information, thanks first to the mass media and then to the massification of self-communication, the environmental issue appeared as a priority in the taxonomy of social problems for society as a whole.

With this and the negative consequences of some scientific results, the use of science for war and the threat of new diseases, added to the private financing of research and, therefore, the economic speculation of the results, people's interest was transformed into action, generating the emergence of social movements and the formation of pressure groups that have been achieving an important influence on cognitive advances tending to surpass classical rationality. Proof of this is the progress of environmental holism and bioethics, among others, strongly influenced by citizen demands based on the environmental problem and the use of medical discoveries and technologies¹.

The emergence of theoretical proposals such as global bioethics, environmental holism, second-order epistemology and the complexity approach, constitutes a kind, if not a sharp break with classical rationality, then a considerable broadening of the scientific view, tending to understand and explain processes that need to be questioned, oriented or abated in the forms that the society/Nature relationship is taking. Global bioethics is considered as an environmental ethics that distances itself from the classical ideal of objectivity by proposing a reformulation of the object of science that includes the valuational aspect in the composition of knowledge, thus going beyond the scientific knowledge/everyday life dichotomy.

Holistic environmentalism modifies the concept of Nature and the place that human beings occupy in it by ceasing to consider them as separate entities capable of appropriating Nature, modifying it and, if necessary, destroying it. It thinks of the human species as what it is: an integral part of the ecosystem and, therefore, its actions and inactions on Nature will have their consequences.

Second-order epistemology questions what is understood by scientific objectivity, as well as the subject/object dichotomy and the place that the method occupies in the process of knowing. Such a position is quite operative for the researcher who is freed from scientific ties that force them to have only one point of view to legitimize their reflections and gives them the possibility of exploring what they seek to understand with a different viewpoint.

Complex thinking questions the classical vision of rationality and proposes a transition from the ideal of simplification to a conception of complexity which allows us to account for the articulation of the different aspects with which a given phenomenon is configured, in this case: the human relationship with the environment in Baja California Sur.

Since the 1960s, advances in cybernetics, information theories and systems theory, together with the emergence of a set of unresolved scientific and practical problems, among which the environment occupies one of the central places, have driven research away from the classical ideal, which in the 1990s began to be grouped into what is now known as complexity studies or complex thinking. (Sotolongo & Delgado, 2006). These new perspectives, beyond their transdisciplinary, transparadigmatic nature, allow us to think of the environmental problem as an issue to be understood from all possible perspectives, making use of various strategies to reflect on the development of society/Nature.

A complex problem

At the end of the sixth decade of the twentieth century, environmental deterioration in some parts of the planet put the problem at the center of all kinds of discussions, regarding the course that humanity had followed in its unattainable race for economic development. It was then considered that we were facing a scientific problem that could be approached from different perspectives, mainly from the natural-scientific and technical point of view, since it was thought that the sciences were the only ones capable of providing knowledge about natural processes and of elaborating solution strategies to try to revert the effects that human errors were causing to the ecosystem.

¹ We can think, for example, of the social reactions to the possibility of scientifically manipulating DNA, to cloning, to rumors about possible bacteriological wars, of which some conspiracy theories say that the emergence of SARS-CoV-2 is a part.

The first actions were aimed at increasing scientific knowledge to assess the damage and provide guidelines for implementing economic and financial mechanisms to solve the problem or mitigate its consequences. It was believed that the creation of decontamination systems designed by scientists, the facilitation of monetary investment and the implementation of legal measures such as fines would put a stop to the indiscriminate use of pollutants, but in reality, fines served to intensify capitalist competition, as they left out small polluters and helped those who had more money to pay for their fault and continue polluting, since they assumed that these resources could be invested in remediating the damage.

In addition, these measures opened up a series of possibilities for illicit enrichment through the purchase of the consciences of scientists, experts and auditors so that they would issue favorable opinions and thus avoid the closing of multimillion-dollar polluting industries. However, as mentioned above, the environmental problem quickly transcended the walls of research and decision-making centers to reach ordinary people, who began to worry because, in addition, the results of research and studies carried out in different parts of the world by great specialists made them co-responsible for the mess. It is not intended here to say that social and/or personal participation in the environmental issue is negative, on the contrary, but the social approach to the issue emphasizes the immediate impact on our lives and those of our descendants, without also considering the aspects related to nature as a whole and its articulations. The issue was revealed to us as a problem with no solution if we tried to separate it into parts, with segmented disciplinary and social approaches; it was a new type of difficulty that affected and therefore involved humanity as a whole. A fundamental solution was therefore required, a change in the relationship between society and nature.

"Among the revolutionary thinkers, true "philosophers of ecology", stands out the work of some precursors such as Lewis Mumford and Aldo Leopold, who in the thirties and forties of the twentieth century put forward some fundamental ideas towards a reconceptualization of the relationship between society and Nature". (Sotolongo & Delgado, 2006)

Lewis Mumford was among the first to establish the complexity of the environmental problem by determining the relationship between it, capitalist development, energy sources, materials, and social goals. He showed how from 1750 onwards, with the use of coal to generate energy and iron as the dominant material, coupled with power, profit and efficiency as social goals laid the foundations for the indiscriminate depredation of nature by capitalist society. As capitalism appropriated energy sources for its development, water, air and household pollution began to appear. The factories produced a frankly inhuman way of life that worsened day by day due to the concentration of urban life. The smoke produced by the combustion of coal became the "incense" of industrialism. (Sotolongo & Delgado, 2006).

The social sciences cannot remain on the margins of these fundamental concerns; anthropology makes important contributions, especially cultural ecology, which studies the relationships between a given society and its environment; the ways of life and the ecosystems in which they develop. Studies from this perspective require the analysis of behavior, ways of life and the relationships established among the members of society, but they also need to involve biology, economics and geography, since they understand that when a society is analyzed in its articulation with the ecosystem, we are not dealing with simple agglomerations of individuals of different species, but with systems of relationships established among different species organized by the habitat itself at different levels, ranging from the most organic to the most symbolic. Among the precursors of this vision, we find Leslie A. White and Gordon Childe. (Bohannon & Glazer, 1999)

Arne Naess distinguished two visions of ecology: the superficial and the deep. In his proposal we find two important aspects: the theoretical-conceptual construction based on the degree of awareness of the relationship between society/Nature and two aspects of environmentalism as a social movement. This proposal is taken up and expanded by Fritjof Capra, who in the 1990s proposes a more general worldview: deep ecology as a paradigm of change, we will exemplify based on this proposal a little later, but it is worth differentiating right now between these two visions. (Capra, 1999) As mentioned above, superficial ecology refers to the environmentalist thinking that arises from citizens' concerns about the visible deterioration of immediate living conditions caused by the overexploitation of the environment, seen as a resource. From this arises the need to protect and conserve nature with a strictly anthropocentric purpose: to improve people's lives. Deep ecology, on the other hand, reflects by placing nature, not humanity, at the center of its concerns; it rejects the separation between nature and man/society.

In synthesis, while for superficial ecology nature is worthwhile insofar as it satisfies human needs, for deep ecology nature is worthwhile in its own right. In his book *The Web of Life*, Fritjof Capra refers to deep ecology as a new paradigm, which conceives the world as an integrated whole, instead of seeing it as a collection of parts. The epistemological limits of this proposal envision three obstacles to be overcome by environmental education: the idea of absolute legitimacy of scientific knowledge, its independence with respect to human values, and the legitimacy of objective knowledge to guarantee human dominion over Nature.

"Epistemological limits take specific form in economics and politics, in notions such as the overemphasis of economic value in political economy and in the way of thinking of contemporary man; and in the consummation of environmental damage in economic-social environments as a realization of the idea of man's dominion over Nature and also over other social environments that, from that logic of domination, should be assimilated and disappear." (Sotolongo & Delgado, 2006)

Think, for example, of the idea of ideological, political and spiritual domination and exclusion of some peoples over others and of some social groups over others. Cultural intolerance of the diversity of human environments is a clear proof of the environmental damage that historical man has inflicted on himself. This intolerance includes political and ideological subjugation and the imposition of social economic systems that affect human diversity. Such has been the case in BCS, from Spanish colonization to the present day.

Peculiarities of the Anthropocene in Baja California Sur

Based on the comments made in the preceding paragraphs, we can see that our understanding of reality is always mediated by culturally determined conceptual categories. Hence, since *Homo sapiens-demens* began to leave traces of its passage through the planet, each society, according to its circumstances, has conceived different ways of living and explaining its relationship with the world, always mediated by symbols, always conflictive, with the environment it inhabits. Currently, the reflection that requires the analysis of human life on the planet circulates in different ways around the concept of *sustainability*, however, we must recognize that this tessitura in the discursive polyphony that understands human beings in/from their environment is very recent. Thinking from sustainability necessarily refers us to the way in which concepts such as ecology and environment have been constructed. Edgar Morin points out the importance of understanding ourselves within this continuum; if we think of ourselves only as *sapiens*, we would have no way of understanding the violent relationship we have developed among ourselves and with Nature. (Morin, 1996)

But before recognizing the importance of this concern, we would like to briefly delve into the concept of the Anthropocene, coined by the chemist Paul Crutzen (Crosby, 2013, 37) to designate this last geological period which, although very brief in relation to the previous ones, has meant a change of monumental significance in which both human beings and the environment have been inevitably influenced and modified in a way that has increased as the species and its civilizing efforts have spread throughout the planet.

In order to approach our specific problem, we have thought of the process in four stages, according to the historical and social conditions that we can identify in the studies carried out by various researchers. The first stage is the pre-Hispanic stage, that of the hunter-gatherers, which refers to the indigenous groups that inhabited the mid-peninsula before the arrival of the Spanish colony. The second stage is marked precisely by the missionary action and the reconfiguration of the ways of life of the settlers. The third stage can be understood from the emergence of the ranch and other forms of community organization to the emergence of the cities and the arrival of modern life. The fourth and last stage is the one we are living in, called by some theorists the anthropocene and by others the capitalocene and characterized by the mediatization of culture, excessive consumption, the indiscriminate exploitation of Nature not only to meet human needs, but also for the enrichment and entertainment of people and corporations around the world, with the known environmental consequences, reconfiguring, in Baja California Sur, a new society of paradise sellers and tourist service providers.

Hunters - gatherers

In the territory now known as Baja California, the arrival of human beings dates back at least 15,000 years before the discovery of America by Christopher Columbus. (Bendímez, 1999). The groups that arrived and settled in areas with environmental characteristics more conducive to their gathering, hunting and fishing activities began to manage and modify the ecosystems they traveled through. We must recognize that, apart from the differences that geologists and other specialists have recognized between the paleoclimate and the current climates, the elongated shape of the peninsular territory, which ranges from latitude 32° 30' to 22° 50', and the various orographic systems that run through it with heights of up to 3 096 meters above sea level, make a great variety of geographic areas and a surprising diversity in the biota that populate it (Bendímez, 1999).

It is difficult for those of us who today base our existence on the advances of contemporary science and technology to distinguish the part of Baja California's landscapes that may have been inhabited and modified by hunter-gatherers and the way in which that ecosystem shaped them, but there is no doubt that archaeologists and other experts in reviewing the traces of the past have been able to distinguish traces of their intricate relationship with the environment, since, as Paul Claval states, landscapes "speak of the men who shape them and who inhabit them today and of those who preceded them; They inform about the needs and dreams of today and also of a past that is sometimes difficult to date". (Claval, 1999). Thus, several specimens of one of the most conspicuous hunting vestiges of North America, the "Clovis" style projectile points, which have been pointed out as the typical artifact of the hunters of large mammals now extinct, such as mammoths and mastodons, have been found in the highlands of the peninsula. For that reason we have some elements to suppose that life based on the hunting of large mammals was a real alternative, at least in the central part of the peninsula. But there are many other material vestiges, in addition to the testimonies left by European explorers and conquerors who confronted these populations, from which we can infer the millenary existence of an intricate relationship between groups and the environment.

We partially agree with Edmund Leach, when he states that:

The environment is not something natural; it is a series of interrelated perceptions, a product of culture... What this environment is, cannot be discovered objectively; it is a matter of perception. The relationship between a society and its environment is organized in terms of the verbal categories of those who use it. (Kaplan & Manners, 1979)

And we say partially, because we agree that the relationship between a society and its environment is narrated, recognized and taught from verbal and symbolic categories, of course that such categories arise from the interpretations of those who inhabit it, but we do not agree that the environment is not natural, so much so, that it determines to a great extent the way we live, even in the 21st century; the clothes we wear, the food we eat, the type of activities we develop, are determined by the environment; now, if we think of the hunter-gatherers who lived in the era to which we refer in this section, we can think with little room for doubt, that their semi-nomadism based on the search for resources is an example of the articulation of these groups with Nature; In this case, we could undoubtedly think of what Naess and Capra call deep ecology, since the way in which these groups organized resources, the cyclical return to known places in search of food, the herbal knowledge that they later inherited from Jesuits and ranchers, speak of an articulated relationship with the environment.(Cariño et al., 2013)

Our ancient Californians left no evidence that they considered themselves masters of nature, nor did they attempt to transform it for their well-being; on the contrary, everything seems to indicate that they lived in a relationship of harmony and articulation with their environment. Although we agree that the ways in which the environment is categorized and conceptualized tell us much about what the society in question hopes to achieve with respect to its environment, we cannot ignore that the categorizations and conceptualizations of the environment in which the hunter-gatherers lived in our mid-peninsula were not constructed by them, but by the archaeologists, historians and scholars who have analyzed their way of life.

Therefore, we consider that what is understood about this environment will depend not only on the way it is conceived, but also on the objective properties of the environment and the knowledge and techniques that the population constructs and uses to cope with it. In this regard, many historians and anthropologists agree that conceptions of nature are socially constructed and vary according to cultural and historical determinations. Philippe Descola states that the dualistic vision of the universe that prevails in Western cultures between culture and nature often constitutes a serious obstacle to the analysis of the ways in which other people talk about and interact with their environment. (Descola, 2001) This is the case, for example, in the enormous contradiction we find in the Spanish testimonies that speak of the precariousness and hostility of the Californian space and are unanimous in recognizing that the natives were happy, satisfied and attached to their territories, attitudes that have never coincided with a conquering, exploitative and civilizing thought (Descola, 2001).

We believe that it is appropriate to consider the concept of "environment" in this double sense; the environment is both natural and cultural, since it both determines the possibilities of human action and constitutes the product of that action. Furthermore, it is necessary to bear in mind that the hunter-gatherer way of life, like any other human way of life, emphasizes its relationship with different spaces, which are dear to it, which have the cultural imprint stamped onto them through custom and tradition, which are familiar to it insofar as it relates to them, not only to make use of different resources, but also for its social relations and with the supernatural. To support this statement, we'll make use of an example cited in a testimony of the missionary period in Old California, regarding the way in which the Indians gave names to those places important to them, and did not have, on the other hand, the Spanish notion involved in the name "California":

The truth is that the Spaniards did not hear this name from the Californios, because they did not know if the country was big or small; where it began or where it ended, and for them only those regions where each group used to live and make their raids had names, and among these indigenous names there is none called California. (Baegert, 1989)

It should be noted that the conquerors of Old California did not respect the intimate relationship of the indigenous people with their territories of travel, given that in their cultural universe there were other priorities to be considered in an environment that was, from their perspective, extremely hostile,

The fundamental aspects of the environment for the explorers had to do with the possibility of exploiting mineral or pearl resources, while for the religious of the three corporations that came into contact with the natives to evangelize them², aspects such as the relationship between the agricultural capacity of a site and the number of natives who frequented it were important, since their objectives, set by the Spanish crown, were to make possible the cultural change of those groups considered "the most savage" so that the territory could be counted as part of the Spanish empire in America.

It is worth mentioning that all the places where missions were founded had an indigenous name, which means that they were places of importance in the imagination of the people who visited and traveled through them. The reason is that those places where the conquerors decided to establish missions had to meet the requirement of having more or less permanent water sources, and the aguajes have been important meeting places for all hunter-gatherer bands in the history of mankind.

In Old California, the permanent water sources were the center from which different roads departed and were traveled and negotiated by related bands or in temporary alliances, so these places may have been in native cultures what Gilberto Giménez calls "geosymbols", that is, cultural constructions that become objects of representation, attachment and belonging. (Giménez, 1996).

Depending on the seasons of the year, and considering the existing rainfall regime throughout the region, the bands would gather in larger groups around the aguajes to harvest and consume various plants, seeds and roots, in addition to sharing the product of their hunts; while when water was scarce, the bands had the possibility of splitting into smaller groups that could face the dry times with greater chances of success.

² The three religious orders that were in charge of founding missions in Antigua or Baja California were: the Society of Jesus, from 1697 to 1767; the Franciscans, from 1768 to 1772 and the Dominicans, from 1773 to 1840.

In late summer and early autumn, if rainfall occurred, great mobility was possible from the interior to the coast and *vice versa* to take advantage of the multiple food resources of the Pacific and Gulf of California coastlines, counting on the temporary water reservoirs formed in the canyons and cliffs. (Ritter, 1998). *In* these terms, although we cannot speak of sustainability, it is possible to argue that the interests of hunter-gatherers were consciously linked to the prudent use of their basic resources, so they developed conservation practices based on simple, common-sense rules that tended to ensure long-term sustenance. Practices that seemed to keep basic resources secure had to be gradually reinforced, and conversely, there had to be a gradual rejection of those practices that seemed to destroy basic resources. (Guha & Gadgil, 1993)

Missionaries, explorers and soldiers

As we saw in previous sections, ecology is the science that studies the relationships between living organisms and their physical and biotic environments. Ecological analysis has given humans a holistic perspective of the planet, since, instead of studying living things in isolation, we have come to understand the intricate relationship between the groups of plants and animals (including humans) that make up the living portion of an ecosystem and are related to each other and to the non-living component of the ecosystem. (Odum, 1959). Since its construction as a scientific discipline, ecology has maintained an evolutionary perspective of the mechanisms of transformation of living beings, with emphasis on the processes of adaptation, i.e., processes of functional adjustment, since every environment in which life develops, from a certain level of organization, includes a social dimension. Culture is a singular adaptive instrument of the human species that has given it the leading role it has played during the *Anthropocene*.

In order to establish the difference that culture introduces in the context of ecological relations, some anthropologists laid the foundations of what they called cultural ecology. Cultural ecology, as we said, is characterized by a special interest in the adaptation of human societies at two levels: the first has to do with the way in which cultural systems adapt to their total environment, and the second - which is a consequence of this first level - with the way in which the institutions of a given culture adapt to those of another. Adjusting the history of what happened in Old California after the implantation of the missionary system to this explanation, we can understand that the hunter-gatherer culture established the basis for its survival in the intimate and millenary relationship that it had sustained with its environment, but could not adapt, in the end, to the institutions designed by the missionaries to settle them permanently in their territories, because, those institutions had not considered the difficulties of operating an agricultural system that would allow the inclusion of the entire indigenous population with such limited water resources. However, the institutions inherited from the missionary era could be successfully adapted, in specific contexts, to give life to the small settlements that replaced the missions when they lost the neophytes that constituted their reason for existence.

The change that took place in the landscapes chosen by the missionaries to found their establishments and that would allow, later on, the flourishing of the ranching population, was directly related to the conception of these spaces as "productive", that is, propitious to carry out a transforming task of great importance in the imaginary of the time. As a Jesuit involved in the process made it clear:

It was therefore logical that the first missionaries, who at first fed themselves with grains and meats that they brought with them from Sonora and Sinaloa, on the other coast of the sea, were anxious to establish agriculture and cattle raising in California in order to be able to support themselves and their successors, but also the soldiers, sailors, sick Californians and catechumens in the future. (Baegert, 1989)

Supported by the missions that the Society of Jesus had on the continental counter-coast, supplied with a certain continuity thanks to the ships that they had, and having a permanent source of financing and not conditioned to the economic retrieval of expenses, the missionaries of Old California could patiently dedicate themselves to explore the land until they found, as they did, the most suitable places for the foundation of their missions. The illusion that they could become self-sufficient did not abandon the religious and the institutions that supported them, because, in addition, the populations that were the fundamental objective of their enterprise were continuously diminishing until there were no more Indians to transform and the soldiers and servants of the missions felt they had the legitimate right to reclaim those lands, the only ones in the peninsula with true productive potential.

If we were only to analyze the result of the entire missionary effort with respect to the evangelization and cultural transformation of the Indians, we could conclude that it was a futile effort. However, we must recognize that the missionary establishments, for the most part, were the seed of the later settlements of the peninsula. A good base of plant and animal species brought by the missionaries to these territories contributed to create new landscapes and to sustain the settlers who little by little decided to stay and try to prosper. Wheat and corn crops, date palms, fruit trees, vines and olive trees, as well as cows, goats and sheep, were the main ingredients of this agricultural landscape, which was built by the inhabitants of the ranches and towns inherited from the extinct missions. From the missionary spaces and operations, the work of conditioning these species had already been done to achieve the growth of orchards and crops that would last long after the end of the religious work. On the other hand, the austerity that had characterized the missionary way of life continued to be a necessity of ranch life. Just as the missionaries and their auxiliaries had been accustomed to stockpiling grains and sun-dried fruits to withstand periods of scarcity, the ranchers learned what the land provided, and to be provident.

It is unlikely that some of the ancient catechumens were able to completely abandon their nomadic life and apply for land to work. Rather, it was the descendants of soldiers and servants who took advantage of the infrastructure that survived the missionary period to begin a new stage in the life of those places. However, not all the knowledge with which the natives had faced the problems of subsistence was lost, since the knowledge about some of the native plants and animals of the region, as well as the appropriate seasons for their collection and consumption became part of the accumulated knowledge shared by the population that inherited those landscapes.

Rancheros

The life of the heirs of the missionary landscape was, undoubtedly, an odyssey just as committed and difficult. They were the ones who continued the agricultural and cattle-raising tradition initiated by the missionaries, but we could also say that they are the continuators of the indigenous tradition of profound knowledge and administration of the possibilities that the environment offers. Cultural ecologists argue that the study of adaptive processes at these two levels allows us to see how different cultural configurations are created, conserved and transformed. Of special interest is the emphasis that can be directed, through this theoretical current, towards factors other than technological and economic ones as operative variables in cultural adaptation. That is, in historical circumstances in which ideological and socio-political factors serve to maintain the traditional adaptation of the community in the face of what it perceives as external threats. In this regard Roy Rappaport has argued that the fact that the laws governing cultural processes are ontologically distinct from those governing the adaptive processes of other animals does not mean that they have functional autonomy:

When we say that cultural processes are governed by their own laws, we do not mean that culture does not play a role in even larger systems, subject to even more general laws; larger systems that include, in addition to human culture bearers, other species and non-living things. (Rappaport, 1993)

Every human adaptive process brings with it the appropriation of one or more ecosystems, with the consequent transformation of their structure and functioning. When we refer to the adaptive responses that both hunter-gatherers and the ranchers who replaced them in the Baja California peninsula created throughout their millenary experience, in the former, and centenary, in the latter, to respond to environmental demands and obtain sustenance from their environment, it is necessary to point out an aspect that has been misunderstood: the fact of considering that these societies, due to the simplicity of their technological development, do not represent any form of alteration of the ecosystems they inhabit. We know that, to a greater or lesser extent, all ecosystems inhabited by human beings suffer manipulation and modification, while at the same time constructing and transforming the culture of those who inhabit them.

The different forms of productive organization of human groups have brought with them a specific treatment of nature. Not all historical forms of this organization have been or are what we would today call sustainable. Some remained for many centuries, others failed in their process of adaptation to the limits imposed by the ecosystems, although all have shown more or less significant problems of adaptation, so that today we can affirm that there is no environment on the planet totally alien to the human footprint, and even less any human being who lives without carrying within him, in all his Being, Nature and in his culture the guidelines of the ecosystems he has inhabited.

Cariño and his research group comment on how little by little a lay population was established in Baja California Sur that took on the task of introducing agriculture and cattle raising in these lands, and it is worth mentioning that the original objective of the ranches created by this meager population was to supply food to the missions and mining centers. (Cariño et al., 2013)

In a way that was probably imperceptible to them, they were building a culture of exploitation of the resources provided by the biotic diversity of the environment, i.e., although, of course, they significantly modified the ecosystem with their presence. (Cariño et al., 2013) In other words, although, of course, they significantly modified the ecosystem with their presence and the introduction of animals and plants, the environment was also imposing its own rules in the encounter with the new settlers who founded the Sudcalifornian society by forming the first rooted families.

Paradise sellers and service providers

Sotolongo and Delgado (2006) state that the environmental complexities in Latin America are linked to the evolution of human cultures in the territory and to the context of domination imposed since European colonization. Undoubtedly, the transition from hunter-gatherer societies to agriculture altered energy flows and ecosystems, but the environmental problem we know today is the result of transformation processes linked to the symbolic and material development of capitalism, which in the Americas has had one of its most ruthless faces. The historical process of colonization and conquest laid the foundations for dependence and the accelerated deterioration of ecosystems in Latin American societies; Mexico and BCS are no exceptions.

The hunter-gatherers who roamed these lands did not develop agriculture because they did not know how to take advantage of the wetlands that the missionaries later turned into oases through the canalization of water and the introduction of fertile soil (Cariño et al., 2013). But we cannot ignore the fact that the hostile conditions they encountered also modified their culture and their way of seeing the world. With the ranches came commerce, the populations grew at a very slow pace at times, others at a more accelerated pace, giving way to the construction of small commercial cities such as La Paz and San José del Cabo.

With the advent of the *Porfiriato*, the extraction of minerals had an upturn that almost turned the mining towns into the centers of economic life, but this upturn would not last, the minerals were depleted and the foreign companies that exploited them simply left or became considerably smaller. Some sought autonomy in the installation of new ranches, as in the case of those who settled on the San Antonio - Los Planes road, others opted for a definitive migration to other productive centers of the country.

The territory of BCS was able to live more than half a century of relative demographic stability and little capitalist development, except for its status as a free zone, but the creation of the *ejido* and the opening of two important agricultural centers: Valle de Santo Domingo and Valle de Los Planes, in addition to the construction of the transpeninsular highway, changed the dynamics of growth, once again significantly modifying the ecosystems of Southern California.

Until the middle of the 20th century, the apparent geographic isolation of our half peninsula made it appear as a place far from the center of the country, with weak communication possibilities and, therefore, unattractive for migrants. Job sources were scarce, in addition, investment possibilities were hindered due to the poor infrastructure and insufficient natural resources that a semi-desert area such as ours can provide. The fertile lands of the Santo Domingo Valley, the quintessential agricultural zone in BCS during the period from approximately 1950 to 1980³, had not had access to the technological advances necessary for land exploitation, nor did they have the necessary labor to start up an agricultural project in that area. The mines of Santa Rosalía, which were exploited by the French company "El Boleo" were practically depleted, as were those of San Antonio and El Triunfo; fishing was only a family activity and for internal consumption⁴.

³ The Santo Domingo Valley ceased to have the economic importance it had in the state, due to the exhaustion of the land, the depletion of the wells and the economic crises that the country has faced since the end of the Echeverría administration (1976) to date (2014).

⁴ "Economic Structure of the State of BCS". National Accounts System INEGI - SPP. Mexico, 1987, page 4.

Of course, BCS has never been an autonomous entity, it is part of our country and as such has been affected by central decisions. At the beginning of the seventies of the last century, with the appointment of Felix Agramont Cota as governor of the then territory, some agencies were created to create the conditions required to bring BCS closer to the rest of the country through communications and finally turn it into another state of the federation. These political decisions have also affected the environment and have contributed significantly to the evolution of our ecosystems. It was in those years that the construction of the transpeninsular highway, begun in 1931, was concluded; the ferry service and port works were also completed; the development of the telephone system, post and telegraphs, airports and irrigation infrastructure began. These changes aimed at the technological modernization of the entity were decisive for the economic impulse to attract capital and population. At that time, the issue of environmental damage did not seem to be a priority in Sudcalifornia.

The urban population increased considerably and emigration was reduced, the number of Sudcalifornians living outside the state dropped to 13%. In addition, immigration also grew considerably during this period (CONAPO, INEGI). The number of births increased, and mortality decreased. By 1970 there were 128,019 inhabitants and the percentage of urban population grew from 36.3% in 1960 to 54% in the first five years of that decade. In this way, both the demographic and economic conditions were achieved for the transformation of the territory into another state of the federation. Since then, BCS would be transformed into one more piece of the national and international capitalist project, because, although officially the Mexican state continued to be the guarantor, the neoliberal creature we have today was already being gestated in the womb of the system.

The increase in population and governmental measures resulted in a significant economic rebound for the state, opening sources of employment, mainly related to commerce and tourism. Although there have been important attempts to industrialize the state, it has been, at best, a good intention that has failed to crystallize mainly due to the lack of local production of supplies and the geographic isolation of the state in relation to the rest of the Republic. Trade, on the other hand, had several years of boom in the state thanks to its status as a free zone.

But the boom would not last forever, because in addition to governmental decisions that usually affect important groups of the population, nature is not inert, it is not unprotected or at the service of human beings; sooner or later it recovers its course and takes its toll. During the second half of the 1980s, the Santo Domingo Valley, which for more than 30 years occupied a privileged place in the state's GDP, began to decline due to the weakening of the land, the lack of credit support from the banks and the depleting of the irrigation wells. Since then, the farmers of the Santo Domingo Valley have ventured into different productive activities to maintain their standard of living: shrimp farms, ostrich breeding, citriculture and others; apparently the latter has been very successful, but the farmers are not "singing victory" because neither the soils nor the water are very promising in the area (Rubén González 22/08/2020).

The neoliberal project, born during the presidential period of Miguel de la Madrid and consolidated through subsequent governments, has also had an impact on BCS, especially since the Free Trade Agreement came into effect; the influx of foreign tourism grew slowly at first and then at an ever-increasing rate. Likewise, during the first five years of the 1980s, U.S. migration changed the landscape for cities and towns of Baja California.

The devaluation of the peso in 1983 increased the value of dollars and dealt a low blow to local commerce. At the same time, foreign migration was encouraged, mainly from the United States, who found in these lands an opportunity to improve their quality of life; it was easy to buy houses and land at an affordable price in a place where Nature seemed less touched by human hands. But these new settlers have also modified the environment. In the Todos Santos area, for example, they bought large tracts of land from families who had date and mango orchards in the region. They changed the construction materials: concrete replaced palm leaves on roofs, flowers, strawberries and citrus fruits for commerce replaced mango trees in some cases, in others, these were replaced by swimming pools, tennis courts and large buildings.

Since 1994, the U.S. press and television, as well as the Internet, have been presenting this region as a possibility for those who want to change their lives for whatever reason. Many Mexicans from the interior of the country have also seen in foreign migration and the influx of tourists a possibility to improve their standard of living and way of life by setting up businesses or renting their labor force to immigrants in this region.

Currently, it is possible to locate on Google Earth the best land for sale in the mid-peninsula, located very close to the beaches or with an ocean view from the mountains⁵. The result is that foreigners have been gaining ground over coastal fishermen in places like El Sargento and La Ventana. Little by little the smell of dollars has convinced them to change their economic activity to sport fishing.

This international migratory process has continued to grow in the state and has opened up possibilities for the installation of extractive industries such as Los Cardones, which was trying to extract gold in the Sierra de la Laguna area. The issue and the concern of the environmentalists is legitimate: among the arguments they present is the contamination of the water by cyanide, the impact on the organic agriculture production in the area, the possible decrease in tourism due to the contamination produced by this type of extraction, and also the risk that the U.S. Food and Drug Administration will close its borders to organic products grown in the area.

Given the geo-ecological and cultural conditions of the mid-peninsula, the last state governments have bet on tourism as an attractor of resources and jobs to Baja California Sur; everything indicated that the so-called "industry without chimneys" would be the ideal economic solution for our state, but, apparently the Covid-19 pandemic casts doubt on the effectiveness of this solution, as the virus arrived by plane to Cabo San Lucas in the body of an English tourist.

As we said, the arguments are valid and legitimate, but they are anchored in what Naess called superficial ecology, that is, if we analyze the protest demonstrations against toxic mining, or if we talk about the health, social, economic and psychological ravages of the SARS-CoV-2 virus, we see the human being rather than Nature itself at the center of concerns. Obtaining a gram of gold requires the removal of tons of soil, as well as the extraction and disposal of other metals. In other words, what happens to the ecosystem when faced with an aggression of this nature? We believe it is important to consider that we humans are not the only living beings affected on the planet, nor the most important ones, with license to depredate, erode and mistreat the ecosystem if science finds a way that this does not affect our species. It is necessary to understand that this does not exist: "what is bad for the sparrow, is bad for humans".

Final comment

Finally, it seems important to comment that BCS continues to be one of the least polluted regions in the country; however, environmental movements and incomplete information in the media have generated the social construction of fear around the environmental problem. In a meeting with a heterogeneous focus group, we were able to confirm that the information we have on the subject is scattered and incomplete.

Among the main concerns, one can observe, for example, the weight of nostalgia for past days in the regionalist sentiment of some members of old Sudcalifornian families: "I am particularly concerned that we have stopped using rural wind energy; before we used to see small windmills, very precarious; now they have been retiring them; perhaps because we did not see a tangible functional impact". (21/03/2021). Undoubtedly, one of the central concerns is the water problem, but we found out that people consider, rightly so, that environmental problems in other places such as river pollution, illegal logging or slash and burn procedures in the forests, affect us directly in BCS; and we say that this is an accurate assertion because the environmental problem is global and BCS is not left out of global issues, but it is also true, as another participant mentioned that: "In this state there is no river pollution, because we don't have any. But the groundwater tables can be contaminated. The soil is fertile, but without water it cannot be used" (21/03/2021).

⁵ As in the case of the El Ancón ranch.

But undoubtedly the most current concern revolves around the aforementioned issue of toxic open-pit mining and the existence of the virus:

Well, what should concern us as Sudcalifornians in the short term is that no more open-pit mines or so-called toxic mines are installed, because there is already many operating. The water is being contaminated with arsenic, which in tests on inhabitants of high risk areas such as San Antonio and El Triunfo, La Ventana, El Sargento, Los Planes, already have high levels of metals in their blood and body (03/21/2021).

A social concern that adds to those mentioned is the establishment of tourist centers, which break with the tranquility that for so many years characterized BCS, before the conversion of the territory into a state, as it brought the aforementioned migrations and a kind of ideological and moral contamination through the mass media.

And the large-scale tourist developments that have been destroying the ecosystems, flora and marine fauna. There we have the case of the housing zone of El Mogote, failed and a few years away from the buildings falling down for abusing nature, not to mention Cabo Pulmo, Todos Santos, Balandra in La Paz and the north of the state that will begin to suffer. And let's not even talk about television and so many other things that are there now, that bring people to think about nonsense, instead of doing what they have to do (03/21/2021).

The passing of the years, the increasingly accelerated arrival of migrants and with them the so-called post-modernity have significantly transformed the environment of Sudcalifornia; all of us who inhabit this half peninsula today are witnesses of how the urban sprawl is modifying the environment, globalization has transformed the ways of life, the extractive industry threatens us irremediably and, to top it all, there is the invisible but lethal enemy that keeps us barricaded in our homes, terrified by its presence and distrustful of the solution that the vaccine could represent. We believe that the solution is in the hands of all, governments and citizens, since the infodemic, that evil that fills us with false news and half-truths, does not help in the construction of certainties, in that sense we consider that citizens can continue to fight, each one from their trench, for the welfare of Nature, which will be, undoubtedly, that of us as part of it.

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