



HAL
open science

“ Field Biologists As The First And Ultimate (Eco) Tourists: Selva Lacandona And Beyond ”

David Dumoulin Kervran

► To cite this version:

David Dumoulin Kervran. “ Field Biologists As The First And Ultimate (Eco) Tourists: Selva Lacandona And Beyond ”. S. L. Slocum, C. Kline, A. Holden (éds.), *Scientific Tourism – Researchers as Travelers*, Routledge, 2015, , pp. 148-164, 2015, ISBN: 9781138083929. halshs-01718255

HAL Id: halshs-01718255

<https://shs.hal.science/halshs-01718255>

Submitted on 27 Feb 2018

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Chapter 10
Field Biologists as the First and Ultimate (Eco) Tourists: Selva Lacandona and Beyond
David Dumoulin Kervran

Abstract

Ecotourism is a fast-growing market experiencing rapid diversification. It is also a field promoting global connections and practices. This chapter opens a dialogue between "tourism studies" and "science studies" as it explores the apparent duality between the identity of the "scientist" and the identity of the "tourist". The view taken is to consider the border between these two identities as blurred and under constant reconstruction. This analysis is based on empirical research conducted on different continents, but takes as a case study the Chajul biological station in the Lacandona forest in Mexico. More specifically, this study demonstrates the key role of 'field biologists' in the emergence of new ecotourism destinations. This chapter reviews three dimensions of their influence: their role in the creation of new values which have come to underpin the new destination; their role as models for ecotourists and for interactions with local guides and their ability to lay out the spatial organization for ecotourism; and, finally, their ability to attract various people with hybrid scientist/tourist identities to the station. The chapter concludes with a discussion on the role of biological stations, and more generally, the growing policy role of environmental science within the new "eco-governmentality" regimes.

Introduction

The figures of the Scientist and the Tourist have been portrayed as emblematic of western modernity. Their arrival in faraway lands usually heralds new connections with the western world. For the populations witnessing their landing, the difference between these two figures is far from clear-cut. However, for the individuals travelling, the gap between the two is immeasurable: the scientist is a self-sacrificing champion of a universally beneficial project while the tourist is an egocentric individual driven by a desire for self-gain. The first is supposedly lowly paid for his patient striving while the second is a compulsive consumer. Such figures are not meant to meet (either physically or in social science publications), and if, by chance, they do cross paths in the same "elsewhere", the scientist looks the other way, as if distracted.

I began to question the disconnection between this rigid hierarchy and my own concrete experience as a sociologist following a multi-sited ethnography as part of my research on nature conservation policies. Having played the tourist and the scientist myself during long periods of time, the two figures drew my attention. And when one studies tourism itself, as in my case, one's status as a sociologist is further put to the test. This questioning continued during work in the field studying biologists doing their own fieldwork in various isolated spots across the planet... And yet, it is by comparing and contrasting science studies (or rather Science and Technology Studies) with tourism studies that I fell upon the right angle of approach to address these complex identity transactions, without aiming at all costs to demonstrate the founding dichotomy. Biologists often position themselves strategically as experts for ecotourism projects. But in this chapter, I would like to show that biologists also play a fundamental and yet little-recognized role in the emergence of new ecotourism destinations. In other words, I wish to explore the seams and overlays rather than the dichotomy.

Insights from literature

In the case of tourism studies, I explored the conventional writings showing that the perspective of tourists, and what they see in what surrounds them, is not at all natural but highly selective. The tourist's 'gaze' has been built historically, and over the course of each individual's socialization process (Urry & Larsen, 2011). Moreover, the role of the tourist and the tourist's choices (where and how to travel), which are generally presented as very personal, are modelled on a desire for status and social 'distinction' (Urbain 2002). Studies on ego-tourism (Munt, 1994; West 2008; Wheeler, 1993) and on the tourist as a consumer of information (Mowforth & Munt, 2003) have expanded my thinking. What has been written about the ambiguous status of field workers, who are always at risk of being mistaken for tourists (Hall, 2011; Kohler 2006), and about volunteers with their activist/worker/tourist/scientist status (*i.e.* Wearing 2001), seems very apt.

Ecotourism designates a world of practices whose definition and boundaries have been much discussed. Ecotourism covers many sub-categories, which are constantly growing, as are new forms of niche tourism (Donohoe & Needham, 2006; Novelli, 2005). Yet, ecotourism is today an institutionalized sector. Studies specializing in this sector insist that it plays a role in local strategies for sustainable development and nature conservation in isolated regions (Honey, 1999). This form of tourism is also generally presented as a means of educating people about the environment, passing on ecological knowledge and raising awareness about the imperatives of nature conservation (Fletcher, 2009; Honey 1999; Orams, 1995). It may, therefore, appear surprising that studies on ecotourism pay very little heed to the role of scientists. Several reasons can be put forward to explain this. Firstly, it has to be said that many of these studies are relatively pragmatic and strategic (e.g. in the *Journal of Sustainable Tourism* or the *Journal of Ecotourism*), or else they build general analyses on the ethics and meaning of ecotourism today (Butcher, 2003 Fennel, 2006; Weaver, 2009). Secondly, when the discipline of biology is brought up, it is in heated discussions about the environmental impacts of ecotourism (Tyler & Dangerfield, 1999). Finally, the role of scientists is rarely addressed because the analyses focus on the development of destinations rather than their emergence. Although studies may point to a crossover between conservationists (*i.e.* conservation professionals working in protected areas) and biologists (understood in the broad sense of the term for the purpose of this article (FOOT NOTE 1), they nevertheless focus above all on management and development problems. This focus hardly brings out the specific, more upstream role of 'scientists' with their usual academic status.

Here, I feel it is appropriate to adopt a more sociological and critical perspective and turn to the genealogy of emerging ecotourism destinations in isolated areas. By opting for this angle of analysis, we shall see that scientists are unable to shrug off the pro-eminent tourism role that they themselves tend to keep in the shadows.

Furthermore, science studies have suggested tools, which so far have been much ignored, for thinking about and analysing the phenomenon of science tourism. Indeed, this research area has attracted some very thorough studies on the daily practices of scientists and their role, of which they may or may not be conscious, within the societies in which they live (Hayden, 2003; Latour, 1987; Latour, 1988). Historical studies focusing on the dynamics between the "lab" and the "field" in the area of biology (Dumoulin Kervran, 2013; Kohler, 2002) are of even greater interest. They question the specific characteristics of field science as practised in non-exclusive places where scientists' identities are at times unclear (Kohler, 1996; Kohler, 2006). In order to study this 'science tourism', which may come across as an oxymoron to many scientists and suggests *liminal* practices, it is worth focusing on the intense and daily 'boundary work' carried out by scientists and their colleagues (Gierny, 1983; Gierny, 1999). The aim of such boundary work is to maintain and recreate a socially-acceptable boundary between what is scientific and what is not. When looking at

this Tourist-Scientist relation, we can find some studies focusing on who is a tourist and who is not (Smith, 1977), but very few questioning this divide between who is a scientist and who is not.

Scientific tourism has received limited attention from scholars. One isolated article published in 1989 by Laarman and Perdue underlines the importance of scientific tourism in Costa Rica. The authors highlight that science tourists should be seen as "early explorers who blaze paths for later travellers to follow" (p. 207). What they write falls within the framework of Smith's tourism cycles (1977). Indeed, the authors show that scientists have strong powers of persuasion when it comes to encouraging their colleagues and their families to visit a destination. They are also likely to return to the same destination many times.

Indeed, the article by West (2008) is probably the only one to propose a very thorough analysis of what are deemed to be disturbing practices. In her inspiring article, the author outlines the portraits of different categories of 'scientific tourists', in particular those of 'fake scientists' (i.e. popularization writers pretending to be scientists), student volunteers on useful holidays, students doing research as they train for a job they are not sure they will be able to do one day (i.e. 'research tourism' where education, volunteer work and science overlap (Benson, 2005)). Finally, the author considers scientists in relation to the income they leave in the areas in which they come and work. She underlines a kind of 'moral' superiority of scientists, pointing out that they contribute to a broader universal project and have better sustainable relations with local peoples, which is where the limits of her analysis might be seen to lie. Indeed, the boundary she defines between who is scientist and who is not, is not blurred by liminal identities and she does not address the constant efforts to (re)produce this boundary (FOOT NOTE 2).

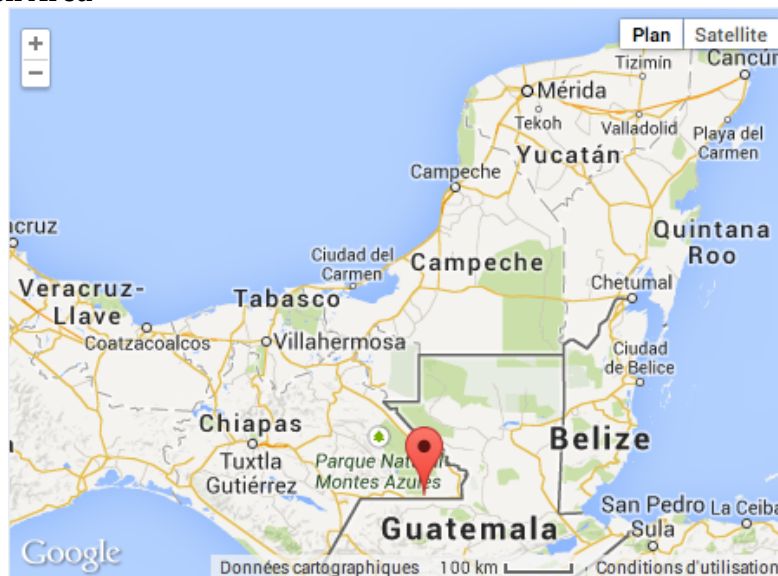
The links tying the fieldwork of biologists and the practice of ecotourism can be analysed at several levels: 1) the case where scientists directly participate in the development of ecotourism projects when they act as guides, experts or even entrepreneurs, and 2) the case where biologists are seen 'as tourists' in situations in the field (during or after their work, for example, when the people they come across do not know or recognize their scientific status and treat them as customers like any other tourists). Although these two levels have attracted my attention and will appear in this analysis, there is a third level upon which I shall especially focus: the biologist as a starting point and then as a social model in the emergence of ecotourism destinations.

Methodology

This article is based on a qualitative methodology and on three sets of different types of data. The first set is the result of research in the Montes Azules Biosphere Reserve during five field trips between 2000 and 2007 with roughly thirty interviews and observations of meetings. These semi-structured interviews were conducted with the staff of all the institutions working in the field of nature conservation in the Lacandona Jungle. The topic of ecotourism was just one of the themes among many to concern them and data had to be re-read with this new perspective on Tourist/Scientific borders. The second set resulted from extensive internet research where the aim was to collect all testimonials of stays in the Chajul Biological Station in Spanish and English (government, university and ecotourism company web sites and the blogs of tourists having visited the area). The observations and interviews corresponding to the third set were performed during a project to monitor biologists during their mission working on biodiversity inventories, but outside Mexico (2010 in southern Madagascar and 2012 in Papua New Guinea). Actually, this crossing of three heterogeneous and partial sets of data was an attempt to explore more rigorously some hypotheses derived from repeated observation. This chapter must therefore be considered as a first and exploratory interpretation destined for further empirical validation.

The chapter therefore provides an overall analysis of the role of biologists in the emergence of new destinations, but illustrates this role using the case study of the Chajul Biological Station located in the Montes Azules Integral Biosphere Reserve. This large biosphere reserve (331,200 ha.) was created in 1978 in Chiapas at the border between Mexico and Guatemala. Ecotourism is a fairly recent development in the region, starting roughly in 1999. The Chajul Biological Station is an interesting case as it is the first and main location in the region to host not only staff working for conservation organizations but scientists as well. It illustrates how a new destination can emerge from the creation of an offer because of the role played by scientists. The Station supported this shift towards ecotourism activities by becoming a select destination, even if the flow of tourists remains low owing to its peripheral location in relation to the central regions of Lacanja Chansayab and Frontera Corozal (Personal communication, José Zúñiga, 14/08/2006).

Figure 1: Research Area



This chapter studies three dimensions of the biologists’ influence: 1) their role in the creation of new values which have come to underpin the new destination; 2) their role as models for ecotourists and for interactions with local guides, and their ability to lay out the spatial organization for ecotourism; and 3) their ability to attract various people with hybrid scientist/tourist identities to the station.

Creating new values for the global market

Initial value creation

In the case of ecotourism, it is the notion of biodiversity that has come to summarize the scale of values attributed according to which destinations are appraised. It is especially interesting to observe the birth of new tourist destinations as they build on specific natural characteristics considered to be part of their heritage. Indeed, as they emerge, the process of attributing values to places hitherto “unnoticed” becomes visible. Because the person who attributes the values belongs

to the world of science, and because the value of biodiversity has been widely promoted to the upper classes, the destination benefits from the right kind of public authority.

In this respect, one of the indirect functions of 'field' scientists is thus to bestow on these entities the value of existence (and sometimes the value of use) by generally insisting that this value is a reflection of scarcity or diversity (Winter, 2007). What is interesting is that these scientists are the only ones able to certify this quality. Moreover, the real specialists of each family of animal or plant, who have the first and last say in the matter, form only some very small groups on a worldwide scale.

The term 'value' must therefore be understood according to both a cultural and an economic register, as always when it comes to tourist practices (Kopytoff, 1986). The natural entities designated as exceptional by scientists are experiencing a new life of fame and have become the object of new types of attention and desire. At the same time, this form of institutional attention is often accompanied by the creation of an economic value chain through conservation programmes and ecotourism (see also Rovinski, 1993, cited by Benson, 2005).

The value these biologists can create is 'global' in the sense that it belongs to a dominant culture (i.e. that of globalised elites). But more importantly, this value is global because the 'market' and the sector that can feed from the consumption of this value have become highly transnational (NGOs, companies, central booking platforms, bloggers, journalists, specialised travel agencies, etc.). From this point of view, the work of biologists can be considered as an initial investment enabling new ecotourism destinations to develop.

Establishing the "inestimable value" of the Chajul rain forest

In the case of the Chajul Biological Station, this creation of 'initial value' by biologists is very much present even if the ecotourism in this area is not exclusively based on the revelation of its biodiversity (the presence of ruins, Lacandons and 'adventure' courses also attracts ecotourists). Indeed, the first biologists to arrive in the region in 1974 (in Chajul in 1979), and who are behind the building (1984) and further development of the station, were looking for butterflies. First revealed by these biologists, the exceptional wealth of this region when it comes to butterflies was ratified through a field trip organized for members of the US-Mexico Lepidopterology Congress that took place in 1981. It was then analysed in a publication (De la Maza & De la Maza, 1985a, 1985b), which is often cited, even today, to illustrate the region's considerable biodiversity. Butterflies have thus become one of the attractions of visits to the Chajul station, all the more so since 1994 when butterfly breeding was started by the biologists and led to local farmers living on the opposite bank of the biology station working on butterfly-based crafts. It is thanks to these efforts to create value that the butterflies have been able to play a role alongside other tourist-attracting species embodying the area's value: quetzals and macaws (Vivanco, 2001).

Figure 2: Ecotourists interest for "scientifically celebrated" butterflies



Source: promotional photo gallery from <http://www.ecochiapas.com/> consulted on 15/12/2012

A second example of a discovery made by the biologists was that of the 'Lacandonia Schismatica' plant by Martínez and Ramos from the UNAM Biology Institute (Martínez & Ramos, 1989). (FOOT NOTE 3). Such discoveries normally remain within the confines of the world of biology, but the event was highly publicized both nationally and internationally, in spite of the plant's somewhat dull appearance. This media promotion was orchestrated by people defending the conservation of the forest and then taken up by those advertising local biodiversity in order to develop the new ecotourism destination.

Other scientific studies produced by biologists at Chajul have been widely discussed in scientific articles, as well as publications popularizing the region, newspaper articles, and ecotourism brochures. For example, the studies performed by Medellín (1991, 1994) reveals the exceptional wealth of mammal species around the station and are systematically cited (FOOT NOTE 4).

These studies performed from the station strongly influenced the fact that south-east Mexico was chosen as a priority intervention area by the NGO Conservation International, as it was seen to constitute a considerable part of the 'Mesoamerican Biological Corridor' and the 'Mesoamerican hotspot'. These are only some examples, among many, of how these scientific publications have been used in policy and promotional literature.

Offering meaning and a model of proper behaviour

Field biologists as models for tourists

Field biologists have managed to become a model for those who, for the space of an afternoon or a few days, turn themselves into 'ecotourists'. Most scientists do this without even realizing it,

although some adopt a frankly proselyte approach, promoting their value system, techniques and behaviour during 'nature outings'.

To summarize, let us say that the biologists' 'ethos' (set of internalized and therefore partly unconscious moral norms guiding a series of practices (Bourdieu, 1997)) is appropriated by would-be ecotourists. In this situation, biodiversity becomes a means of measuring destinations and places according to their compared values. It bestows vibrant importance on the living world and emphasises the contrast with the highly anthropocentric dominant values of so-called modern societies. The necessity and pleasures of the rustic life, the taste for 'biophilia' ("*the urge to affiliate with other forms of life*" (Wilson, 1984, p.85)), can be seen as signs of recognition, a means of organizing one's trip – or one's excursion. Our enthusiasm for the beauty and inter-dependence of the 'natural world' and our respect for other species suddenly goes without saying. Even biologists' observations and collection behaviours are reproduced by the most committed ecotourists who love to dress up and kit themselves out as they imagine scientists at work might (binoculars, photos, sound recordings, samples, etc.). The 'gaze' of these ecotourists reflects the attention they seek to bestow on biodiversity and/or the scarcity of natural manifestations. The value they put into encounters with certain animals, or even just the traces they leave behind, is a good illustration of their conversion to nature, taking them far away from their everyday life (see also Vivanco, 2001).

Similarly, the collective meaning that biologists associate with the ultimate purpose of their activities in the field is reappropriated by ecotourists. Bourdieu (1997) proposes the term *illusio* to designate this belief of a professional group in sharing the importance of an activity. The professionals convince themselves that spending time observing nature is fundamentally a 'good' activity because it contributes to the universal progress of science and the universal improvement of the relations between Man and Nature. Films, media and guided tours promote the biologist's *illusio*, or at least the temporary appropriation of the role of the biologist as a role-play exercise. This *illusio* justifies the selflessness involved in the learning of species' names and explains the waiting and long days spent combing the forest in quest of fauna and flora, in the name of the common good of humanity (knowing Mother Nature to live in harmony with her).

More generally, it would seem that ecotourists strive to emulate the field biologist's attitude, it being seen as the savviest. Within the groups who visit, for example Chajul and its surroundings, a multi-dimensional formative process unfolds. On the one hand, there is the important moment of socialization through the 'ecotourist gaze' as the tropical rain forest is discovered along interpretive trails building on scientific knowledge and the pre-existing imagination of tourists on rainforests (Urry & Larsen, 2011). On the other hand, a distinction shall be done between those who only manage to see 'exceptional' objects (parrots, crocodiles, etc.) and those who have more ecological knowledge and observe practically invisible things, such as a process of plant successions or specific plant-insect associations. It is, moreover, interesting to see that the 'good' ecotourist model is still that of an engaged biologist, even for researchers choosing ecotourism as a research topic. In his chart "The Ecotourism Spectrum", the well-known expert in ecotourism studies Weaver (2005, p. 447) contrast "soft" with "hard" ecotourist, the latter sharing main of his defining practices with field-biologists ("specialized visits", "long trips", "physically active", "deep interaction with nature", "strong environmental commitments", etc.).

Biologists engaged in conservation can therefore be considered as the first ecotourists, since they are often behind the emergence of a destination. However, they can also be seen as 'ultimate' ecotourists since they set a supreme example for other tourists. Indeed, it is this example that underpins the entire ecotourist socialization process.

Creating a new social role for locals and a script for tourist encounters

Biologists are not only the very first to introduce this ecotourist gaze, they are also instituting a model of social interaction to be followed by local guides. The first scientists working in an isolated zone always surround themselves with field assistants (as well as possible carriers, cooks, etc., depending on the size of the groups concerned). Scientists recommend these assistants to each other. As these local assistants work side by side with the scientists, they gradually learn to identify and classify species and use simple protocols. But even more importantly, they learn what the scientists want during these field trips, along with the astonishing way they behave, speak and work. Thus, the first ecotourism guides are very often the people having acquired the skills and social networks – as well as a taste – for this kind of activity, thanks to their contact with scientists.

In the case of the Chajul Biological Station, the role played by scientists for thirty years has been to raise awareness among the local populations of the imperative need for conservation: workshops are organized for the entire Chajul *ejido* population and roughly one quarter of the *ejidatarios* take part in entomological projects, especially the collection of butterflies for sale and craft purposes, and the management of the butterfly reserve. Furthermore, a handful of employees work directly in the Biological Station while a few others have officially become guides able to accompany tourists and show them the region's natural wealth. In spite of efforts made for local communities to buy into the project, this (eco) destination is still a 'tourist bubble' (Carrier & Macleod, 2005). Indeed, the ecotourist experience is isolated from the very complicated socio-political environment of the region.

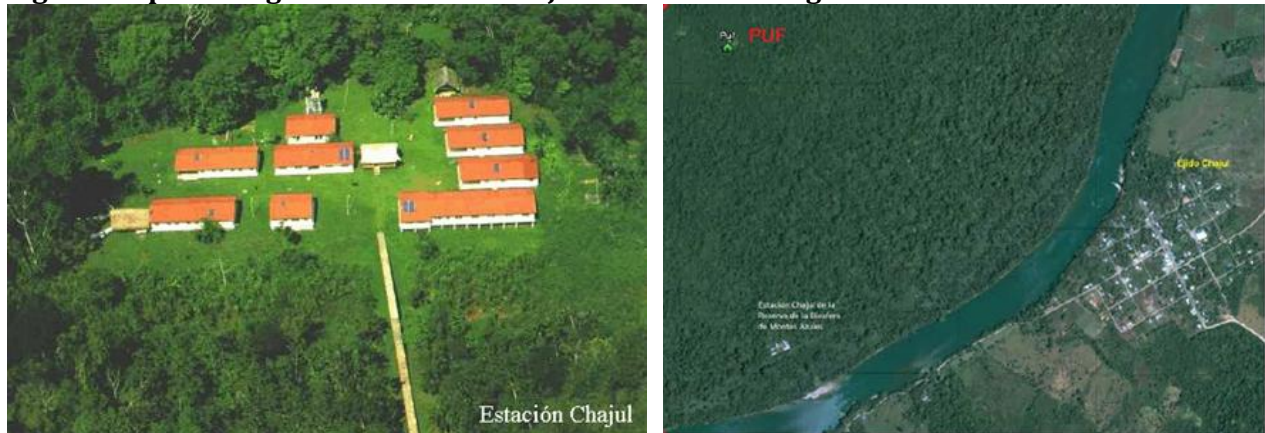
When they are the first to go off into the forest with locals, scientists also play an important role scripting this kind of social interactions (FOOT NOTE 5). Once again, this role is by no means self-evident. Between the poor farmers living in these isolated regions and the scientists (foreigners or people who are simply from a more urbane world), all the day-to-day tasks related to work, meals, down time, lodgings, etc., can be subject to misunderstandings or serious opposition. The relationship to the natural environment, as it is practiced but also imagined, differs profoundly according to the population category. The guides mostly operate by imitation, while the most enthusiastic ecotourists act according to how they imagine that a field biologist might have behaved in the same situation.

In Chajul, two categories of local guides have emerged: field guides, who are very familiar with the surroundings (waterways and pathways); and tour guides, who are more scarce and who strive to pass on their knowledge of the forest along with the conservation message. The station's biologists have written interpretation manuals for the local guides (Warman, 2001; see also at national level: Báez & Acuña, 2003). Like the workshops organized by the scientists, these manuals are important processes for translating and standardising scientific knowledge in formats designed to convince and move listeners. The human guides, on the other hand, always pass on information both through their behaviour as much as what they say (Kimmel, 1999; Randall & Rollins, 2009; Weiler & Davis, 1993).

A third aspect of this biologists' influence that we can mention here is the designing of a new spatial organization for ecotourism. The initial efforts to access the remote areas were indeed those of the founders of the station. The routes and facilities for accommodating these ecotourists were unique in the region, and for a long time the same as those used by the biologists. In addition, they were the creators of the many forest paths and interpretive trails looping back around Chajul connecting up

specific sites of interest for biodiversity. The guides have learnt to exploit them and systematically offer a trip down them to visitors (*Documento Mejorando las prácticas de Interpretación de la Naturaleza*, 2008-2009; Warman, 2001). Furthermore, they are very formally defined and governed by law, meaning that they must be certified (see on this issue the laws on certification of ecotourism: Secretaria de Economía, 2006).

Figure 3: Spatial Organization of the Chajul station and village



Source: <http://www.ccbasilea-crestocolmo.org.uy/wp-content/uploads/2012/05/México-informacional.pdf>

The biological station as a tourist centre: a continuum of mixed identities

Is it possible for the biological station, as a place of scientific production, to remain spatially separate from the 'impure' places devoted to the money-making business of ecotourism? Through the example of the Chajul Biological Station, I shall show why this distinction is idealistic, and why biological stations are not places where visitors can be defined as being either scientists or (only) tourists. The continuum linking 'scientists' and 'tourists' shall be described here in 3 parts, each corresponding to a category of visitors: scientists who do not really produce scientific data, potential promoters of scientific activity and ecotourists wishing to draw closer to the world of scientists.

Firstly, many professional scientists going through the biological station do not really carry out any empirical research there. The identity attribution process is more ambiguous here. This journey is not totally outside the official perimeter of their usual professional practices as a tropical biologist, but they only perform some observations without following a specific protocol or pursuing publication goals. Their practices are very close to the ones of an enthusiastic ecotourist, a biologist amateur or a student. A lot of researchers have been spending a few days at the station since its second birth in 1989/1990. The first to come after the recovery of the station were from the University of Florida, which had signed an agreement. Others were North American scientists working for the NGO Conservation International, which was then in charge of the management of the station via J. De la Maza. Sometimes scientists have paid quite a lot of money just for the pleasure of discovering this region so famous for its biodiversity... Here, I would like to point out that many groups of scientists use the station's facilities to organize meetings in an environment that is bound to seduce the participants. This trend was initially started with the first trips made by North American lepidopterologists who visited the region in 1981. Interesting enough, this presence of foreign scientists, sometimes suspected of bioprospecting, is referred by some critics as

'science tourism' as a way of stigmatising them (Castro Soto, 2004). Many UNAM seminars have been held at the Chajul station, bringing together national and international professional or trainee scientists. There are also courses/workshops organized on a yearly basis for officers of the CONANP (national commission for natural protected areas) or *Corredor Mesoamericano* project participants. This type of scientific visit is part of the normal business of any scientific station whose vocation it is to promote and raise awareness about regional conservation. The income from this type of visit is also useful for covering a small part of the station's running costs.

Secondly, the station is visited by prestigious personalities, whom the scientists and conservationists wish to especially pamper: famous people who can spread the word about the station to a wide public (Brockington, 2009), and, above all, past or potential donors, managers of public or private institutions who enable the continued activity of the station. This is something I witnessed in Papua New Guinea and Madagascar and a very similar situation is described by Arefiev & Mieczkowski (1991) in the USSR in the 1990s (see also other cases presented by West, 2008; and West & Carrier, 2004).

Indeed, when it was rebuilt in 1988-89, public financing was scarce, and international financial backers like the McArthur Foundation, USAID and the Ford Foundation, together with private stakeholders, invested in the station's activities. The researchers, on the other hand, mainly held positions in public institutions. Since its construction, this massive financing from various quarters has been necessary to keep the biological station going. The public company PEMEX, for example, currently plays a major role through its financial support. Various NGOs have financed and even managed the station: Conservation International as of 1990, then Espacios Naturales y Desarrollo Sustentable A.C. (ENDESU) as of 1998. The latter, moreover, has had a hand in developing ecotourism activities around the station and there has been an increase in the accommodation expenses of scientists. Finally, Ecosistemas Mexicanos A.C. has been in charge of management since 2006. The need to raise funds to finance its running expenses acted as a substantial driving force for opening up the station to a public that was not directly involved in scientific activities. The visits made by mostly foreign donors are very similar to those made by ecotourists in terms of practices, the only difference being that the former are actually invited. The investment made by public institutions such as the CONANP or the Ministry of the Environment has only ever been intermittent. Even the very legitimate agreements set up with the UNAM ecology centre have often been interrupted, in spite of the fact that the scientists from this centre have continued to work at the station on an individual basis. It is interesting to note that the station's ability to keep running for over 20 years in such a context has only received true institutional recognition very recently through several national and international awards.

Similarly, the objective to raise public awareness to support conservation activities has followed the same path. Journalists are invited to visit the station and awareness raising efforts concern the general public just as much as the local communities whose schoolchildren visit the station. For example, there is a drawing competition organized for children, with the winners spending 6 days at the Chajul station entitled 'Que viva la Selva Lacandona' and very intensively promoted on TV at the national level.

Thirdly, the station managers have taken an additional step towards promoting 'conventional' ecotourism. For fifteen years, they have fostered its expansion as an alternative development mode for local communities throughout the entire Montes Azules reserve. Again, due to the need for financing, a genuine (eco) tourism luxury hotel was built opposite the Chajul Biological Station, with the support of international backers like the UNDP. The opening of the hotel in 2003 triggered the following headline in a press article: "Lacandonia: inmersión chic al Amazonas mexicano" (FOOT

NOTE 6). In 2012, a Jungle Lodge Canto de la Selva opened up not far away. It includes visits to the nearby station where scientists provide tourists with information. These top notch ecohotels carry on the station's work promoting knowledge and the desire to preserve the region. They capitalize on the relations built up by the scientists with the Chajul ejido and use the network of paths and stations set up around the station.

Conclusion

This chapter explores three dimensions of the foundational influence that field biologists have on the emergence of an ecotourism destination: initial value creation, model for behaviour and social interaction, and existence of a broad identity continuum between biologist and eco-tourist. Given the scarcity of existing papers on these links between scientists and tourists, this analysis is an attempt to explore a new perspective. Firstly, it considers the emergence of an ecotourism destination as a necessary socializing process between scientists, locals and tourists. And, secondly, it focuses on the borrowed border between tourist and field biologist, especially in a biological station where the identity of the scientist is sometimes depreciated (the stigmatization of scientists practicing tourism), but in most cases acclaimed and emulated (the powerful image of the explorer, and the power of publications on biodiversity inventories).

Secondly, as a sociologist with a solid experience in anthropology, I recognize that my analyses of biologists' practices could be applied term for term to the work of many field anthropologists. Indeed, they point out certain villages and certain cultural practices as worthy of attention. Both types of scientist are the first to connect remote places by setting up routes and to 'train' local populations, teaching them how to interact with strangers (Clifford, 1997). The former are behind the creation of 'natural heritage' or the latter of 'cultural heritage'; field biologists can thus be seen as the first instigators of ecotourism while anthropologists are the trigger behind ethnotourism. Yet, it would be interesting to explore the many differences that set their field practices apart and hence their connection with alternative tourism: the role of biological stations as collective infrastructures, the specific engagement of ethnologists with populations, etc.

The case study of the Chajul station widely overlaps with the experience of a 'non-exclusive' research location, such as described in Kohler's story (2006) for field sciences. This idea that the place must promote encounters among a wide array of individuals (scientists, students, NGOs, governmental agency officers, private financiers, local populations and tourists) is precisely the project of a wide network of stations at world level (<http://www.obfs.org/>). The claim to be what I would call a sort of "boundary location" is moreover explained by the founders and current managers of the station (FOOT NOTE 7). Furthermore, the handful of passionate individuals who have been struggling to keep the station alive for 30 years (Personal communication, Ricardo Frías, 15/08/2006) are themselves multi-positioned between the world of scientists, government and national and international NGOs. Their idea was that the station might be a permanent presence in this isolated region of the reserve and biosphere and hence facilitate conservation activities and monitoring. Biological stations are ideal places to perform extremely interesting studies and observe the continuum between 'scientist' and 'tourist', and their blurred identities. A vast comparative program focusing on the role of these stations would offer some promising insights.

Finally, these field biologists and ecologists have acquired new capacities for political and social influence over the past two decades, even if these are difficult to see and measure. This therefore counters the image with which they are usually associated, and which they sometimes embellish themselves, i.e. that of simple militants/adventurers devoid of power and entirely marginalized within the science community. Through the nature conservation policies that have become

institutionalized over the last twenty years in Latin America, as well as through the increasingly massive development of ecotourism, they have taken on a considerable role in new eco-governmentality regimes. In other words, they play a part in the forms of transnational government rationality driven by the imperatives of conservation and sustainable development (Ferguson & Gupta, 2002; Goldman, 2001; see also Franklin 2004). Indeed, the knowledge they produce can have wide-reaching consequences when used to emphasize the value or to re-qualify areas and land use and the associated business plans. It can help to encourage the projects of certain groups as opposed to others (Mowforth & Munt, 1998). Furthermore, these scientists are behind the creation of new disciplines at a more individual level. Not only do they define a system of values and promotional arguments (Nature/Culture complexes (Vivanco, 2001)), but they are also models of behaviour, attention, observation and listening when it comes to the natural environment, models which would-be ecotourists from all over the world feel bound to follow.

1

In order to simplify the explanation, we use the generic term "field-biologist" to describe scientists who can actually work in different disciplines and areas of specialization: ecology, evolutionary biology, population biology, ethology, conservation biology, molecular biology, botanists, taxonomists, etc.

2

For Paige West (2008), 'fakes scientists' must be distinguished from scientists because, unlike the latter, the former do not have any direct affiliation with research institutions, they only publish in journals/books for the general public and therefore do not take part in specialist discussions on specific topics, they are interested in specific patterns rather than regularities in the worlds they explore, and have a short-lived (ephemeral) relationship with the people they meet in the field. Scientists appear to share this taste for travel and exotic fantasy but their work takes them far beyond any sort of 'ego-trip'. They are more inspired by the idea of contributing to the cumulative and universal dynamics of Science. There are indeed multiple sets of criteria to draw upon when considering these two figures ... while the combinations are endless, suggesting complex boundary work around the scientist's identity.

3

Entirely endemic to the Lacandona forest and resembling a mushroom (without chlorophyll), this plant gave rise to the creation of a new plant family (the only one in the world whose sexual organ distribution is reversed).

4

"Martínez et al. (1994) have registered 3,400 species of vascular plants for the entire Lacandona forest (ca 2,000,000 ha). In the Chajul area alone (Fig. 1) 637 species of vascular plants (Martínez et al. 1994), 113 species of mammals (López et al. 1998; Medellín 1991), 800 of diurnal butterflies (de la Maza & de la Maza 1985), and 345 species of birds (Salgado Ortíz 1993) have been registered". (Equihua, Newton, Deneb García-Avila, De Luna, Gradstein, 2001, p. 602)

5

Biologists are **barely** the very first comers, but they initiate a new kind of wandering in the forest. In the case of Lacandon Forest as in others tropical forests, the first foreigners were forester at the end of the XIXth century, then missionaries and archéologists since the 50s, **and not to forget** that most dwellers **in the region** have arrived since these decade searching for land.

6

See the following web site for marketing of the Lacandonia Hotel: 1- Sin author, sin fecha, ?Hotel Rincones de mi Tierra?: <http://hoteles.rinconesdemitierra.com/hoteles/tuxtla-gutierrez/hotel-lacandonia/#hotel-lacandonia>; 2- Published by ?Viajero?, (2013, 7th of May). Centro Ecoturístico

Lacandonia, México destinos.com, retrieved from:
<http://blog.mexicodestinos.com/2013/05/centro-ecoturistico-lacandonia-rio-lacantun/>; (On other eco-destinations in the Selva Lacandona, see:
<http://www.luxuriousmexico.com/wwwluxuriousmexico/Luxurious%20Mexico/Products/SpanishProducts/ChiapasESSelvaLacandona.html>)

7

On the Natura Mexicana web site: “Para lograr la conservación de las áreas naturales protegidas es indispensable contar con ESTACIONES DE CAMPO, en sitios estratégicos (...). Son espacios estratégicos que propician la vinculación entre los dos diferentes involucrados en las áreas naturales protegidas: habitantes locales, autoridades, técnicos, académicos y visitantes”. (Sin autor. Estaciones de Campo. sin fecha. Retrieved from: <http://naturamexicana.org.mx/780859-estaciones-de-campo>).

References

- Arefyev, V., & Mieczkowski, Z. (1991). International Tourism In The Soviet Union In The Era Of Glasnost And Perestrojka. *Journal of Travel Research*, 29 (2), 67-76.
- Báez, A. L. & Acuña A. (2003). Guía para las mejores prácticas de ecoturismo en áreas protegidas. México DF. : CDI. (Retrieved from : http://www.cdi.gob.mx/ecoturismo/docs/guia_mejores_practicas_ecoturismo.pdf)
- Benson, A. (2005). Research Tourism: Professional Travel for Useful Discoveries. In M., Novelli (eds). *Niche tourism: contemporary issues, trends and cases*. (133-142). Oxford, U.K – Elsevier.
- Bourdieu, P. (1997). *Méditations pascaliennes*. Paris : Le Seuil.
- Brockington, D. (2009). *Celebrity and the Environment. Fame, Wealth and Power in Conservation*. London: Zed Books.
- Butcher, J. (2003). *The moralization of tourism: Sun, sand . . . and saving the world?*. London: Routledge.
- Carrier, J. G. & Macleod D. V. L. (2005). Bursting the Bubble: The Socio-Cultural Context of Ecotourism. *The Journal of the Royal Anthropological Institute*, 11 (2), 315-334.
- Castro Soto, G. (2004). El pukuj anda suelto en Montes Azules biopiratería y privatización de la vida. *Boletines del CIEPAC, México, N° 409, 29-abril-2004*; Retrieved 23/10/13 from: <http://www.ciepac.org/boletines/chiapasaldia.php?id=409>
- Ceballos-Lascuráin, H. (1998). « Introduction ». In K. Lindberg, M.E. Wood, D. Engeldrum, & Ecotourism Society (éds.), *Ecotourism: A guide for planners and managers (Vol. 2)*. North Bennington, VT: The Ecotourism Society.
- Clifford, J. (1997). Spatial Practices: Fieldwork, travel and the disciplining of anthropology. In J. Clifford. *Routes: Travel and translation in the late twentieth century*. Cambridge: Harvard University Press.
- De La Maza, J. & de la Maza, R. (1985a.). La fauna de mariposas de Boca del Chajul, Chiapas, Mexico (Rhopalocera). Parte 1. *Rev. Soc. Mex. Lepid.*, 9, 23-44.
- De La Maza, J. & de la Maza, R. (1985b.). La fauna de mariposas de Boca del Chajul, Chiapas, Mexico (Rhopalocera). Parte II. *Rev. Soc. Mex. Lepid.*, 10, 1-24.
- Documento Mejorando las prácticas de Interpretación de la Naturaleza, PNUD/YUM BALAM/CONANP, Estado de Quintana Roo, 2008-2009, 26p. (retrieved from : <http://ppd.org.mx/tts/up/documentos/mexop3y20634-doc6.pdf>)
- Donohoe, H. M. & Needham, R. D. (2006). Ecotourism: The Evolving Contemporary Definition, *Journal of Ecotourism*, 5 (3), 192-210.
- Dumoulin Kervran. (2012). Comment devient-on un coquillage scientifique ? . *Techniques & Culture* , 59 (2), 182-206, (Also disponible on <http://tc.revues.org/6635>).

- Equihua, Cl., Newton, A. E., García-Avila, B., De Luna, E., & Gradstein, S. R. (2001). New Moss Records for Mexico from the Lacandona Tropical Rain Forest, Chiapas. *The Bryologist*, 104(4), 602-606.
- Fennel, D. (2006). *Tourism Ethics*. Clevedon, United Kingdom: Channel View.
- Ferguson, J., & Akhil G. (2002) « Spatializing states: Toward an ethnography of neoliberal governmentality ». *American Ethnologist*, 29, 981-1002.
- Fletcher, R. (2009). Ecotourism discourse: Challenging the stakeholders theory. *Journal of Ecotourism*, 8(3), 269-285.
- Franklin, A. (2004). Tourism as an ordering. Towards a new ontology of tourism. *Tourist Studies*, 4 (3), 277-301.
- Gieryn, T. F. (1999). *Cultural boundaries of science: Credibility on the line...* Chicago IL : University of Chicago Press.
- Gieryn, T. F. (1983). Boundary work in professional ideology of scientists. *American Sociological Review*, 48, 781-95.
- Goldman, M. (2001). The Birth of a Discipline: Producing Authoritative Green Knowledge, *World Bank-Style Ethnography*, 2 (2), 191-217.
- Hall, M. (2011). Fieldwork in tourism/touring fields: Where does tourism end and fieldwork begin?. In M. Hall, (Ed.), *Fieldwork in tourism: Methods, issues and reflections*. New York: Routledge.
- Hayden, C. (2003). *When Nature Goes Public*. Princeton: Princeton University Press.
- Higham, J.E.S. (Ed.). (2007). *Critical issues in ecotourism understanding a complex tourism phenomenon*. Oxford: Elsevier.
- Honey, M. (1999). *Ecotourism and sustainable development: Who owns paradise?*. Washington, DC: Island Press.
- Igoe, J., & Brockington, D. (2007). *Neoliberal conservation: A brief introduction*. *Conservation and Society*, 5(4), 432-449.
- Kimmel, J.R. (1999). Ecotourism as environmental learning. *Journal of Environmental Education*, 30(2), 40-44.
- Kohler, R. E. (2006). *All Creatures : Naturalists, Collectors and Biodiversity, 1850-1950*. Princeton, NJ : Princeton University Press.
- Kohler, R.E. (2002). *Landscapes and Labscapes : Exploring the Lab-Field Border in Biology*. Chicago : University of Chicago Press.
- Kopytoff, I. (1986). The cultural biography of things: commoditization as process. In A., Appadurai (ed.). *The Social Life of Things: Commodities in Cultural Perspective* (64-91). Cambridge: Cambridge University Press.
- Kuklick, H., & Kohler, R. E. (1996). Introduction. In *Osiris*, (2nd Series special issue : Science in the Field), 11, 1-14.
- Laarman, J. G. & Perdue, R. R. (1989). Science Tourism In Costa Rica. *Annals of Tourism Research*, 16, 205-215.
- Latour, B. (1987). *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press.
- Latour, B. (1988). *The Pasteurization of France*. Cambridge, MA: Harvard University Press.
- Martínez, E. & RAMOS C. H. 1989. Lacandoniaceae(Triuridales): una nueva familia de México. *Annals of the Missouri Botanical Garden*, 76, 128-13.
- Medellin, R. A. (1994). Mammal diversity and conservation in the Selva Lacandona, Chiapas, Mexico. *Cons. Bio!*, 8,780-799.
- Mittermeier, R. A., Goetschmittermeier C. & Robles Gil, P. (1997). *Megadiversity. Earth's Biologically Wealthiest Nations*. Mexico, D.F.: CEMEX.
- Mowforth, M. & Munt, I. (1998). *Tourism and sustainability: New tourism in the Third World*. New York: Routledge.

- Munt, I. (1994). Ecotourism or egotourism? *Race and Class*, 36, 49–60.
- Novelli, M. (Ed.). (2005). *Niche Tourism: Contemporary Issues, Trends and Cases*. Oxford: Elsevier Butterworth-Heinemann.
- Orams, M.B. (1995). Towards a more desirable form of ecotourism. *Tourism Management*, 16(1), 3–8.
- Reid, F. A. (2009). *A field guide to the Mamales of central america and southest Mexico, (2nd éd.)*, Oxford: Oxford University Press.
- Randall, C. & Rollins R. B. (2009). Visitor perceptions of the role of tour guides in natural areas. *Journal of Sustainable Tourism*, 17(3), 357-374.
- Rovinski, Y. (1991). Private reserves, Parks, and ecotourism in Costa Rica. In Whelan, T. *Nature Tourism: managing the environment*. Washington : Island Press.
- Secretaria de Economia, “PROYECTO de Norma Mexicana PROY-NMX-AA-133-SCFI-2006, Requisitos y especificaciones para obtener certificado de sustentabilidad del ecoturismo”. *Diario Oficial*, 14 marzo de 2006
- Smith, V. L. (1977). *Hots and Guests: The Anthropology of Tourism*. Philadelphia: University of Pennsylvania Press.
- Tyler, D. & Dangerfield, J. M. (1999). Ecosystem Tourism: A Resource-based Philosophy for Ecotourism. *Journal of Sustainable Tourism*, 7(2), 146-158.
- Urbain, J.-D. (2002). *L'idiote du voyage. Histoires de touristes*. (1st éd. 1991). Paris : Payot.
- Urry, J. & Larsen, J. (2011). *The Tourist Gaze 3.0*. (1st éd. 1990). Los Angeles-Londres-New Delhi-Singapour-Washington : Sage.
- Vivanco, L. A. (2001). Spectacular Quetzals, Ecotourism, and Environmental Futures in Monte Verde, Costa Rica. *Ethnology*, 40(2), 79-92.
- Warman, L. (2001). *Manual de Guías. Estación Chajul. México DF. Espacios Naturales y Desarrollo Sustentable, A.C.* 223p.
- Wearing, S. (2001). *Volunteer Tourism: Experiences that make a difference*. Cambridge: Cabi Press.
- Weaver, D.B. (2005). Comprehensive and minimalist dimensions of ecotourism. *Annals of Tourism Research*, 32(2), 439–455.
- Weaver, D. (2009), Reflections on sustainable tourism and paradigm change. In S. Gossling, C.M. Hall, & D. Weaver (eds.). *Sustainable Tourism Futures: Perspectives on Systems, Restructuring, and Innovations*. (33-40). London: Routledge.
- Wheeller, B. (1993). Sustaining the ego? *Journal of Sustainable Tourism* 1(2), 121-9.
- West, P. & Carrier, J.G., (2004). Ecotourism and Authenticity Getting Away from It All?. *Current Anthropology*, 45(4), 483-498.
- West, P. (2008). Tourism as Science and Science as Tourism. *Current anthropology*, 49 (4), 597-626.
- Wilson, E. O. (1984). *Biophilia*. Cambridge: Harvard University Press.
- Winter, C. (2007). The Intrinsic, Instrumental and Spiritual Values of Natural Area Visitors and the General Public: A Comparative Study. *Journal of Sustainable Tourism*, 15 (6), 599-614.

Some interviews cited:

- Ricardo Frías, (Special RIBMA Advisor for Dir. CONANP), Personal Communication, San Cristobal de la Casas, 15/08/2006
- José Zúñiga, (Regional Dir. Chiapas CONANP), Personal Communication, Tuxta-Gutierrez, 14/08/2006

- See also the web site of the sources of the figures