UNIVERSITAT ROVIRA i VIRGILI

Science, Medicine, Spirituality and Ayahuasca in Catalonia.

Understanding ritual healing in the treatment of addictions from an interdisciplinary perspective.

ISMAEL APUD

DOCTORAL THESIS
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Photograph of the cover page: ritual at the church of *Santo Daime*, *Ceu do Mapiá*. Photograph taken by me, Brazil, January 2014.

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Tarragona, 2017.

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Department of Anthropology, Philosophy, and Social Work

I STATE that the present study, entitled, "Science, Medicine, Spirituality, and Ayahuasca in Catalonia. Understanding ritual healing for the treatment of addictions from an interdisciplinary perspective", presented by Ismael Apud for the award of the degree of Doctor, has been carried out under my supervision, and fulfil all the requirements to obtain the international distinction.

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"Shadow face
Blowing smoke and talking wind
Lost my grip
Fell too far to start again
A sudden snake
Found my shape and tells the world
Remember this
Remember everything is just black
Or burning sun"

In memoriam of Chris Cornell

List of Abbreviations (except those in the articles):

5-HT: 5-hydroxytryptamine.
AA: Alcoholics Anonymous.
APA: American Psychiatric Association.
AIDS: Acquired Immune Deficiency Syndrome.
ASC: Altered States of Consciousness.
CSR: Cognitive Science of Religion.
CEFLURIS: Centro Eclético da Fluente Luz Universal Raimundo Irineu Serra.
DMT: N,N-dimethyltryptamine.
DSM: Diagnostic and Statistical Manual of Mental Disorders.
ICD: International Classification of Diseases.
IDEAA: Instituto de Etnopsicología Amazónica Aplicada.
LSD: Lysergic Acid Diethylamide.
MARC: Medical Anthropology Research Center.
NAC: Native American Church.
NGO: Non-Governmental Organization.
NIDA: National Institute of Drug Abuse.
NMDA: N-methyl-D-aspartic acid.
SAR: Scientific Area of Research.
SPECT: Single Proton Emission Computed Tomography.
SRP: Scientific Research Program.
UDV: União do Vegetal.
URV: Universitat Rovira i Virgili.

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Abstract

Ayahuasca is a mix of psychoactive substances from the Amazon, popularized in recent decades by transnational religious networks, and academic researchers interested in its clinical applications. The current dissertation is a study of ayahuasca rituals in Catalonia and surrounding areas, focusing on its use in the treatment of addictions. The main objectives of the research are: *a)* to use the perspective of medical anthropology to understand informal ayahuasca social networks as being embedded in alternative health care systems; *b)* to explain the academic interest in ayahuasca because of the relations and tensions between science and religion/spirituality; *c)* to gain a cognitive and cultural understanding of how the healing ritual works in the case of ayahuasca being used to treat addictions. The research studies several centers in Catalonia, Valencia, and the Balearic Islands, using an ethnographic approach that includes interviews with the leaders of the groups, participant observation for the analysis of the ritual design in each center, and biographic techniques for the study of cases of addicts who have been treated and cured. Ritual healing will be investigated using a medical anthropology model and an interdisciplinary approach that considers both cultural and cognitive elements.

Keywords

Science, Medicine, Religion, Ayahuasca, Spain, Catalonia, Ritual Healing, Addictions, cognition & culture, Spiritual ontology.

Introduction

My interest in ayahuasca and its spiritual traditions started years ago in Uruguay, when some friends and colleagues told me about strange religions that use a psychedelic substance in their ceremonies. The idea of a religion using a powerful substance from the Amazon to have spiritual experiences was something that really caught my attention. From the very first time I got in touch with these groups, I could see that participants usually had strong experiences, and that they considered the brew not only in religious but also in medical terms, as they were using ayahuasca to heal and purify themselves. I also noticed that the ayahuasca ritual was helpful for some participants with depression, addiction, and other psychological problems. Among the scholars and researchers studying ayahuasca, there were many who believed it had a spiritual dimension. Some of them were also affiliated to religious institutions and spiritual centers related to ayahuasca.

After I had finished my master's degree dissertation about ayahuasca, some important questions were still unanswered. Can we explain ayahuasca´s spiritual networks as a kind of medical system? Why do a large number of academic researchers believe in spirituality, or in ayahuasca as a kind of intelligent superhuman agent? How can we understand the intersections between science, medicine, and religion for the case of ayahuasca? And finally, how can we give a scientific explanation for the therapeutic effectiveness of ayahuasca in some of the cases I have found? The current dissertation is an attempt to answer these questions, through the fieldwork I conducted in Catalonia and surrounding areas. Part of the research is about ayahuasca and its intersections with science, medicine, and religion, using the case of Spain, and particularly of Catalonia. This part tries to answer the first three questions. The final question about the effectiveness of ayahuasca rituals will be addressed by focusing on cases of former patients who were treated for problems of addiction. The geographic zone selected is no accident, if we consider that Catalonia is one of the epicenters in the popularization of ayahuasca, both in the spiritual transnational networks and in the academic renaissance of psychedelic studies. The main objectives of this research are:

1. To analyze the use of ayahuasca in spiritual and religious centers in Catalonia as a part of alternative health care systems, using the theoretical framework of medical anthropology. In particular, the relationship between medicine and religion, and the tensions between medicalization and medical pluralism will be discussed in the case of ayahuasca.
2. To describe and analyze the belief in spiritual ontologies in academics and scientific circles related to ayahuasca, both in general and in the case of Catalonia, and considering the general problem of the boundaries between science and religion.

3. To use a reflexive anthropological approach to introduce myself in the text as part of the analysis, explaining my fieldwork, my worldview and cultural ascriptions as a social actor, and the theories from which I have constructed my point of view as a scientist and scholar.
4. To develop a theoretical model to explain how ritual healing works, using theories and studies that have involved an interdisciplinary understanding of religious rituals, mainly those that have integrated cognitive and cultural dimensions.
5. To use the model proposed to analyze how ritual healing works in the treatment of addiction by the qualitative study of cases treated in centers in Catalonia and surrounding areas.

The first section, "Prelude to Catalonia", is an ethnographic presentation of the research, which goes back to the beginnings of my ethnography about ayahuasca networks, before I started the research under the current doctoral program. The section is written in an ethnographical style, using fieldwork material (diary, notes, and photographs) to introduce the reader to the topic. I describe my work as an interdisciplinary effort to understand these practices in cultural and cognitive terms; as a multi-situated ethnography since it involved doing fieldwork in different geographical places connected to transnational spiritual networks; as a reflexive anthropology, since one of my main concerns is to introduce myself and my perspectives in the text, to express my personal and academic worldview, and in this way, give the reader different elements to understand how they all influenced the final ethnographic text of the research.

Section II, "Medicine, Science, Spirituality, and Ayahuasca in Catalonia", describes ayahuasca as a part of informal medical systems, and as an example of how what we shall call spiritual ontologies are present in scientific academic environments. I describe the subject in the general context and for the case of Spain, focusing particularly on the case of Catalonia. The first article, "Medicine, religion and ayahuasca in Catalonia. Considering ayahuasca networks from a medical anthropology perspective", analyzes ayahuasca religions and spiritualities as health care systems, using the example of Catalonia. To this end, I conducted seven in-depth interviews with different leaders of groups in Catalonia (five subjects), Valencia (one subject), and Balearic Islands (one subject). I also used three interviews with former patients treated for addiction problems in Catalonia to describe some elements of their therapeutic itineraries. In the second article, "Science, spirituality and ayahuasca. The problem of consciousness and spiritual ontologies in the academy", I analyze how spiritual and religious beliefs have been present in academic and scientific environments, tracing the issue back to the beginnings of modern science, and finally describing the present situation for the case of ayahuasca, using the example of Spain. I use the same empirical data used in the previous article. In this article I propose that "spiritual ontologies" are persistent

in the academic community. In the case of ayahuasca and psychedelics, this belief is closely related to the spiritual experiences of researchers, which produce different kinds of commitment to spiritual approaches. These ideas are expanded in the third article, "Pharmacology of consciousness or pharmacology of spirituality? A historical review of psychedelic clinical studies", and in the first part of the section.

In Section III, "Ritual Healing, Addictions, and Ayahuasca", I present various theoretical frameworks which I use to try to explain how ritual healing works in the case of ayahuasca. The first article, "Medical anthropology and symbolic cure. From the placebo to cultures of meaningful healing", discusses various explanations about placebo and ritual healing, with particular focus on the case of anthropology. The second article, "Anthropology, psychology and altered states of consciousness. A critical review from an interdisciplinary perspective", is a review of anthropological studies on trance, possession and altered states. The third article, "Beliefs, rituals, and memory. An introduction to cognitive science of religion", describes the interdisciplinary field of cognitive science of religion, focusing on how it explains religious rituals and beliefs. The fourth article, "Psychology, neuroscience, and religious experience. A critical review", describes the study of religious experiences from its theological beginnings to the recent studies in neuroscience. Finally, the article "The crossroad of addiction. Different models in the study of drug dependence", presents different models for understanding the specific case of addictions. Finally, in the last chapters of the section, I synthetize these perspectives, using an interdisciplinary model to understand how ritual healing works, through a perspective that focuses on the relation between cultural practices and cognitive processes.

In section IV, "Ayahuasca ritual as an addiction treatment in Catalonia. A medical anthropology perspective that combines cultural and cognitive perspectives", I use the model to analyze different cases of former addicts treated with ayahuasca. Firstly, I describe the 12 cases studied, as well as the methodology used, and a general analysis of the experiences recorded. After this, I present two articles, in which I select various cases and analyze them more deeply. The first article of the section, "Ayahuasca in the treatment of addictions. Study of four cases treated in IDEAA, using an interdisciplinary model that combines cognitive and cultural perspectives", describes the experience of a center founded by a psychiatrist from Barcelona, and analyzes four cases treated in that center. The second article, "Ayahuasca, addictions, and ritual healing in Catalonia. A qualitative study of two cases using an interdisciplinary model that combines cognitive and cultural perspectives", describes two different centers in Catalonia, and compares one case from each center, trying to analyze their similarities and differences in cultural and cognitive terms. The six cases were selected from the total of twelve cases studied. The criteria for selecting the

cases and their overall characteristics will be described in the introduction to the section. Finally, in the "General Conclusions" I briefly summarize the results of the research, and make some reflections on ayahuasca and the legal and social conundrum it gives rise to, as it is located at the intersection between science, medicine, and religion.

Section I

Prelude to Catalonia

Introduction to a long ethnographic journey

Although this dissertation is the final result of my doctoral research activities in the Medical Anthropology Research Center (MARC) at the Universitat Rovira i Virgili, I would like to present the research in a more extended perspective. Firstly, because my investigation of ayahuasca´s networks started years ago, maybe the first time I drank the brew. The different perspectives, questions, and core ideas presented in the study I conducted in Catalonia cannot be separated from my earlier activities and the studies I made in Latin America, which started with my first experience with ayahuasca in the city of Montevideo, Uruguay, the place where I was born. So it has been a long journey, both in time and in physical space, but also in the inner space created by my direct participation in the ceremonies. As an agnostic, those experiences helped me to better understand not only ayahuasca´s spiritualities and religions, but also religions in general, as ayahuasca allowed me to experience a world which initially I thought was only a creation of systems of beliefs, and not as something that could be phenomenologically experienced by the people who believe in them.

Ayahuasca – from the Quechua, *aya*, which means soul or dead person; *waska*, which means vine, and which is commonly translated as "vine of the spirits" or "vine of the dead" – is an Amazonian concoction usually prepared by mixing two plants, the vine *Banisteriopsis caapi*, which contains the beta-carbolines harmine, harmanile and tetrahydroharmine, and the bush *Psychotria viridis*, which contains N,N-dimethyltryptamine (DMT), an alkaloid similar to serotonin. Both substances are essential for the effects of ayahuasca. DMT is the major active compound, but, when ingested orally, it is degraded by monoaminoxidases in the guts, so harmala alkaloids are needed to inhibit this degradations (Bouso, 2012; Callaway et al., 1999). The brew is widely used in the Amazon, so there is lot of variation, not only in the term used to name it (e.g. *yajé* in the Tukano language, *natém* in Shuar, *caapi* in Arawak, *hoasca* in the União do Vegetal), but also in the species used to prepare it (other substitutes can be used instead of the two plants mentioned; additives can also be added to the brew, some of which are psychoactive substances, for example the *toe* in Peruvian shamanism).

The origin of the brew remains unknown, since it is not easy to conserve archaeological material in the rainforest. While some authors believe that the brew has been drunk for thousands of years (Naranjo, 1986), others suggest that it is a recent invention (Brabec de Mori, 2011). The first historical accounts can be traced back to the Jesuits´ anecdotal testimonies in the 18th century (Naranjo, 1986), and the first scientific descriptions in the 20th century, when the geographer Manuel Villavicencio (1858) described its use in the Napo River, and the botanist Richard Spruce (1873, 1908) identified its use by natives on his journey with Alfred Russel Wallace. Nowadays in the Amazon forest, more than 70 groups use ayahuasca in different ways (Luna, 1986). In the native

Amazonian tradition, religious and spiritual uses cannot be dissociated from medical ones. Magic, witchcraft, diagnosis, medicine, traditional pharmacopeia, and spirits are interconnected in indigenous Amazon healing systems, something that has been well documented by medical anthropology for decades (e.g. Dobkin de Rios, 1973; Kuczynski-Godard, 2004 [1944]).

Figure 1. On the left, the chacruna bush (*Psychotria viridis*); on the right a cross–section of the ayahuasca vine (B*anisteriopsis caapi)*. Photographs taken by me, Tarapoto, Peru, October 2012.

Another kind of religious practice arrived in the first half of the 20th century, with the emergence of churches that combine in different ways Umbandism, Kardecian Spiritism, popular Catholicism, and shamanism. They appeared during the exploitation of rubber in the northeast of Brazil, at a time when a poor Afro-descendent population was starting to migrate to the area of the current state of Acre, to work in rubber extraction. These workers started to get in touch with shamans, and their experiences with the brew led to the formation of new religions, which in turn led to new syncretisms between the local shamanism and their cultural background. In a social context of extreme poverty and poor sanitary conditions, these new religions created new strategies of solidarity, charismatic figures, and medical practices, all of which revolved around the brew (Goulart, 2008). In the 1930s the Church of Santo Daime was founded by Raimundo Irineu Serra in Rio Branco (capital of Acre). Later, in 1945 and in the same city, the Church of Barquinha was created by Daniel Pereira de Mattos. In 1961 the União do Vegetal (UDV) was founded by José Gabriel da Costa in Porto Velho, Rondônia. After the death of Irineu in 1971, Santo Daime split into two main branches –Alto Santo, and the branch led by Sebastião Mota de Melo – by the foundation in 1975 of the Centro Eclético da Fluente Luz Universal Raimundo Irineu Serra (CEFLURIS). Since the 1990s, these two groups, UDV and CEFLURIS, expanded internationally, through a variety of centers in all the continents. In the same decade, ayahuasca started to gain popularity also in the Western global networks of psycho-spirituality, and in the renaissance of psychedelic studies.

Figure 2. Two different ritual settings. On the left, session in a Church of *Alto Santo*, with a more "sober" ritual design. On the right, the room prepared for a ritual in *Barquinha*, more influenced by Afro-umbandism, with more deities and spiritual characters. Photographs taken by me, Rio Branco, Brazil, January 2014.

My first experience with the brew was in the year 2008. At that time I had just finished the two degrees I was studying, Anthropology and Psychology. In Anthropology, my final ethnographical study dealt with the arrival of Buddhism in Uruguay, so I was already interested in the study of religions. In Psychology, I was interested in the study of mental health treatments in psychiatric institutions, and anthropology provided me with different ways of understanding them from a cross-cultural perspective. Naturally, the crossroads between religion and mental health was of great interest, so medical anthropology was a natural conclusion of my academic interests. But there was something else: I was disenchanted with the mainstream cultural anthropological view. At that time, I did not know much about cognitive anthropology, and I was beginning to pay more attention to cognitive sciences. As someone who had lived all his life in Uruguay, I had been educated in an anthropological tradition that considers culture to be the determinant factor in social and psychological phenomena. Besides, in those days, the Faculty of Psychology did not have a program in cognitive psychology (it only began in 2008). The main schools of psychology in the university were psychoanalysis, and a special kind of social psychology, strongly influenced by Marxist and post-structural authors. So initially, my interests and worldview were in those areas. But since 2007 I had become more and more disenchanted. I started to pay attention to other authors, who were mainly involved in the cognitive sciences. This kind of "academic conversion" is reflected in my publications, progressively moving towards an integration of cognitive and cultural approaches.

But let´s go back to my first experience with ayahuasca. The colleague with whom I investigated the Buddhist schools was going to Céu de Luz, a Uruguayan center affiliated to Santo Daime/CEFLURIS. His stories about the experiences during the ritual were quite amazing, and I started to feel curiosity about drinking the brew. But my friend was reluctant to put me in touch

with the Church, since he felt – I guess – that his experiences there were too personal and intimate, and he wanted no interference with his inner work. But, finally, he left the Church, and the path was clear for me. So he gave me the phone number of the leader of the Uruguayan Church, Ernesto.

Fieldwork Diary, Monday 7 April 2008

> As expected, it was difficult to find [the Church], since it is located in the rural suburbs, a few kilometers away from the city [of Montevideo]. I found the house and rang the bell, but nobody answered. The dogs of the house started to bark at me, and I decided to go back a few steps, but they came closer and closer, behaving aggressively. At that moment a woman of almost 40 years-old came and calmed the dogs. I told her who I was and why I had come. She answered with a gentle smile and friendly words, telling me to park the car near the Church, just behind the house.
>
> I got out of the car and start to look around. There was a big circular building under construction. The sun started to go down and there were mosquitos everywhere. A man, no less than 30 years-old appeared. He was thin, with an intense face, but simple and warm manners. He presented himself as Martín, and said he had been a follower of Daime for a year. He showed me the place. First, the new church under construction, with photographs and ornaments. Then the old church, smaller and rectangular. Martin told me that they had built the constructions themselves. He also spoke about how he was destined to be there, and how all his past was a prelude, a one-way road that had led him to Daime. "Incredible things happen here. I would tell you, but it cannot be expressed in words. If you live the experience you will see… Miracles happen! Here I realized that you can change the past itself."
>
> Martín invited me to drink tea in a humble house nearby. He had been living there for a few months. Although he did not say so, it seemed to me that he was alone there, close to Daime, doing some kind of "spiritual retreat" in that house. More than once he told me he was there to heal himself […] We drank the tea and continued talking, while a little mouse ran and hid between the kitchen and the wall, and mosquitos were swarming around our necks […]
>
> After a while we went to the new church. In the middle of it there was a table with candles, ornaments, and a bottle of water with glasses. We sang hymns with other people, following a guitar and some percussion. The songs were in Portuguese. I sang with them using a little book that Martin gave me. At the end, a woman came with Ernesto. […] He asked me the usual personal things, but he already knew the essentials. […] He invited me to participate in a "concentration" on 15 April […]
>
> I am a little bit worried about what might happen. I fear the experience could be too strong for me. I am also concerned about how my secular beliefs will assimilate this ritual experience, with mystical Christian symbols everywhere.

The center Céu de Luz was founded in 1996, and was ethnographically studied by the anthropologists Victor Sanchez Petrone (2006) and Juan Scuro (2012a, 2012b). It belongs to the branch of CEFLURIS that I mentioned earlier, and it shares the ritual calendar and the general cosmology of the Church. As described by Andrew Dawson (2008), Santo Daime´s beliefs can be regarded as a Christian millenarian doctrine, in which the human spirit is cosmologically situated in an evolutionary process through different reincarnations. The final goal is to reach wisdom and purification, not only individually but as a community of believers. Although they have different spiritual authorities called *Mestres* – *masters* or *teachers* in Portuguese-, the most important one is *Mestre Jesus*.

Figure 3. Member of Santo Daime holding a bottle with the brew. Photograph taken by me, Céu do Mapiá, Brazil, January 2014.

Last but not least, purification is not only circumscribed to the community of believers, but also to a universal battle of good against evil, manifested nowadays in various global crisis,

> Through discursive and practical means, the ritual repertoire of Santo Daime situates the daimista community and its members within a millenarian worldview framed by the cosmic battle between good and evil. Irineu Serra is the 'Imperial Chief' of the army of 'Juramidam' and Mota de Melo his 'General'. Reflected in the use of ritual space, the 'soldiers' of 'Juramidam' are led by 'commandants' and organized into 'battalions' regimented according to sex, age, and marital status (Dawson, 2008, pp. 184–185).

That is one reason why the practitioners talk about the ritual as a spiritual "work" (*trabalhos* in Portuguese). The *trabalhos* are formally directed, and the songs are compiled in hymnbooks (*hinários* in Portuguese), that are used according to the ritual calendar. The hymns are in Portuguese and express the moral and religious wisdom of the different *mestres* of the church. Although this worldview has its origins in the low-class population of the rubber workers, the millenarian idea of salvation and struggle against a modern Western materialistic evil fitted well with other discourses (for example, those of the New Age networks) that were more common in the urban middle and upper classes. My experience of fieldwork (Apud, 2013b) showed that participants at Céu de Luz are from the lower middle-class, quite different from the higher economic level of the population of the New Age centers. This is reflected in the costs of participating in the Church: the monthly fee is even cheaper than the cost of taking part in a single ceremony in the new-age centers (for a more detailed ethnographic account of the different centers in Uruguay, I recommend, Scuro, 2016).

Wednesday 16 April 2008

> Yesterday I participated for the first time in a *Daime* ritual. […] The first thing I did when arriving was to go to Martin's house, where I found him cleaning some clothes. He invited me in, and we started to talk,
>
> "Did you know that the stains of Daime do not disappear when you wash your clothes?" he told me, showing me a towel with a brown stain. Martin was cleaning the various things that were going to be used during the ritual. […] The deal he had with Ernesto was that he could stay there for free if he helped with the Church and the housework.
>
> "In the Daime I try to contact my pure body, which is what I really am. You are invaded by the world and bad things, and you start to think that these things are yours, but this is not true. We are light beings, pure beings who the world sickens, so we need to clean ourselves."
>
> Finally we went to the church. It was really, really cold. Minutes went by, and I met different people, all wearing Church uniforms called *fardas* in Portuguese. I greeted Ernesto and the other participants. One of them started to talk about his experiences with Daime:
> "I have been here for 5 years," he told me.
> "That is a long time," I replied.
> "Not at all, some people have been here for much longer. I came here because I was interested in the concentrations. They are really interesting. Of course there is a Christian background, you have to consider that… Why have you come here?
> - Oh, a few months ago a friend of mine used to come here. He gave me Ernesto's phone number…
> - OK. I suppose your friend told you all about the things that happen when you drink Daime. They are really hard to believe […] When I started to come here, one guy told me "This is a

> liquid made by God", and I thought to myself "This guy is crazy!" But now, maybe I should tell you the same. This liquid is not of this world, it seems as if God is inside it.
>
> We sat down. The ceremony started with the Lord's Prayer and an Ave Maria, all in Portuguese. Ernesto started to play the guitar […] At one moment we stood up to drink Daime. Two small wooden windows opened. The ladies formed a queue in front of one; the men in front of the other.. Behind the windows was Ernesto with a jar filled with a brown liquid. He started to pour Daime into a glass, one for everybody. The participants drank it with difficulty, as it was not very nice. When they were given the glass, they all made the sign of the cross. I got a little nervous. It was my turn and I drank it making the sign of the cross too […]
>
> Time passed and so did the chants, but nothing happened to me. […] The songs and the music started to annoy me. All that need for salvation, healing and protection! […] Then, everyone remained in silence and the lights were turned off so we could "concentrate". I was angry, because nothing was happening. I was bored and my body was really cold, and my actions, but not my thoughts, were respectful […] Furthermore, my atheist and secular worldview made me feel totally out of place.
>
> Once the ceremony had finished and the lights had come on, I started to calm down. Martin was there. He had been so kind to me, like everyone else, from the beginning. The ceremony finished with applauses and hugs. I thought nobody had experienced anything at all. But I was wrong. They had had intense experiences, and they were very excited […] They asked me what my experience had been like and I replied "Quiet, nothing strange happened". They were surprised about my sober attitude, totally out of place considering the collective emotional effervescence […] I wanted to know what had happened to them. They had all experienced an intense moment. […] One young girl told me: "I had to cleanse myself. This time I was afraid, but I also felt supported, mainly thanks to my friend [a girl who had come with her], but also the place […] I have also been in Amazonas, but I could never give myself completely to the force that comes, the Daime. Once it comes, you have to give yourself completely to it, and it flows and… I needed to be healed, to cleanse myself… […] I believe that it is like a force that arrives and start to pass throughout the group and in some places it stops and does what it has to do…" […]
>
> Finally, I left the Church and went back home. It was late, and, outside, the night was beautiful. The moon lit up the wide open sky, and the stars finally seemed to comfort my need to lose myself…

Although I felt nothing strange during this first experience, one thing is quite clear to me: most of the participants had an intense experience, and it was a spiritual and purifying one. So it was a kind of healing practice, strongly emotional and embodied. The woman´s experience of a "spiritual force" in some ways reflects a common idea expressed in Santo Daime and also other esoteric, mystical, spiritual and psychological traditions. Besides, it fits with the New Age idea of a spiritual energy, and the general rejection of the separation between the spiritual and physical realms. I went to Céu de Luz a few more times but since I felt nothing and I was not really doing research into ayahuasca at the time, more than a year went by before I had another encounter with the brew. The next time was not in a Church setting but in a Uruguayan holistic center for alternative therapies, closely connected to what other authors call New Age Networks.

Figure 4. Woman drinking the brew in a ritual of Santo Daime. Photograph taken by me, *Céu do Mapiá*, Brazil, January 2014.

Ayahuasca, vegetalismo, neoshamanism, and New Age networks

Friday 4 September 2009

> A few days ago a friend of mine sent me a link to the webpage of a center called Ayariri. On the web I found the e-mail of the director of the center, a woman called Merilena. I contacted her and we arranged a meeting at 8 pm on Thursday. […] I went 15 minutes early, and had to wait until the holotropic breathwork class finished. In the room there were drawings and paintings influenced by ayahuasca-induced visions. […] A minute later the door of the classroom opened, and Merilena's husband, Hugo, greeted me. I introduced myself to both him and Merilena […] Merilena told me to go upstairs […]
>
> She told me how she had got in touch with Amazon shamanism years ago. I told her my personal and academic interest in the subject. She also described the procedures during the ceremony, and gave me some useful advice. Finally, she stressed the "spiritual" nature of the practice, in contraposition to "religious", and explained how the ritual brings support and safety to the participants, and that ultimately the experience was personal and individual.

The comparison made by Merilena between spiritual and religious practice reflects the New Age criticism of doctrinal religions, and the defense of "experience" and "practice" over "doctrines" and "beliefs" (Heelas, 2006). Although usually no one wants to be regarded as a new-ager, their discourse often fits the description of the movement. The reluctance of the participant to subscribe to this worldview is partly the result of the negative social appreciation that New Age gradually acquired over the decades. But it also reflects a misunderstanding of the movement, which is not a structured system of beliefs that people ascribe to or feel that they belong to. The movement is a

variety of heterogenic practices and ideas, unsystematically propagated, and from different traditions under the same idea of recuperating other spiritual traditions. The New Age Networks, sometimes also referred as "psycho-mystic spiritualities" (Champion, 1995; Champion & Rocci, 2000), are more an informal discursive practice than an institutionalized doctrine (Carozzi, 1995). As Woten Hanegraaff has said, although the general ideas of the New Age Movement were already present in the 1960s – e.g. the coming of the new age of Aquarius – the movement as we know it today changed in several things. For example, the New Age of the 1980s was no longer characterized by the left-wing political beliefs of the counterculture: no Marx, no Che Guevara, and no Mao Tse-Tung as referential thinkers (Hanegraaff, 1996). The collective struggle against social inequalities was replaced by the idea of healing the world by a personal change of consciousness during the shift caused by the astrological turn from the Age of Pisces to the Age of Aquarius (Hanegraaff, 2001). This change in the movement generated the usual criticism of its individualistic and mercantilist perspective. For example, Michael York (2001) regards as central characteristics of the movement the commodification of religion and liberalism, understood as the freedom of practice, belief and consumption in the free market. The stress on individual responsibility over emancipatory collective goals could be considered to be part of the personalization process that Gilles Lipovetsky (1986) and J.-F. Lyotard (1979) associated with the hyper/post-modern societies. But it is important to mention that the movement is not monolithic, and some authors have focused on how political commitment can also be present in the different groups and practices associated with these network (Viotti, 2011; Wallis, 2003). In the particular case of Uruguay, and as reported by Juan Scuro (2016), neoshamanic practices in the New Age Networks have been creating new forms of collective associations and social support, where individuals can also connect with collective goals and utopias.

The new spiritualities associated with New Age Networks share the common rejection of Western materialism, and the return of a variety of Western and non-Western spiritual traditions (Apud, 2013c; Hanegraaff, 2012). These characteristics are essential if the importance of holistic and alternative medicines in these networks is to be understood. Alternative medicine is an umbrella-like term that covers heterogeneous practices and beliefs, generally defined by their exclusion from the dominant biomedical profession (Kaptchuk & Eisenberg, 2001b). As Catherine Albanese (2005) reports, the roots of the holistic medicine movement can be traced back to the 19th century, through approaches that offered alternatives to the conventional medicine of that time (for example, herbalism, osteopathy, chiropractic, vegetarianism, hydrotherapy, mesmerism and homeopathy). At that time, the hegemony of biomedicine had not been fully established, and the plural medical situation of health attention was a "war zone" (Kaptchuk & Eisenberg, 2001a,

p. 190). In the so called process of medicalization, these medical practices started to be regarded as illegitimate and quackery. After the success of the medicalization process, these medicines did not disappear, but remained in society as a variety of informal strategies. There is a continuity between these therapies and the new ones of the second half of the 20th century, when the current form of holistic alternative medicine appeared. It was like a Freudian "return of the repressed". The old ways of medicine wearing new clothes converged in a heterogenic movement to confront the materialistic biomedical approach that had once kicked them out from the gaming table,

> The holistic health movement appears to be the outgrowth of several other movements, particularly the counterculture of the late 1960s, with its emphasis on "getting back to nature" and disenchantment with mainstream culture, the human potential movement, humanistic medicine, the wellness movement, Eastern mysticism and medicine, 19th-century Western heterodox medical systems (e.g., homeopathy, osteopathy, chiropractic, and naturopathy), the feminist movement along with the associated natural birthing movement, and the environmental movement. The hippie counterculture sought health care that was compatible with its values of egalitarianism, naturalness, mysticism, and vegetarianism. The "free clinic" movement of the 1960s and 1970s embodied many of these values. Concurrent with these trends, a growing portion of the general public experienced disenchantment with the high cost, bureaucratization, specialization, reductionism, and iatrogenesis of biomedicine. Many of these people were predisposed to the concepts and values of the holistic health movement. Foci of the holistic health movement have included stress and stress reduction, reliance on natural therapies, therapeutic eclecticism, the notion of healer as a teacher rather than a medical authority figure, the belief that the body is suffused by a flow of energy, the belief in vitalism, and individual responsibility for one's health (Baer, 2003, p. 235).

As Menéndez points out (1990), all these different movements find common ground and a common identity in their subaltern position to the mainstream biomedical system. But the idea was not necessarily the rejection of science itself, but the spiritual appropriation of scientific discourse (von Stuckrad, 2014). For example, the movement appropriated the idea of a connection between mind and body through the neuro-immuno-endocrinal interactions, using ideas that started to appear in the 1970s through different scientists interested in the psychophysiological effects of mystical and meditative practices (e.g. Benson, 1976; Davidson, 1976; Fischer, 1971; Gellhorn & Kiely, 1972, some of which will be described later). These models were considered to be evidence of the effectiveness of other healing practices such as the Indian chakra system, and the scientific explanation of the individual responsibility for illness, in consonance with the idea of karma and its New Age appropriation (Hanegraaff, 1996). In the more extreme cases such as the Germanische Neue Medizin of M.D. Ryke Geerd Hamer, the neuro-immunological connections were used not only to defend the determination of the spirit over the body, but also to confront biomedical treatments, blaming them for triggering iatrogenic mental responses through diagnosis, and disrupting the "natural program" of illnesses, which, if used wisely, naturally lead to a healthy and beneficial resolution for the individual (Apud, 2013b). In contrast to this kind of antagonistic and dangerous rhetoric, nowadays some authors describe a "third wave of alternative medicine", which

is more integrative, because of the less hard-line attitudes of biomedical perspectives, more open to including alternative medicines in therapeutic health strategies (Kaptchuk & Eisenberg, 2001a).

In Uruguay, holistic and psycho-mystical spiritualities started to become popular in the mid-1980s, after the fall of the military dictatorship, the return of democratic institutions, and the arrival of globalization. In the particular case of ayahuasca groups, they emerged in the 1990s, through different modes of religiosities, such as churches (e.g. Santo Daime), and neoshamanic/holistic centers (e.g. Ayariri, Red Path). As in other countries, New Age networks in Uruguay usually congregate people from the upper and middle classes, interested in self-help and New Age literature. Ayahuasca neoshamanic practices such as those of the Ayariri can be considered one of the general transnational cultural phenomena described in countries such as Germany (Blazer, 2005), France (Leclerc, 2013), and Australia (Gearin, 2015; St. John, 2016). This is not surprising if we consider that, in the context of the New Age networks, ayahuasca ceremonies give their participants direct and fast access to spiritual experiences, fulfilling their urge for *numen*. Furthermore, holistic therapists believe the rituals to be excellent psychotherapeutic tools for both healing and evolving, in the sense given by the spiritual conception of the New Age worldview.

In my ethnographical research I focused on the Ayariri center (the term is taken from the Ashaninka language, meaning "spirit of the wind"). The center defines itself as dedicated to healing through experiential work and the exploration of consciousness, offering various alternative therapies such as Kundalini yoga, Chinese medicine, Grof's holotropic breathwork, and individual transpersonal therapy. The founder of the center, Merilena, is a Uruguayan woman who studied in the Holotropic Breathwork School of Stanislav Grof, and started to consider certain stigmatized drugs as traditional healing tools in psychotherapeutic treatment. On a journey to Peru, she encountered Takiwasi, a famous center for the treatment of addictions founded by the French psychiatrist Jacques Mabit. After this experience, she started to travel to Peru to meet different *curanderos* – in Spanish, "traditional healers" – who use ayahuasca and other plants, in a tradition that is usually called *vegetalismo*.

Figure 5. Entrance to Ayariri. Photograph taken by me, Montevideo, Uruguay, October 2011.

Vegetalismo is a sociocultural mix of indigenous and Spanish beliefs and practices that belongs to the riverside mestizo Amazon culture (Beyer, 2009; Dobkin de Rios, 2011; Luna, 1986; MacRae, 1992). Under this animistic worldview, plants are looked on as intelligent beings, from whom the *curandero* learns a variety of techniques to combat witchcraft and treat certain diseases. The ceremonies at Ayariri learn from this tradition, but adapt the ritual design to the urban context of Uruguay, and the cultural conceptions to the New Age milieu. But I did not know any of this the first time I went to a ceremony there.

Figure 6. Concoction of ayahuasca by day, ceremony by night. Photographs taken by me in the Sachamama center of Francisco Montes, Iquitos, Peru, January 2014.

A mystical experience triggers a research project

Saturday 12 September 2009

> I received an e-mail from Merilena on Tuesday, telling me not to take drugs or alcohol during the week, to eat something light the days before the ceremony, and to fast the day of the ceremony, on Friday. And so I did, hoping to be more "receptive" this time to the effects of the substance, something that had not happened a year ago, when I went to Santo Daime. But also the idea was to respect the taboos, and self-suggest a little bit more about the practice and its magic. A friend of mine, Andrés, who went to the same ritual a few weeks ago with Merilena, told me he had had such an intense experience that he had been shocked, so I tried not to underestimate the ritual.
>
> I left work at 8:30 pm and walked to the center, carrying a bag with a blanket and a bottle of water. In her email, Merilena had said that both things were essential for the ceremony. She also wrote about the "purpose" of the ceremony, which was not very clear to me. At one point I thought "…maybe it would be nice to have a vision about life and death", which I took lightly, but it was a big problem during the ceremony I guess […] I arrived at 9:45 pm. There were about 20 people there. […] The room was big, like two halls connected with no separating wall. The participants were sitting on the floor with their backs against the wall. Each of us also had a pillow and a basket in case we had to throw up. We also had the blanket and the bottle of water that we had brought. On one side of the room was Merilena and a woman helping her, and on the other side two men, one of whom, Fernando, had an instrument called *tumank* [a kind of bow with a cord tied to each end; like a *berimbau*, but without the pumpkin].
>
> Merilena burned a *palo santo* ["sacred stick", the wood of the tree *Bursera graveolens*. When burnt it has a special perfume]. The smoke filled the room, probably to drive away negative energy and evil spirits. They also turned the lights off, which left us in almost total darkness. Then, Merilena started to give us ayahuasca one by one, in a small brown wooden cup. Merilena's assistant gave everyone a glass of water, to drink after taking the bitter brew. The taste of the concoction was far nicer than the other times in Santo Daime. […] Everyone drank their dose and waited silently in

the darkness. I was waiting for something to happen, but I was not confident that it would really work this time. I started to see things, but I doubted whether they were hallucinations and thought that I was just tired and it was dark. Because it was so dark I expected to see lights and phosphenes, the usual sort of thing when you go from a bright environment to a darker one. But then Merilena and Fernando started to sing. At that precise moment, and although I know it sounds crazy, things started to take on a special texture all over the place.

A sacred space opened up in front of us. Fernando's voice was like a mantra, and the surfaces of the walls and the ceiling of the room took on the appearance of being from another world. They moved like they were alive. All whites and blues they created a landscape of sacred forms, transmitting a strong sense of beauty, sublimity and mystery. The chants and the *tumank* could be heard. Merilena often walked through the room with her long white dress and a candle, helping the psychonauts if help was needed. I started to see psychedelic images and geometric forms when I closed my eyes. The woman at my side started to vomit and made painful noises. Far away, I heard the orgasmic shouts of another woman. One man started to laugh. In fact laughing was very frequent that night, the participants finding it quite contagious at some points. Crying was also frequent. Meanwhile I was trying not to break down, trying to enjoy the ride and the beauty of what I was seeing. But little by little the experience was getting even more intense and difficult to manage.

I started to shiver with cold, so I covered myself with the blanket. I repeated to myself that I could not break down, that I was not like the others in the room, that I was not like them, and I could not be like them, that I did not want to. It is difficult to remember what happened next. I know that I felt totally overwhelmed by the experience. I felt like someone was pulling my soul out of my body. I had a terrible urge to sleep, but I also realized that if I lay down and closed my eyes, I would have to go on a journey that I was not prepared for. It was like coming up against chaos, the heterogeneity and fragmentation of the vital forces. I felt that I was going to leave the human world, and I was not prepared for that.

I was afraid, very afraid. I felt like a kid, weak and powerless, playing on the shores of a powerful and incommensurable sea. I told myself not to leave, by repeating different imperatives: that I should not, that I could not, and that I was not prepared. I promised myself not to do it, repeating it over and over, terribly afraid. I focused on the sacred space in front of me. At least it was still from this world in some way. I watched it with my eyes wide open, holding on to the place with my sight. I felt like a kid. I was happy because I was in that beautiful and amazing place, but also afraid to be pulled out from there, to a non-human fragmented vital reality. I asked whoever was pulling me not to take me away, that I was not prepared. I felt that something or someone who had come down to the room was giving me that sublime place as if she was a mother allowing her children to play in particular places. But she was also encouraging me to go beyond, like she was teaching me how to walk. But I refused to do it, I was terrified, and this kind of mother, although she was pulling on my clothes to make me walk, seemed to respect my fear and my decision not to go.

The tension remained, because at any time I could be thrown out of the room into the unknown. I was at the mercy of something or someone superior. In the meanwhile, the woman on my left continued throwing up and crying. But, suddenly, out of the corner of my eye, I saw another woman who turned around and stared at me, smiling. Firstly, I thought she might have been trying to take me with her, but I was wrong. The whole place was smiling with her at that ineffable moment, encouraging me to travel with them. But they all respected my decision not to go. I smiled like a kid, still too scared, and continued playing in that beautiful, sublime place.

At that moment I realized I was focusing on the nonhuman world, and that I had to change the direction to the human world, because the first question I had come with, about life and death, was too big for me. I decided to focus on something else, my difficulties in my relationships with other people, starting a more human and rational voyage. I analyzed my relationships with the people in my life, and experienced one insight after another, while my defenses and resistances tumbled and I realized who I really was. I also realized that humanity is always struggling to control reality, and although all of this was important for our existence and knowledge, it was also blind to that dimension of existence, which was absolute, eternally present, beyond time. I looked on the place surrounding me as if it were a big gateway, between our finite world and eternity. Life and death again. I was shocked, but also amazed, it was the ultimate truth that I had always felt, a full awareness of my finitude, which in my childhood had not allowed me to sleep. I laughed, but then

> my eventual death made me feel terribly sad and afraid. I understood the relationship of humankind with the sacred, and why the mystics believed that their experiences could not possibly be illustrated by a concept or image. Over the centuries all images had come from eternity. I remembered Heidegger, Nietzsche, Eliade, the Dionysian cults… and that I was there to set eyes on God, and God was the one who undressed me with her gaze […]
>
> After a while the experience started to recede. Merilena and Fernando blew *mapacho* smoke [*Nicotina rustica*; an Amazonian tobacco but stronger] over us. The participants gradually calmed down and started to sleep, but I could not. I couldn't stop thinking about what had recently happened. I wanted to tell everybody, it was unbelievable. […] After an hour I finally fell sleep.

Looking back, I guess this experience was a turning point in my life. In my personal life, the experience showed me something I had never experienced before, something like what Rudolf Otto (2008 [1917]) described as the "feeling of being a creature" – a feeling of finitude in the face of eternity – and the sense of *majestas* – being in the presence of a power from another world, and feeling that I was a mere finite being. I was confronted with myself and my existence in this world. There was also a sense of beauty and sublimity, as described by Immanuel Kant (1919 [1764]), a mix of both terror and awe. In an intellectual and academic sense, it also changed my point of view about religion. Until then I had never imagined that religious or spiritual experiences of such intensity could really be experienced by practitioners. That night, I had had a first-hand experience of something that, without an inducer substance, I would never have had because of my personality and cultural atheistic and secular background.

An interdisciplinary ethnography: between culture and cognition

So I decided to make some ethnographical research into Ayariri. All I needed was the time and the economic resources. By a stroke of luck – or, according to the participants of the center, thanks to the spirit of the plant – I finally got them. I presented the research as a master's degree dissertation project and I won a university scholarship that gave me the money and the time to make the research. I started to attend the various activities organized by the center, not only the ayahuasca ceremonies, but also meetings, conferences, yoga sessions and other things. I was at the beginning of my attempt to bring a cognitive perspective to my studies of religion, so I decided to explain the ritual setting in both cultural and cognitive terms. At that time I was not fully aware of some of the perspectives discussed in this dissertation, such as the Cognitive Science of Religion (CSR), or the neuroscience of religious and mystical experiences. But I was quite familiar with cognitive psychology, and interested in distributed cognition, which I finally used to analyze the ayahuasca rituals. It helped me to integrate cultural and cognitive variables, to use both quantitative and qualitative methodological approaches, and to explain how the ritual changes from the traditional Peruvian context to the New Age holistic Uruguayan group.

One thing that interested me as I read about *vegetalismo* and took part in the ayahuasca sessions at Ayariri was the changes and translations produced when the practice was adapted to different contexts. The ceremonies at Ayariri generally followed the ethnographic accounts of

Peruvian ayahuasca sessions. They are mostly carried out at night, the participants sit against the wall, the shaman sings his songs and blows *mapacho* smoke for protection, and to open and close the work with the medicine. But there are also lots of unavoidable changes, which depend on the new context and people. For example, in the traditional Peruvian setting the *curandero* and the apprentice are the only ones who sing *icaros* – sacred songs from Peruvian healers –, while in the Ayariri setting Merilena uses other Western songs, some of them known to the participants, who can sing with her – usually prohibited in the shamanic context. Instrument from different parts of the world are used, thus expressing this pan-religious aspect of New Age: *tumanks*, flutes, guitars, Tibetan bowls, and percussion instruments. In the traditional context, the *vegetalista* is the only one who can lead the ceremony – alone or with an apprentice –, while at Ayariri there are always one or more assistants, helping not only with the songs, but also with the participants if they felt unwell. Other differences are the objectives and meanings of the ceremonies. In the Peruvian context the participants go to a ceremony to deal with local and traditional problems such as witchcraft or culture-bound syndromes (i.e. *susto*, *mal de ojo*, *envidia*). In Ayariri it is recommended that participants go to the session with a specific "purpose" (*propósito*), usually related to a personal issue, which in subsequent phase of "integration" – which is uncommon in the Peruvian context – is analyzed in psychotherapeutic and spiritual terms.

I analyzed all these changes in terms of "ritual redesign" (Apud, 2013b, 2015a, 2015b), which occurs in the cultural transfer of a ritual from one context to another. This is not unusual, and it has been described in a similar way by other researchers. For example, Leclerc (2013) analyzes the interaction and encounter between *shipibo* native use of ayahuasca and holistic French therapists, and the transaction of meanings and techniques in the encounters of the two cultural groups, similar to what I have described as "double assimilation". For example, for the *shipibo* ayahuasca is a real-world experience, while for Westerners it is a space for representation and symbolism. For the *shipibo*, the goal of entering the spiritual realm is to interact with spirits, and obtain knowledge and favors; for Westerners, the idea is to contact with peace and harmony, and reflect about one´s life. Last but not least, in the *shipibo* traditional context, the patient does not need to drink the brew; it is the healer that must drink it in order to access the spiritual realm and obtain a diagnosis or a cure. In the Western context, it is the patient who must drink ayahuasca, and the personal experience is valued as the agent of healing.

I have tried to explain all these changes in both cultural and cognitive terms, using a cultural psychology perspective to understand cognition as extending to the social, technological, and cultural environment. As I have stated elsewhere (Apud, 2013a), the general idea of extended cognition is that the cognition and consciousness of the human brain is not independent of the

surrounding context. On the contrary, the cognitive functions of the human brain are extremely dependent on the cultural, social and technological environment. So, although the classic "brainbound model" developed by cognitive sciences is useful for analyzing cognitive processes with particular research designs, it falls short when considering the relations between mind, body, culture and environment. The approach involves moving beyond a model constrained by the "skull and skin" of the individual, and extends the mental processes outside the brain, given that both material and symbolic technology are cognitive devices embedded in specific sociotechnical ecologies (Kirsh, 2006). The idea has been used in different fields of study: education, human-technology interactions, robotics, language, Artificial Intelligence (for a review of the topic, see Clark, 2003).

So, why not apply the model to religious rituals then? I decided to use a model based on the notion of "system of activity" of the Neovigotskian psychologists Michael Cole & Yrgö Engeström (1993), but reformulated for the case of religious ritual. I distinguished different elements: *i)* the design (ensemble of rules, spatial order and technologies that comprise the ceremonies), *ii)* the community (social relationships and structural organization between the participants), *iii)* the participant as an individual (the subject's psychological characteristics, his or her spiritual/religious and cultural trajectory, his/her personal symbolic systems of interpretation; his/her religious/spiritual expertise), *iv)* roles (in the particular ritual being held), *v)* cognitive artifacts (used by the shaman or the director of the ritual to induce certain cognitive effects).

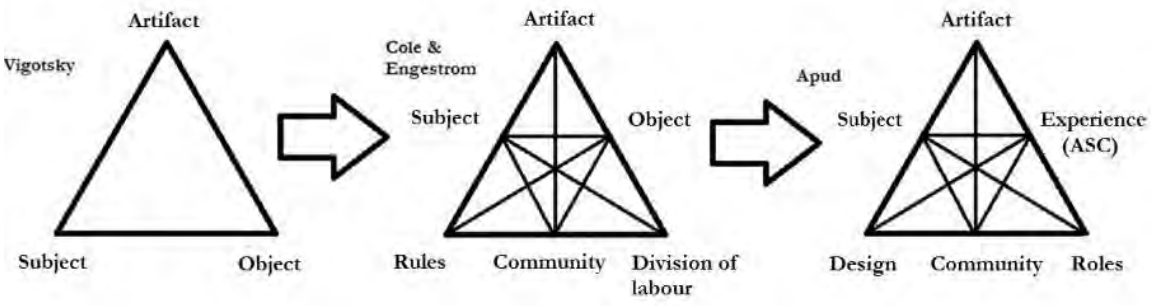

Figure 7. Cultural-historical activity system triangle. On the left, Vigotsky's original triangle; in the middle the reformulation by Cole & Engeström; on the right, my adaptation for ayahuasca rituals.

The idea fitted with various ethnographical observations about the manipulation of consciousness through the ritual use of music, suggestion, dance and psychedelics, in order to generate certain states of trance and/or possession. Besides, the model went beyond the centralized view of the psychoactive substance as the main producer of the experience, and considered other elements of the setting. In this model, ayahuasca is one element of the ritual, in dialogue with

different features of the ritual context – the setting – and the individual characteristic of the participant – the mindset. The elements in this model make it possible to analyze the variability of the ritual, and its interactions with the subject's own character, and they explain, for example, why in a particular ritual participants can have different experiences using the same substance. They also explain the techniques of the *curandero* and how they affect the participants' experience. The Amazonian shamans usually – but not always – use different tools grouped in what is called a *mesa* ("table"). The *mesas* contain perfumes such as *agua florida* ("flower-scented water"), and percussion instruments such as *shacapas* and *maracas*. These elements are used to produce certain effects in the participants, and guide their visions and experiences. All these elements, together with the traditional songs called *icaros*, commonly produce synaesthetic phenomena, a convergence of different sensorial modes, allowing the participants to literally "see" the music, "smell" colors, and so on.

My master's degree research officially started at the end of 2011, although I was going to the center before then. I used participant observation not only in the ceremonies, but also in such activities as spiritual retreats, ceremonies with other plants, yoga classes, conferences and meditations. I also used other research techniques as well as participant observation: for example in-depth interviews, used for collecting information about the center through its main actors, and for studying the experiences of the participants. On two occasions I interviewed the participants after the ceremonies – in which I also participated – collecting not only biographical and personal information, but also the narratives of what had happened to them during those ceremonies. This qualitative data was complemented with the application of a psychometric scale, the Hallucinogen Rating Scale, which measures the cognitive effects of hallucinogens. The combination of both techniques was articulated through the cultural-historical cognitive approach mentioned above. I described the methodological design as "multitechnical ethnography", consisting of a main qualitative approach, with an embedded quantitative technique for answering particular questions (Apud, 2013b, 2013d).

Figure 8. The *mesa* used by Merilena at Ayariri. On the left and in the bowl there are *mapacho* cigarettes. On the right, percussion instruments (one *shacapa* and one *maraca*). In the middle there is a bottle with ayahuasca, and a bottle with water. The use of pompous mesas is very common in the Andean shamanic tradition. On the contrary, the Amazon shamans use simpler ones or sometimes not at all. Photograph by me, Montevideo, May 2012.

A Multisituated ethnography: transnational networks of spirituality

My first idea was to write an ethnographical account of the holistic Uruguayan center, but things changed as the research progressed, since the use of ayahuasca in the center could not be separated from the Peruvian neoshamanic tradition from which the center took the ceremonies and the brew itself. As I have mentioned above, the use of ayahuasca by the holistic center studied cannot be understood without considering two religious/spiritual traditions that mutually connect and transform using the transnational psycho-spiritual market, in a process I have called "double assimilation". On the Western side, Amazonian shamanic cosmology and rituals are adapted to the psychotherapeutic notions and goals of a New Age urban middle/upper-class culture. On the Peruvian side, *curanderos* adapt their practices and discourse to the transnational spiritual market system, in a supply–demand relationship with Western people that offers economic returns, and public recognition (Apud, 2015b). So I decided to study not only the holistic center but also the other side of the coin: the shamanic Peruvian *vegetalismo*. Besides, one of the most important activities of the center was an ethno-touristic spiritual trip to Peru, which was done almost every year. At the time of my study, Ayariri was under the supervision of the *curandero* Orlando Chujandama, who hase the shamanic healing center Mushuk Pakarina (in Quechua, "New Dawn")

in the rural community Llucanayacu, in the district of Chazuta, San Martín. So I finally went there with the group.

Despite my initial plan, I was now doing a multisituated ethnography. Looking back , I think that the shift was unavoidable, considering that I was studying what James Clifford (1995 [1988]) called a post-cultural syncretic phenomenon, a new cultural invention produced by a multinational exchange. In this situation, ethnographic locality and thickness does not guarantee an accurate account of the group studied (Appadurai, 2001 [1996]), so the classical strategy of an ethnographer co-residing extensively and intensively in a static geographical and cultural place was not an appropriate methodological decision. As stated by George Marcus (1995), the multi-situated ethnography allowed me to follow the participants´ journey and stories through different places, which is especially relevant to the postmodern milieu, where cultural traits are not constrained by particular traditions, places or periods of time. I was moving with the Ayariri groupthrough different places and cities: Montevideo, Piriápolis, Tarapoto, Chachapoyas, Chazuta, Yurimaguas, etc., but, after all, it was the same group, and the thick aspect of the ethnography was there anyway. Although the places were different, the experiences in those places was interpreted from the same cultural locus within the group (Dumont, 2012).

The emergence of this kind of ethno-entheogenic tourist journeys can be traced back to the 1960s, when the countercultural and psychedelic movements from North America and Europe started to get interested in Latin-American shamanism. But it is in the 1990s that ayahuasca became a center of attention, as shamanic centers spread out from the local *curanderos* and offered their services to a Western population related to the psycho-spiritual networks, using the Internet as the new means of communication (Fotiou, 2010; Losonczy & Mesturini, 2010; Tupper, 2009). The trip with the group started on 22 September and finished on 8 October 2012, but the preparation started before, with the premise that the "journey has already began". The training for the journey included walks, exercises, retreats, conferences, yoga classes and ceremonies involving ayahuasca and other psychoactive plants. I analyzed the phenomenon as a "psychotherapeutic group", with a "psychotherapeutic contract" (everyone in the group had to explicitly verbalize a psychological request for treatment), and with an interpretive framework using both psychological terms (e.g. ideas such as "projection", or "elaboration"), and spiritual terms (the idea of a spiritual "cleansing", or the belief in a "mystical participation" where everything that happened was caused by a superior realm that was sending us clues about how to grow and heal). I also analyzed the group under Victor Turner´s ideas of *communitas* (Turner, 1977), since the journey was a kind of *liminal* voyage that allowed the different members of the group to redefine their social and psychological issues.

Figure 9. Rural community of Llucanayacu, where Orlando has his shamanic center Mushuk Pakarina. Photograph taken by me, October 2012.

The trip was the final activity of the research for my master's degree program. After the trip, I wrote the dissertation, and decided to put an end to the fieldwork with this specific group. But I had not finished with ayahuasca yet, since lots of questions were on hold. I felt I wanted to go deeper into the subject. Firstly, I wanted to see other places and *curanderos* from the Amazon forest, to have more first-hand experience of their activities, without restricting myself to one spiritual group with its own agenda. At this point a new trip was scheduled this time with Juan Scuro, an anthropologist and a friend of mine, with whom I had been discussing and exchanging ideas about ayahuasca almost since the beginning of my research. Juan was studying the Church of Santo Daime in Uruguay, and had managed to arrange to visit the main center of the Church in the Amazon Forest, Céu do Mapiá. We started our trip on 30 December 2013, and finally got to Mapiá on 2 January. We stayed in the house of Madrinha Brillante, whose hospitality and kindness were outstanding. We participated in the *trabalhos* and *feitios*, and met *Padrinho* Alfredo, the current leader of the Church. We stayed for ten days, until January 11. Our idea was not to stay in only one place but to see different places related to ayahuasca traditions. Later, we visited the city of Rio Branco and the other ayahuasca churches (UDV, Barquinha, Alto Santo). Finally we went to Peru, and participated in San Pedro and ayahuasca ceremonies.

Figure 10. Ethno-entheogenic tourism in Cusco, Peru. Photograph taken by me, February 2014.

A reflexive anthropology

One of the things that caught my attention while studying and researching into neoshamansim and ayahuasca was that many anthropologists and researchers were participants and/or believers in the practices studied. As I will discuss below, scholars, researchers and scientists from different disciplines contributed not only to an understanding of religious phenomena, but also to the creation of new religious and spiritual movements and practices. For example, perhaps neoshamanic practices could not have emerged without the publication of *The Teachings of Don Juan* by the anthropologist Carlos Castaneda, or even without the formulation of the shaman as a healer by Eliade and Lévi-Strauss. And perhaps the interest holistic centers have in psychedelics would not be the same without Maslow and Grof's transpersonal psychology. I realized that religiosity and spirituality were not only my object of study, but also part of an academic field, within the same disciplines and traditions from which I was analyzing the subject. Maybe for a religious or a spiritual person this juxtapositions between science and religion are not a big thing, but I was impressed, since I am agnostic and believe that science was founded in contraposition to the scholastic religious worldview, perhaps not excluding God, but at least spirits from the equation. So as a scholar I found myself using cultural and cognitive theories to explain religion and spirituality, and I was also in dialogue and discussion with other academic perspectives, some secular, other spiritual. I also discovered that religious commitment could be explicit or concealed in academic studies and theories.

In this situation I started to think about the different perspectives of what Irme Lakatos (1989) called Scientific Research Programs (henceforth SRPs), but with some differences, since the subject studied involves a wide diversity of theories and authors. Lakatos defined SRPs as having a "hard core" with a positive heuristic, which must remain "untouchable", and which is protected with a belt of "auxiliary hypothesis", a negative heuristic in the program. I borrowed Lakatos' idea, but used it in a more flexible way. The higher level units of research are what I shall call "Scientific Areas of Research" (SARs). SARs sometimes emerge at the initiative of a researcher or a group of researchers (e.g. Psychedelic Studies, or Cognitive Science of Religion), and others emerge spontaneously, through the accumulation of studies on one topic over time (e.g. studies on altered states of consciousness and rituals, or studies on Religious Experiences). In a SAR, there are SRPs and individual theories with their "hard core" and "auxiliary hypothesis", bringing their own explanations to the topic of the area studied, in dialogue and confrontation with other perspectives. In these programs, secular and religious trends are not necessarily explicit, and are both present to some extent or another. In some SRPs, certain schools and theories explicitly state that spiritual ontologies are their "hard core" beliefs – e.g. transpersonal perspectives – and in others the commitment to these beliefs is implied but not revealed in the theories – e.g. some scholars in the Cognitive Science of Religion.

From the very beginning of my research, as an ethnographer I felt that I should be a part of the research analysis, show how my own non-religious adscription interacted with the fieldwork, and describe my theoretical thinking and my commitment to a "hard core" of premises, using what in ethnography we usually call "reflexivity". I thought – and still think – that reflexivity is an essential analytical tool not only in anthropological research, but in scientific research in general, and every scientist, at least at some point in her or his career, should think about the scientific practice she/he is doing, and its social, cultural and political implications.

In this regard, anthropology is a good example of how an academic discipline can reflect and criticize itself, in order to avoid ethnocentrism and defend social and political causes. The beginnings of the discipline are usually described as having strong connections with imperialism and colonialism, since ethnographies of traditional cultures (the "non-Western others"), served as information about the different colonies in the first half of the 20th century. However, in the second half of the century, new generations of anthropologists started to do ethnography from peripheral places or critical perspectives. The distances between "we" and "others" got blurred, and the discipline also started to look into our own societies, in a progressive globalized and heterogeneous world. Anthropology started to criticize the ethnographical method itself, problematizing the idea of objectivity in the positivistic scientific sense of the term (Denzin &

Lincoln, 1994) and initiating a strong methodological debate about the authority of the ethnographer as a witness and translator of cultural facts (Geertz, 1989). Finally, and with a post-modern turn, anthropology put the focus on the reflexivity of the ethnographical styles of writing: its rhetorical mechanism of persuasion and verisimilitude (Atkinson & Hammersley, 1994; Guigou, 2010), and the experimentation of new ways of doing anthropological research (Clifford & Marcus, 1986 [1986]).

The discovery of the mechanisms of persuasion used in ethnographic writing obliged the ethnographer to put him/herself in the text as a first person, as part of the research analysis. According to Rossana Guber (2005) reflexivity came to the forefront in two senses. In a general sense, following the sociological formulation of reflexivity as the capacity of social agents to follow and break their social norms and constrictions. And in a specific sense, as both researcher and the subjects studied being included as agents with their own reflexivity, in a game of mirrors in which identities are negotiated during the interactions, and both parts of the equations have their own social and cultural biases. In the particular case of my own research in ayahuasca networks, I tried to expose my subjectivity as a non-spiritual person, and reflect about my fieldwork interactions during the research, the theoretical decisions which depended on my position on how it is best to undertake the scientific study of religion, and how all these things influenced the negotiation of roles during the research, the data collected, and the final results in the text.

Last but not least, reflexivity implies that the theories that we use to explain the social phenomena studied must also be used to explain ourselves as social agents in particular social conditions and practices (Bloor, 1976). In this regard, thinking of myself as undertaking academic activities in different SARs, affiliated to particular theoretical frameworks, and interacting with other scholars with their own secular or spiritual trajectories and experiences, was a good idea to continue with my fieldwork, this time in Catalonia. I was hoping to study the therapeutic use of ayahuasca in academic initiatives such as the one by the anthropologist Josep Maria Fericgla, and Josep Maria Fábregas' famous addiction treatment center, IDEAA (Instituto de Etnopsicología Amazónica Aplicada; in English "Institute of Applied Amazonian Ethnopsychology"). As I have mentioned above, my aim was to understand the relation between science, medicine, and spiritualities in the particular case of ayahuasca but also in the big picture of science in general.

Section II

Medicine, Science, Spirituality, and Ayahuasca in Catalonia

Arrival in Catalonia

With lots of ideas and unanswered questions, I finished my pilgrimage to various Latin American ayahuasca places. My fieldwork on ayahuasca was an excellent opportunity to connect my different interests. I was studying not only religious beliefs, but also experiencing and recording the spiritual experiences of all the people who pass through these networks. I was studying not only traditional medicines but also psychotherapeutic Western ones, in between science and religion. I was doing not only an anthropology of religion, but also an anthropology of science, and I was reflecting on the relations between science and religion. I was trying to understand the Altered States of Consciousness produced by ayahuasca not only from a cultural perspective but also from a cognitive one, and subject both to a fruitful analysis.

Studying ayahuasca rituals in Spain was a great opportunity, because the country is one of the most important routes of ayahuasca networks in Europe. I was interested in two particular experiences in Barcelona: the experience of the psychiatrist Josep Maria Fábregas, who used ayahuasca to treat addictions, and the experience of the anthropologist Josep Maria Fericgla, who started to conduct ayahuasca ceremonies after his fieldwork with the Shuar people of the Amazon Rainforest. In both cases I could work with all the questions I was exploring, especially the appropriation of ayahuasca as an alternative medical treatment by Western academic disciplines such as psychiatry and anthropology. I had the good luck to obtain a scholarship from the government of my country to come to study in the Doctoral Program of Anthropology at the Universitat Rovira i Virgili in Tarragona, under the MARC. I had first heard of the research group several years before, when I was researching into mental health and interested in medical anthropology perspectives on psychiatry, exclusion and mental health institutions. So being part of the MARC was an important step to continue working on the relations between medicine, religion and ayahuasca. Besides, although there were lots of articles about ayahuasca as a traditional healing practice, not many were written from the perspective of medical anthropology.

My first fieldwork activity in Catalonia was to interview both Fábregas and Fericgla, not only to collect data about their projects but also to open up the fieldwork and have the opportunity to study some of the patients they treated. In this respect, Fábregas and some of his former collaborators eventually helped me to access some former patients and to contact other groups. These were the beginnings of my research, it was December 2014, and I was focusing on the big picture of ayahuasca in Spain, trying to figure out how to understand ayahuasca networks at the crossroads between science, spirituality, religion and medicine.

Three Articles on the intersections between medicine, science, and religion

After interviewing Fábregas, Fericgla, and other therapists/directors of ayahuasca ceremonies, and taking part in some ceremonies in Catalonia, I started to write about the intersections between medicine, science and religion in three different articles. Firstly, and in collaboration with my supervisor Oriol Romaní, the article "Medicine, religion and ayahuasca in Catalonia. Considering ayahuasca networks from a medical anthropology perspective". In this article we analyzed ayahuasca networks as medical systems, using categories from a critical medical anthropology perspective. The main idea was to describe ayahuasca rituals as cultural practices in different medical systems, in a pluralistic medical context in which mainstream biomedical system is only one approach to health problems. The hegemony of biomedicine is described as the result of the process of medicalization, which involved a cluster of scientific, social, economic, political, and religious factors that resulted in the control of healing practices, and the delegitimization of those practices that did not fit in the biomedical standards of health care. But this historical process did not make other folkloric and religious health practices disappear. It made them operate in informal networks, in a constant tension with mainstream biomedical actors and organizations. To illustrate the point, we use the case of Catalonia, through examples of the therapeutic itineraries of some of the participants.

The second article is "Science, spirituality and ayahuasca. The problem of consciousness and spiritual ontologies in the academy", in which I analyze ayahuasca spiritualities in the general context of the demarcation problem between science and religion, using some examples from Spain. I propose that the demarcation criteria between science and religion are deeply related to the problem of what consciousness is, and how it must be used to reach a body of reliable knowledge. I define religion/spirituality as a system of beliefs related to the idea of consciousness as independent from the natural world, and mostly interacting with other spiritual beings. I called this core idea "spiritual ontology", and regarded it as separate from natural – physical, biological, and normal psychological – domains. This intuitive belief is possible because consciousness is not always grounded in reality: there are different states of consciousness, including those associated with dreaming and intoxications. This idea responds in some way to the notion of dreams and ASC phenomena as the origin of the belief in spirits, and therefore as the root of religious beliefs, an old idea in anthropology (e.g. Tylor, 1977 [1871]). But having a spiritual experience does not necessarily lead to commitment to a spiritual doctrine or path. One case is my own experience. As I have described above, my first strong experience with the ayahuasca brew was a turning point in my life. Since then, I have seen spirits and all kinds of strange things. I have participated in more than 80 ceremonies, and I have listened and recorded a variety of supernatural testimonies, but I

still consider myself a sceptic. I guess I sometimes have my methodological – and always healthy – doubts about these phenomena, but I have always tried to explain these experiences scientifically, and when I do not have an answer, I accept my intellectual limitations. But ASCs are quite different for various reasons – which I shall try to analyze in the next sections. They involve not only aesthetic experiences or visions, but also profound emotional experiences, and they often trigger cognitive mechanisms related to social cognition and suggestion, so they tend to affect different mechanisms related to the fixation of ideas and the establishment of personal commitment. Besides, the healing mechanisms related to ASCs and religious practices – which I shall identify in the next chapters – make the experience more reliable, since they seem to affect not only the out-of-the-ordinary world, but our common daily life, through changes in our psychological, social and even physical well-being.

In a third article entitled "Pharmacology of consciousness or pharmacology of spirituality? A historical review of psychedelic clinical studies", I analyze the intersections between academy, spirituality and psychotherapy, but focus on the history of psychedelic research. I analyze the change from a pharmacology of consciousness, constructed under a psychoanalytic milieu, to a pharmacology of spirituality, developed from psychology through new spiritual perspectives. In the article I also briefly mention the case of ayahuasca in recent decades. I try to show how the passage from a pharmacology of consciousness to a pharmacology of spirituality was not only a consequence of the discovery of spiritual conversion as a psychological catalyst of positive changes in the patients, but also the result of the personal experiences of the researchers with those substances, which produced in them emotional, intellectual and professional commitments. These personal experiences do not remain unsolved within the heart of the scientist, but often trigger an intellectual conversion that lead to new perspectives, schools and theories. Scientists are not only scientists; they also have other affiliations, trajectories and desires. And all these sides of the individual are not totally disconnected. As post-modern theories point out, it is true that identity is always more or less fragmented and heteroglossic. But it is also true that human beings are particularly concerned with constructing a cogent and unified version of themselves. Both movements of fragmentation and unification exist at a psychological and cultural level, and in these movements, individuals, naturally born as bio-psychological units, act as nodes, trying to connect and synthesize the different versions of themselves. Researchers such as Grof, Naranjo and Fericgla used psychedelics on themselves, and had meaningful experiences that produced different kinds of commitment with the brew, and different theoretical and therapeutic perspectives and movements.

Spiritual experiences with ayahuasca and the founders of two centers

To illustrate this point, and before moving on to the articles, I would like to briefly compare the case of Jacques Mabit – founder of Takiwasi, a Peruvian center that uses ayahuasca to treat addictions – with the case of Josep Maria Fábregas – founder of IDEAA, the Spanish addiction treatment center that operated in Brazil. As has been mentioned above, Mabit is a French psychiatrist who founded the first center to use ayahuasca as a medicine for addictions. But besides this, there is a Mabit with different personal trajectories, in dialogue and confrontation: his training as a scientist and doctor, his vocation as a healer, his Catholic cultural background. He studied tropical medicine in France and started to work in the NGO Médecins sans Frontières in Africa. Then, in 1980 he finally visited Peru for three years, where he met different healers. It was an experience that called his biomedical background into question:

> I noticed that they would work on both the physical and the psychological level – a holistic approach. I didn't understand exactly what they were doing but I could see that it was effective. At the same time I had some personal, existential questions about my life, the meaning of life and so on. I felt there was a lack of soul in western medicine. I never believed in politics and I couldn't see the door in institutionalised religion at that moment. But I felt that the traditional healers knew something and that I should seek them out (Mabit interviewed in Saunders & Dashwood, 1997).

Confronted by what seemed to be a cultural shock, Mabit returned to France with these "existential questions". His spiritual quest and his scientific background did not fit in a complementary worldview. In 1984 he visited Calcutta, in an attempt to meet Mother Teresa, in one of the institutions where her nuns worked, but she was not there. During his visit a nun asked him to help a dying man. Mabit accepted but, incapable of making the patient better, he felt lost and powerless. He went back to the hotel. The experience brought him to a psychological crisis. Firstly sadness, existential doubts, and darkness. Then, some memories of a "light", buried within his stomach, like a chakra waiting to be awaken (Del Bosque, 2011). This revelation started a new path for Mabit. He went back to Peru looking for new answers, working as a doctor, and meeting different *curanderos* who started to teach him their traditional knowledge. He also drank ayahuasca for the first time:

> In 1986 I had my first ayahuasca session. I was terrified by what I might experience, but nothing happened! So I took it a second time and within five minutes I was inside the experience. I experienced death – I was fighting giants and snakes and I was being pulled inside a very deep black hole... I was fighting for my life and it forced me to see what life really was. At one point I accepted that I would have to die and everything was finished and I had been very stupid to come to the jungle to die but it was time and, in the end, Jacques is not important. But at that moment everything changed and suddenly I understood many things, saw a lot of connections, and in that one moment 10 years of previous psychoanalysis became clear (Mabit interviewed in Saunders & Dashwood, 1997).

After this first experience, Mabit continued drinking ayahuasca and learning from curanderos, until the spirits of the jungle entrusted him a new mission:

> …one day I decided to cross the forbidden line, lose my scientific objectivity and go through the experience. And then I drank with *curanderos* and it was a revelation […] I had a strong vision, where

> I saw a circle of people, twelve individuals who looked as if they were a jury, an examination panel or something like that, all sitting. I was standing in front of them and they told me "We are the guardian spirits of the Rainforest". I did not even know that they existed, that something like this could even exist. "Why are you drinking ayahuasca? What do you want?" I told them that I wanted to learn this medicine. Then they consulted each other, and the president of the jury – for want of a better term –, who was in the center, the boss, he told me that, well, "you are authorized to come through this territory. But for you, the path will be …" And I saw myself treating addicts. That was a big surprise… (Interview with Jacques Mabit in Scuro, 2016, p. 113. Translated from Spanish by me).

Mabit´s narrative of his experience is a turning point in his life, and in some ways solved his spiritual crisis and reconciled his spirituality with his vocation as a healer, but to the detriment of his scientific materialistic biomedical education. This aspect of his new worldview is reflected not only in his personal testimonies, but also in the ideas defended by Takiwasi as a center:

> For the therapist of the center (and also for us), today it is unthinkable to deny the spiritual world in which healing beings move, as well as the spirits of the plants, of the sacred animals, of water, fire, air, earth and aether as a vital energy that moves us, too. It is also unthinkable to separate human beings from these beings, or see illnesses as a cause-effect-remedy, as biomedicine does (Cárcamo & Obreque, 2008, p. 34. Translated from Spanish by me).

In the Takiwasi worldview, addictions are an illness produced by Western lifestyles and values. Western culture is part of a transgressive society that reifies, hyper-rationalizes, and dissects human beings; a materialistic worldview that separates culture and nature, spirit and matter, and is incapable of being aware of the holistic nature and spiritual reality of every one of us.

The second case I want to describe is Josep Maria Fábregas, founder of IDEAA, who deals with this tension between biomedical and traditional worldviews in a different way. Fábregas, has a more pragmatic therapeutic approach, and a scientific and moderate discourse on the relation between ayahuasca and addictions, and between science and spirituality. He decided to study psychiatry after discounting being a surgeon because it was too "cold" and did not allow him to meet the patients in a more personal manner. At the beginnings of his practice, he worked in an emergency psychiatric room of the Barcelona City Council,

> When I was young, the sixth North American Navy came to the Port of Barcelona. And when the marines got off the ships, there were like three or four thousand marines in one stroke, and there were always problems […] guys taking methamphetamines, heroine… because they were in the Vietnam War […] Intoxicated people came to the emergency room who most of the doctors had never seen in their lives! […] And when these guys came, the director said, "Hey you! The young man with long hair! You should deal with this!" And I found the experience really interesting, and that was why I started to travel around the world, trying to get to know all the various sorts of psychoactive substances… (Interview with Fábregas, 2 December, 2016).

Fábregas was intrigued by the effects of drugs on consciousness, as well as their side effects, both the negative ones related to addictions and the positive ones related to the folkloric healing traditions that he started to get interested in through the ethnopsychiatric studies of that time. When he was 25 years old he tried LSD for the first time, because he was interested in the effects of the substance, at at time that descriptions were not easy to find in the psychiatric literature,

> It was the time of LSD, mescaline, and peyote, and I wanted to find out about the different psychoactive substances in the world […] There was the *Pharmacotheon* [the book by Jonathan Ott], and all this literature, which is why I was interested in the *huicholes,* in peyote as a healing psychoactive substance, and in ethnopsychiatry. And there was also Fericgla, with whom we organized very interesting meetings, inviting people like Ott, Hofmann and others…

The cultural background in which Fábregas started his inquiries about hallucinogens is related to this academic tradition of psychedelic studies, which is also connected with the psycho-spiritual networks interested in the psychedelic movement and in the use of these substances as gateways to the spiritual realm. As I say in *Science, Spirituality, and Ayahuasca*, although the spiritual ontologies in science can be traced back to various movements, including spiritualism, the arrival of ayahuasca in Spain is more connected to other traditions such as the anthropological interest in shamanism and psychedelic experimentation. This is not a consequence of the absence of a spiritualist movement which, despite never having been institutionalized has been present in Spain at least since the end of the 19th century (Graus Ferrer, 2014; Vigna Vilches, 2015), and was particularly attractive for Catalan heterodox groups such as anarchists, masons, anticlerics, and free thinkers (Horta, 2001, 2004). But the popularization of ayahuasca, both in Spain and internationally, has been influenced by the psychedelic movement, holistic therapies, the new spiritual psychologies, neo-shamanism in its anthropological reformulation, and the scientific therapeutic applications of psychedelics.

Interested both professionally and intellectually in psychoactive substances, Fábregas started to travel to places like Peru, Mexico, and Thailand. On his trip to the Amazon Rainforest while he was working on programs to eradicate Malaria with the NGO Farmacéuticos Mundi, he met *curanderos* so he had better access to the communities and became aware of ayahuasca for the first time. But the first step in the creation of IDEAA was not in Latin America but in Ibiza in 1993, when the leader of Santo Daime/CEFLURIS, Padrinho Alfredo, was on the island. So he decided to meet him, and one year later, while he was in Mexico, he decided to go all the way down to Céu do Mapiá to visit Padrinho Alfredo again:

> When we arrived Madrinha Rita and Padrinho Alfredo had had a vision, about the coming of an outsider who would help them […] They gave us a really good welcome […] And one day I went to their hospital and they had nothing… nothing! So I started to bring them medicines, lots of medicines, and we started a program to eradicate malaria…

After this first visit, Fábregas started to go regularly to Brazil and Mapiá, something that finally ended with the creation of IDEAA. The first project was in Belo Horizonte, where Fábregas started to send patients to a *damista* doctor called Apolo. At that time, there was no structured therapeutic protocol. According to Fábregas, the project began with the need to solve certain therapeutic demands, including the most extreme and resistant cases of addictions,

> The first patient I sent there… I want to explain how the idea came about. He came to visit me to say goodbye because he was going to commit suicide. He was a former patient from the clinic, who

> was being rehabilitated but had been diagnosed with AIDS in an advanced stage. He explained to me that life was meaningless to him and he wanted to commit suicide, and as he regarded me as an important person in his life because he had been detoxed and rehabilitated in my clinic, he had the duty to say goodbye to the people in his life who were important. He was going through the whole process of saying goodbye to people […] And I told him, "OK, go to Madrid, say goodbye to your mother, and if after this you still think that you want to die… you told me once that you owed me a favor… so come to see me again because I want to try one thing…". So he went to visit his mother, and when he came back I told him, "I have a proposition for you, I want you to give me six months of your life…" And he was the first patient we have in IDEAA… He died seven years later of AIDS, but he was happy and he managed to change his entire life… this was in the year 2000.

After this first patient, six more patients took part in the Belo Horizonte project. The patients stayed in Apolo's house, where there were facilities for patients and ceremonies. Finally in 2002, and on the advice of friends, specialists and Padrinho Alfredo, the project finally moved to Prato Raso, a place near Céu do Mapiá. According to Fábregas more than one hundred patients have been treated since the institute was founded (the exact information with this kind of detail was lost when the person who held all the documentation died).

As can be inferred from Fábregas´ testimonies, he is different from Mabit, since he did not undergo the big experience of conversion. It could be said that Fábregas is more "psycholytic" than "psychedelic", if we use this old distinction. In this respect, when asked about his own experiences with ayahuasca and how they affected the project, Fábregas said:

> For more than twenty years I attended the rituals of Santo Daime, of the native people who invited me to their villages, and the rituals conducted at IDEAA […] I was always interested in whether my own experiences or the experiences of others were capable of causing introspection and change… of supplying knowledge about oneself… I think that [ayahuasca] has a potential for self-knowledge that can hardly be improved. The opportunity to delve deeper into love and emotions, to revive remembrances, to evoke traumas, all these things make ayahuasca an effective therapeutic tool for such things as post-traumatic stress, addictions. But like all medicines it also has some counter indications. I always point this out.

Fábregas perspective is more pragmatic, and his personal experiences less spectacular and more moderate than Mabit's. Maybe this is one of the reasons for the differences in style of the two centers. In Mabit's case, his biographical narrative is characterized by a chain of existential and religious crises and conversions; in Fábregas there is more an intellectual scientific curiosity about entheogens and its applications, in a milieu in which ethnopsychiatric accounts of drugs moved between the tensions of considering hallucinogens as dangerous drugs or as ethnotherapeutic tools. Fábregas is skeptical about the "ontology of spirituality", and his intention is to reach a certain objectivity without being disrespectful with the beliefs of others, or with the spiritual experiences that could occur during the ceremonies,

> Spirituality was respected, but not induced. It was a personal process, of connection, but not a doctrine, only a space where these kinds of experience could occur. […] We made no judgments, things just happened. Some people only saw kaleidoscopic images, and others talked with spirits, and they all joined in with no problems […] We said that these things were more a way to express what each one of us felt… but we were very wary of making judgments […] We understood these

> feelings of unity and mystical connections […] we did not have codes associated to the experiences, but wider meanings, about the connection of oneself to the whole, or to nature… all of this was welcome because it was a wakeup call to the emotions… we attached the same value to the Jaguar and the Virgin Maria. We understood them as projections that everyone uses to express something…

As we will see in the article "Ayahuasca in the treatment of addictions. Study of four cases treated in IDEAA", this therapeutic style is important for understanding the experiences of the patients treated in IDEAA, since the institutional and ritualistic context created in the center worked as a space of support, with a minimum range of indoctrination. Besides, the model created at IDEAA will be an influence for the therapists and patients who were involved, and who will set up centers and hold ceremonies in Catalonia, after IDEAA has closed.

Articles in section II

- Apud, Ismael & Romaní, Oriol. (2017) Medicine, religion and ayahuasca in Catalonia. Considering ayahuasca networks from a medical anthropology perspective. *The International Journal of Drug Policy*, 39, 28–36.
  Online: http://dx.doi.org/10.1016/j.drugpo.2016.07.011
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- Apud, Ismael (2017) Science, Spirituality, and Ayahuasca. The problem of consciousness and spiritual ontologies in the academy. *Zygon. Journal of Religion and Science*, 52(1), 100–123.
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- Apud, Ismael (2017) Pharmacology of Consciousness or Pharmacology of Spirituality? a historical review of psychedelic clinical studies. *The Journal of Transpersonal Psychology*, 48 (2), 150-167.
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Medicine, religion and ayahuasca in Catalonia. Considering ayahuasca networks from a medical anthropology perspective

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ABSTRACT

Ayahuasca is a psychoactive beverage from the Amazon, traditionally used by indigenous and mestizo populations in the region. Widespread international use of the beverage began in the 1990s in both secular contexts and religious/spiritual networks. This article offers an analysis of these networks as health care systems in general and for the case of Spain and specifically Catalonia, describing the emergence and characteristics of their groups, and the therapeutic itineraries of some participants. The medical anthropology perspective we take enables us to reflect on the relationship between medicine and religion, and problematize the tensions between medicalization and medical pluralism. Closely linked to the process of medicalization, we also analyze prohibitionist drug policies and their tensions and conflicts with the use of ayahuasca in ritual and 'health care' contexts. The paper ends with a reflection on the problem of ayahuasca as 'medicine', since the connection between religion and medicine is a very difficult one to separate.

Contents

Introduction

Ayahuasca is a psychoactive beverage traditionally used by indigenous and mestizo populations in the Amazon basin. The beverage usually consists of a blend of two plants, *Banisteriopsis caapi* and *Psychotria viridis*, although they may be substituted by other plants and preparations can vary among religious groups or the healers who concoct it. The *B. caapi* vine is widespread in the Amazon rainforest and its primary active ingredients are derived from beta-carbolines, mainly harmine, harmaline and tetrahydroharmine. The main active ingredient of the shrub *P. viridis*, also commonly found in the rainforest, is *N,N*-dimethyltryptamine (DMT), an indole alkaloid similar to serotonin (5-hydroxytryptamine, or 5-HT).

There are various traditions or ways of using the beverage throughout the Amazon Basin and its historical and cultural origins

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are uncertain. The name comes from Quechua, where *aya*, means spirit or dead person, and *huaska*, vine or rope. It has been translated as 'vine of the spirits' or 'vine of the dead'. Its widespread use across the Amazon region is reflected in the variety of names by which it is known: in Colombia the Tukano name *yagé* or *yajé* is used, in Ecuador the Shuar term *natém*, and in Brazil it is known as *Daime* and *hoasca*. Although its consumption originated among the tribes of the Amazon Basin, the brew has gradually become popular in the west; in the 1980s ceremonies began to take place in urban contexts; various Brazilian churches were also founded during the twentieth century.

From the 1990s onwards ayahuasca became more internationally visible partly as a result of the frequent exchanges between foreigners and specialist native shamans, and the rapid transnationalisation process of the churches emerging in Brazil. Ayahuasca is now widely used internationally as well as in the Amazon region, and in very diverse contexts, both religious and secular. This wide spectrum of ayahuasca usages ranges from applications for healing purposes to uses linked to a set of mystical-spiritual activities that fall within what are known as 'New Age informal networks' (Rothstein, 2001).

In what follows we propose an analysis of these spiritual/religious networks as health care systems from a critical medical anthropology perspective (Singer, 2004), and particularly, as it has been developed by our Medical Anthropology Research Center (MARC, Universitat Rovira i Virgili, Tarragona). We begin by describing the core concepts of this approach in the first part of the article, introducing some key questions in medical anthropology: what is the relationship between medicine and religion? What role do modern western medicine (henceforth: biomedicine) and the medicalization process play in making this relationship invisible? And how do we understand the plurality of medical systems? We explore the use of ayahuasca as a cultural practice circulating in different medical systems, with a focus on the therapeutic uses within the spiritual/religious networks of Spain and especially Catalonia. Next, we use ethnographic examples from our fieldwork, describing aspects of the therapeutic itineraries of some of the participants, and their intersection between medicine, and religion/spirituality. As we will see, all the participants highlight the increased 'introspection' produced during the sessions, and consider this phenomenon an important therapeutic effect of the brew.

In the second part of the paper we return to the problem of medicalization within its relationship with drug policies and the prohibitionist model. We analyze the case of ayahuasca at both an international level and in Spain, taking into account the tensions between prohibitionist legal frameworks on the one hand and human rights and religious freedom on the other. Finally, we report on the legal exceptions that allow the use of psychoactive drugs like ayahuasca on the grounds of religious freedom, and reflect on their prohibition as 'medicines', bearing in mind the strong connection between religion and medicine that is not easily broken. Summarizing, our main objective is to analyze ayahuasca networks as informal medical systems, including tensions with both the biomedical system and the international drug regulatory framework. We focus on the case of Spain, and especially Catalonia, describing the emergence and characteristics of their groups, and the therapeutic itineraries of some participants.

Medicine, medicalization, and medical pluralism from a critical medical anthropology perspective

As with other practical knowledge, in the broadest sense medicine is an inherent and universal activity among human beings. Following Canguilhem (1991), we might describe it as an activity that in its core aspects involves '... the living being's spontaneous effort to dominate the environment and organize it according to his values as a living being.' (p. 228). This natural effort is common to every living being, but takes on unique characteristics in humans as social beings capable of complex cultural achievements. This 'medical' impulse is materialized in our species through institutions, knowledge and socio-cultural practices, which allow life styles – in the holistic sense given by Menéndez (1998) – to be produced and reproduced. Supply and demand of health care is therefore a structural and universal phenomenon, over and above its continual transformation and cultural variability (Comelles, 1997).

Every society has its methods of healing in situations of crisis and illness, and its interpretations of their causes. The origins of medicine cannot therefore be limited to a set of practices and knowledge drawn from biomedicine. As a practice that involves care in the health-illness process, medicine must be framed within a universal anthropological history where medicine and religion were not initially separated. This is the case of the 'shamanic complex' for instance, studied from various perspectives as a 'healing' mechanism (Winkelman, 2010).

We might say that a health care system in a given society involves all the practices and knowledge related to the causes and treatment of the health-illness problems. This conception implies that the agents connected to a health system are not necessarily only those authorized or explicitly charged with care in this field. They could also include actors who participate in care in the health-illness process, but not explicitly or centrally (for example, religious institutions), those that intervene despite being made invisible by the hegemonic biomedical system (for example, traditional healing practices or a large number of alternative therapies), or that are directly prohibited (for example, the use of psychoactive substances as a therapeutic resource).

Considering medicine within this wide conception of cultural systems also involves understanding the process by which biomedicine became hegemonic. This process is usually termed 'medicalization' and involves both the appropriation of the health care field, and the control and delegitimization of other competing practices within it. As Foucault (1991) states, since the end of the eighteenth century the medicalization process has constructed an increasingly dense and widespread network of surveillance and self-surveillance, resulting in the disciplining of behavior and the normalization of bodies/subjects. The State's role in this process is fundamental, providing the legitimization that allows social control by the medical profession. It is not, however, without its contradictions (Canals & Romaní, 1996), since this assumption of control and legitimacy does not invalidate other medical practices, but rather introduces a constant tension between hegemony and subordination in health care networks that go beyond those of biomedicine. This characteristic common to all medical systems is known as 'medical pluralism' (Singer & Baer, 2012).

Medical pluralism is an intrinsic feature of all societies in every time and place (Menéndez, 2005). Hence, although medical practice is considered to be exclusive to biomedicine, other forms of care continue functioning at the same time. To understand the plurality of care modalities in a given field we have to understand health systems as networks that spread within a given population and that can be either formal or informal, legitimate or prohibited, made invisible or promoted (Chrisman & Kleinman, 1983). These networks make up a diverse health care supply that ties in with an equally heterogeneous demand. Haro Encinas (2000) identifies four basic forms of health care, namely: (i) self-care (universal; linked to the individual, the domestic group, and the informal networks in his or her environment); (ii) professional medical care, (hegemonic and legitimate from the dominant point of view); (iii) self-help and self-management (associated with organized groups with therapeutic aims); (iv) alternative care (frequently

delegitimized, with many forms and varied historical and cultural backgrounds, such as seers, healers, midwives, herbalists, homeopathists, and New Age currents). The struggle for legitimacy is mainly between biomedical knowledge and the rest, and leads to dynamic repeated negotiations and power bids.

A medical system can therefore be understood as the sum of medical subsystems that coexist with different degrees of cooperation and competence. As plurality is a universal phenomenon in the medical system as a whole, Baer (2004) differentiates between 'plural' and 'pluralist' systems:

> 'National medical systems in the modern world tend to be "plural" rather than "pluralistic" in that biomedicine enjoys a dominant status over heterodox and/or folk medical practices. In reality, plural medical systems may be described as "dominative" in that one medical system generally enjoys a preeminent status vis-à-vis other medical systems. While within the context of a dominative medical system one system attempts to exert, with the support of social elites, dominance over other medical systems, people are quite capable of "dual use" of distinct medical systems.' (p. 111)

Baer mentions the cases of India, Zaire, Bolivia, Haiti, and Japan as pluralist medical systems, and also notes the increasing incorporation of alternative therapies in the United States such as homeopathy, herbalism, acupuncture and attempts made to establish a more 'integrative' medicine.

In recent years non-hegemonic knowledge and practices have met with greater recognition, and the importance of exploiting different health strategies is gaining acceptance in light of the difficulties some sections of society face in accessing health services. One example is the WHO's Traditional Medicine Strategy 2002–2005 (WHO, 2002), which accepts the need for a plurality of care and advocates the availability of traditional medicine for rational use. This need not only involves respect for the traditions of other peoples, but also the need for as many health alternatives as possible in the third world, in a context of the health crisis that began in the 1960s.

In western societies, the popularization of new therapeutic alternatives to biomedicine goes back to the 1960s, against the background of a general lack of belief in the paradigm of modern western emancipation that Lyotard (1993) termed 'postmodernism'. Severe criticism was made of heavily commercialized medicine, of biomedicine for its social control rather than healing functions, and for its iatrogenic effects and malpractice (Menéndez, 2005). On an international level the failure of programs to eliminate third world hunger was patent, world health indicators were deteriorating in rich countries (Comelles & Martínez Hernáez, 1993), and there was a clear need for new health strategies, set out in the Declaration of Alma-Ata (WHO, 1978).

In this context many users of the biomedical system began to seek alternative forms of care, essentially because the linear biomedical model was beginning to fail in cases of chronic problems, where multi-causality and the considerable impact of social and behavioral factors play an important role in prevention and people's quality of life (Guix, 2013). The search began for new alternative models, mainly through western imaginaries of more exotic otherness, such as the 'good savage' (Taussig, 1993) or the mysterious 'Orient' (Said, 1994).

Ayahuasca and medical pluralism

It was Kleinman (1980) who brought back Clifford Geertz's 'cultural system' concept to analyze biomedicine in the same way as any other medical system through the concept of the health care system. The inclusion of biomedicine in the field of anthropology implies a suspension or rupture in the criteria of epistemological demarcation between belief and science (Martínez Hernáez, 2008), which allows critical analysis of biomedical practice and the possibility of considering other social practices as medical practices. These might include religious/spiritual practices, banished to the sphere of 'superstition' or 'charlatanism' by modern hegemonic knowledge. From medical anthropology (Vallverdú, 2010) but also from other fields such as the cognitive sciences of religion (e.g. Sibley & Bulbulia, 2012), great interest has been shown in the phenomenon of the 'religious cure', clearly evidencing the close relationship between religion and medicine in ritual and symbolic healing modalities.

From a critical medical anthropology perspective we therefore propose considering health care systems within a broader conceptual and analytical framework involving not only health institutions in the modern sense, but also informal, traditional or religious institutions. Ayahuasca use can thus be considered within the frame of the plurality of medical systems, which are generally in tension or conflict with hegemonic systems. Since ayahuasca use now occurs widely across the world, it would be difficult to establish a general model of its use, which hinders precise categorization of the wide variety of practices related to the brew. We can, however, refer to three different historical moments in the cultural and social innovations surrounding it. These three moments signal not only the emergence of new groups, but also cultural changes in previous ones, through different processes of cultural diffusion, syncretism and transnationalization.

Initially there was the traditional use associated with the invention of the beverage by native Amazon populations in a period that is difficult to pinpoint in time. This period includes a range of peoples and ethnic groups on the American continent. Luna (1986) listed 72 tribes using the brew, including the *Tukano* in Colombia and Brazil, the *Shipibo-Conibo* in Peru, and the *Shuar* in Ecuador. This historical moment could also include the *vegetalistas* of the rural – not tribal – areas along the Amazon River, descendants of Indians or the unions between groups of various origins. All these groups use ayahuasca within the framework of a native pharmacopeia, and in Baer's terms, in 'pluralistic' type systems of community care. The practice of healing in these contexts is firmly linked to magic and witchcraft (Luna, 1986), and in general ayahuasca is just another plant in a varied and extensive native pharmacopeia (Bussmann & Sharon, 2006).

A second historical moment is related to the birth of the churches in Brazil, the most important of which are *Santo Daime*, *Barquinha* and *União do Vegetal* (UDV). They are the result of a particular syncretism between Umbandism, Kardecian spiritism, popular Catholicism, and Amazonian shamanism, combined in different ways in each church. They originated at the beginning of the twentieth century with the extraction of rubber in the Amazonia of north west Brazil, when poor families – for the most part black, mestizo and mulatto – began to settle in the state of Acre as part of the workforce known as *soldados da borracha*, or 'rubber soldiers' (Goulart, 2008). The rubber workers came into contact with ayahuasca, using it for diagnosis and healing in a region where medical and health care were practically nonexistent. This context of extreme poverty and appalling sanitary conditions saw the appearance of the first churches to use ayahuasca, promoted in the main by Mestre Irineu Raimundo Serra. Goulart (2008) writes that ayahuasca first emerged as a healing method in what were known as '*sessões*' or '*trabalhos*'. The first tensions with the State came with accusations that 'traditional healing' was being carried out, which amounted to an illegal practice of medicine. This experience was similar for groups related to the Umbanda religion, in a struggle between popular practices and the consolidation of an official, modern medicine (Goulart, 2008).

A third moment came with the gradual transnationalization of ayahuasca in recent decades; in the 1990s ayahuasca routes began to gain strength and popularity at an international level. On one hand, the New Age networks (Rothstein, 2001) saw the coming together of various religious-spiritual-therapeutic contents: holistic centers, alternative individual therapies, homeopathy, Chinese medicine, yoga schools, ethnic and ecotourism, meditation, holotropic breathwork, New Age, neoshamanism, spiritism, transpersonal psychology, and Gestalt psychology. On the other hand, and partly involved in these networks although with a great deal more formalization and religious structure, are the Brazilian churches, mainly the Santo Daime and UDV, which have become popular and spread widely at an international level (Labate & Cavnar, 2014; Santana de Rose, 2006). Finally, mention should be made of the therapeutic centers set up in several countries in an attempt to combine western and traditional medicine particularly in the treatment of addictions: *Runawasi* in Buenos Aires (Argentina), *Takiwasi* in Tarapoto (Peru), the Institute of Applied Amazonian Ethnopsychology (IDEAA) in Spain and Brazil, among others.

Ayahuasca and medical pluralism in Spain and Catalonia

According to Perdiguero (2004), complementary and alternative medicines arrived fairly late in Spain and began to acquire visibility after the dictatorship. They are mainly used by upper and middle class women, mirroring the pattern seen in the rest of the world. However, according to Perdiguero, comprehensive data are only available for Catalonia, while the reality of medical pluralism in the rest of Spain has yet to be explored in depth.

Within this plurality of care in Catalonia there are several streams related to what Prat et al. (2012) call the 'new cultural imaginaries' and that cover three categories: (1) oriental spiritualities (e.g. yoga, Vedanta, tai-chi, Buddhism), (2) natural/holistic therapies (homeopathy, reflexology, music therapy, phytotherapy), and (3) esoteric knowledge (gnostic and hermetic currents, occultism, and neoshamanic practices such as those related to ayahuasca). Both Prat et al. and Perdiguero highlight, as mentioned above, the predominantly female population (between 60 and 90% in the cases studied by the authors in Catalonia). The reasons why people attend are diverse: family history, personal crisis, personal investigation, the search for a sense of community, physical, psychological and/or spiritual wellbeing, among others.

The history of ayahuasca in Spain cannot be divorced from that of psychedelic drugs in general, in their religious/spiritual, recreational and scientific uses. According to Usó (2001), Spain came early to research on the psychotherapeutic properties of psychedelic drugs in the mid-1950s. Doctors began studying the properties of a range of substances: Ramón Sarró (Professor of Psychiatry at the Universitat de Barcelona) conducted therapeutic studies with LSD; Marti Granell explored the use of psilocybin to treat obsessive neurosis, and Juan José López Ibor ran trials with LSD in the neuropsychiatric clinic at the Hospital Provincial de Madrid (Usó, 2001). However, this situation would soon come to an end. The same doctors whose research pointed to the therapeutic properties of psychedelic drugs began to consider them as toxic and not beneficial in any way. Usó argues that this change of direction came from strong political pressure heavily influenced by the relationship between the Franco regime and the United States, and the pursuit of an end to communism and the countercultural movements associated with psychedelic drugs. As in the rest of the world, scientific research on the therapeutic properties of these substances was halted, although their social and recreational use could not be stopped. In 1960s Spain, rock music became popular, LSD began circulating, and Ibiza became a haven on the foreign hippy trails; groups of beatniks, bohemians, artists, intellectuals, and dope smokers started to appear (Romaní, 2015 [1983]).

At the end of the 1980s ayahuasca started to arrive in Spain through Claudio Naranjo, the follower of Fritz Perls and his school of Gestalt psychology. Naranjo was familiar with the church of Santo Daime and travelled to *Céu do Mar*, in Rio de Janeiro, led by Padrinho Paulo Roberto. Following this encounter he organized a joint meeting in Spain (López-Pavillard, 2008; Naranjo, 2012). Although Naranjo would later separate from the activities of Santo Daime, the church continued to grow in Spain. Today, the Santo Daime church has centers in Barcelona, Girona, Lleida, Logroño, Madrid and Mallorca (López-Pavillard & De las Casas, 2011; López-Pavillard, 2015).

In the 1990s the UDV began to make contact with a group of people in Spain, and the anthropologist Josep Maria Fericgla made his first trips to Ecuador to visit the *Shuar* (Fericgla, 1994). On his arrival in Latin America Fericgla founded the *Institut de Prospectiva Antropològica* (Institute of Anthropological Prospection) which would later become the *Societat d'Etnopsicologia Aplicada i Estudis Cognitius* (Society of Applied Ethnopsychology and Cognitive Studies) (Fericgla, 2000). Finally, the *Instituto de Etnopsicologia Amazónica Aplicada* (Institute of Applied Amazonian Ethnopsychology) (IDEAA) was set up by psychiatrist Josep Maria Fábregas, operating in Brazil but treating patients with addiction problems from Spain (Fernández & Fábregas, 2014). Although the centre is no longer open, it was one of the most important initiatives in the search for new treatments using ayahuasca from an integrated scientific and medical viewpoint.

In the case of Catalonia, Corbera (2012) identifies 17 ayahuasca groups with a wide range of activities: shamanic ceremonies (mainly from Amazon traditions of the Shuar and the *Camino Rojo*, the Red Path), rituals in the Brazilian churches (Santo Daime and UDV), ceremonies connected with therapies and alternative psychologies (holistic centres, Gestalt psychology, transpersonal psychology), ayahuasca sessions for treating addictions run by Latin American healers and/or western 'guides'. Our fieldwork revealed different orientations. On the one hand there is the link with actors from academia (generally psychologists and psychiatrists, but also anthropologists or therapists in general), whose contact with ayahuasca is a result of intellectual and/or therapeutic interest. The case of Naranjo shows how these new psychological currents combine, heavily influenced by the psychedelic movement of the 1960s, and involving modalities with a strong spiritual content (Gestalt psychology, bioenergetics, transpersonal psychology, among others). The Fericgla case reveals a more existential, secular modality in its uses of ayahuasca, invoking a 'transcultural' dimension of the human being, and the resignification of shamanic practices in western terms (Fericgla, 2000). However, there are also more pragmatic uses, as in the case of IDEAA, whose modus operandi is structured with a more therapeutic focus, and a ritual design aimed to support the patient's process, and with a dialogic interest between traditional medicines, all types of alternative medicines, and modern medicine (Fernández & Fábregas, 2014).

Other groups were created after their founders came into contact with ayahuasca on pilgrimages to South America. Some are spiritual seekers, others set off to find a cure for a particular problem and return later as 'wounded healers'. One example of a 'spiritual seeker' is Carlos (pseudonym), who drank ayahuasca for the first time at Fericgla's workshops. He was also interested in different spiritual paths, traveling to India to learn more about yoga and tantrism, and studying psychology after discovering Gestalt and transpersonal psychologies. His growing interest in shamanism led him to Peru, where he drank ayahuasca in various locations. Nowadays he has a group where he offers ayahuasca as well as other conventional and nonconventional therapies. Another example of a 'wounded healer' is Juan (pseudonym),

who traveled to Peru decades ago seeking a cure for his depression. After being diagnosed when he was 30 years old, he spent years going to different psychiatrists and trying different kinds of alternative treatments. In the early 1990s he began participating in the Santo Daime church of Girona, until a revelation in one session told him that his path was in Peru and not in the church of Santo Daime. So he traveled to Peru, where he met several *curanderos*, and participated in various rituals with 'teacher plants'. After this experience he returned to Spain, and nowadays he has his own association, where he offers ayahuasca as a medicine and teacher plant.

In all the cases described above there is 'cultural translation' from one context to another. On the one hand there is a resignification of native cosmologies which in general embody an understanding of the religious in psychological and/or New Age terms. On the other hand, there is what Apud (2015) refers to as 'ritual redesign', which involves the transformation of the ceremonial setting (traditional songs and instruments are replaced by music from a variety of origins, integration spaces are used before and after the ceremonies) and the resignification of the ritual in 'psychotherapeutic' terms (use of notions such as 'projection', 'catharsis', 'unconscious', 'resistances', 'insight'), which implies the creation of a 'metaphoric religiosity'. In turn, this interchange impacts on the Latin American healers, who adapt and reformulate their practices for a transnational market of supply and demand for spirituality, which one of the authors has previously referred to as 'double assimilation' (Apud, 2013).

Finally, scientific studies on psychedelic drugs have also seen a revival in Spain framed within what is known internationally as the 'renaissance of psychedelic studies' (Labate & Cavnar, 2011). As mentioned above, the link between Spanish scientists and psychedelic research goes back to its early days, and as such it is unsurprising that Spain, and particularly Barcelona, is internationally renowned for scientific study in this field. In the case of ayahuasca, many Spanish researchers are working on the substance from different disciplines including psychology, psychiatry, pharmacology, and anthropology. All of them are interested in the different aspects of the beverage: as a social, religious and cultural phenomenon; in evaluating its short-, medium- and long-term effects; and its possible therapeutic applications.

Therapeutic itineraries in Catalonia: ayahuasca and introspection

As with other alternative medicines, many ayahuasca participants come to these alternative health networks after a long fruitless trek through an assortment of health care systems without finding a solution to their health problem. Thus begins the journey through various care systems, trying out different treatments by trial and error until one is found that can alleviate suffering from the pain. One not uncommon reason why some people attend ayahuasca sessions is the search for a solution to some personal or psychological problem, after going to different therapeutic clinics. This is the *bricoleur* user (Apud, 2013) who wanders through a range of therapeutic systems, and is illustrative of the medical pluralism of our modern societies and of the care complex in which one becomes involved when following this type of itinerary or care process (Comelles, 1997). A paradigmatic example is Jaime (pseudonym) who joined an ayahuasca centre after trying all the conventional treatments for addictions:

> 'At the beginning it was a physical decay, then a mental one, and finally a financial black hole. After that, I began a journey through different psychiatrists, psychologists, miraculous detoxes, sleep cures, testing all possible solutions. Finally I decided to join a therapeutic community. After a year and a half I had completed the treatment and stopped taking heroin. But once back in my home town of Barcelona, I reverted to my former routine and ruined everything again. I was constantly relapsing! From the age of 25–39 . . . fourteen years spent in treatments. And then . . . when I was 38 years old, I thought I'd try ayahuasca [. . .] as a last resort, considering that none of the conventional treatments had worked for me.' (Jaime, personal interview, translated from Spanish.)

Initially, Jaime could be considered a *bricoleur* user, wandering through different therapeutic systems. Finally, his itinerary led him to ayahuasca, enabling him to work through his addiction problem psychotherapeutically,

> 'Ayahuasca allows you to have an intense, powerful introspective experience, which was what I found most helpful, and is what I try to access during my work with the "medicine". When I started to heal, I tended to laugh . . . I experienced all these things, I saw my attitudes and thought, "My God, look at yourself!" There were even things I could not recognize in myself! "You did it that way, you behaved like that." I would think I was the smartest guy in the world, and in the end I was like a clown.'

In Jaime's case, the failure of conventional therapies was the main reason he tried a heterodox treatment as a last resort to deal with his addiction problem. For other participants sometimes there is no demand arising from a specific mental health issue. They become interested in ayahuasca in their journey through different networks linked to the ayahuasca centers, where they find a space to pursue their spiritual, religious, existential or psychonautical quests. This is the case of Antonio (pseudonym), who started to use psychedelics out of professional interest when he was studying psychology. He tried various substances and became involved in different pro-cannabis groups and anti-prohibitionist initiatives. At the end of the 1990s he started to drink ayahuasca, discovering its 'potential as a therapeutic tool':

> 'I got into a mental state of "biographic review", in which I was capable of observing myself from the outside, experiencing myself from another perspective. I watched my life, my stories, my personal relationships, but as I was an outsider, which allowed me to see things I normally cannot see [. . .] remembrances of my childhood, of my puberty . . . It was really useful. I came out with the impression that those sessions with ayahuasca had a therapeutic effect, maybe it was no panacea, but it was really useful . . . ' (Antonio, personal interview, translated from Spanish).

In the cases of both Jaime and Antonio, there is no previous religious or spiritual path. They were both a kind of secular user. Even after their experiences with the brew, their explanations retain a psychological level of analysis, with no mystical or religious attributions added to their narratives. But, considering other subjects, even when religious or spiritual elements are present, these are usually acquired through personal experiences rather than from extrinsic narratives, dogmas or beliefs. This is the case of Hernan (pseudonym), who considers himself a non-religious but spiritual person. He does not believe in God but in a creative force that we cannot see with our ordinary consciousness:

> 'Therefore I believe, but these beliefs came through experiences. It is not a blind faith in something, but things I have experienced and which made me believe in certain things' (Hernan, personal interview, translated from Spanish).

When he was young, Hernan was a good student, but at 12 years old his school grades began to worsen. He was 'unmotivated' and 'disappointed' in his parents, society and culture. In this depressive mood, Hernan went to a psychologist but it was no use. One day he read about ayahuasca, and at 18 years old, he decided to travel to Peru with money given by his parents. There he met a *curandero*, and drank ayahuasca for the first time:

> 'I could see patterns of behaviour I was repeating, how I would function and react to different situations. It was all mixed up, good and bad. At that moment I could see clearly what aspects of myself I should improve, and what other things I should take advantage of. It was a moment of . . . like meeting a new person, and being aware of the good and the bad in him,'

In all these narratives we find a common topic, the mention of strong 'insights' or introspective experiences during the ceremonies. This is something that has been described as a key therapeutic tool not only in ayahuasca studies (e.g. Villaescusa, 2003), but also since the beginnings of psychedelic research, when psychiatrists from different countries started to study LSD, psilocybin and other substances as a new way of accessing the dream language of the unconscious, using methods they considered faster than those proposed by Freud. The emphasis on the introspective effects of psychedelics is often more salient in western participants than in traditional or native subjects, perhaps because western drinkers are more prone to seek 'psychotherapeutic' experiences in the ceremonies and are educated with a strong 'psychological' bias (Apud, 2013).

Ayahuasca and drug policies

The medicalization process, in turn, involves State control over the use of medicines. This implies, among other things, the delegitimization of popular pharmacopeias and home remedies that were used freely until the end of the nineteenth century such as morphine, cocaine, codeine, and heroine (Romaní & Comelles, 1991). This medicalization process aimed to combat so-called 'superstitions' in the field of beliefs, and compete with religious institutions in the area of health care. At an international level the United Nations Single Convention on Narcotic Drugs in 1961, the Convention on Psychotropic Substances in 1971, and the 1988 Vienna Convention form the pillars for today's international regulatory drug framework (Boiteux, Peluzio Chernicharo, & Souza Alves, 2014). While these treaties brought the scientific study of psychedelics to an end, they were ineffective and even harmful in regulating consumption in informal social settings. The efficiency of these three pillars has been called into question in recent decades, and there has been some experimentation with alternatives to the prohibitionist model in drug policies. Although the treaties have a series of binding obligations, they also allow signatories some legal freedom in that each country can determine the strictness of its sanctions according to what it considers appropriate or necessary to protect public health and welfare. This legislative gap gives signatory countries a certain autonomy that has resulted in a spectrum from very strict and punitive strategies (in China, Saudi Arabia, or Singapore), to other more libertarian and flexible strategies that we describe below.

The substance DMT – the main active component of ayahuasca – is included on the United Nations 1971 Vienna Convention's 'List 1', implying that it is potentially highly addictive and prohibiting its use in medical applications. However, the inclusion of DMT in List 1 does not necessarily mean that plants or drinks containing DMT, like ayahuasca, are prohibited. The International Narcotics Control Board (INCB) states that ayahuasca is not subject to control under international convention, although it does recommend that each country control and monitor its use along with other similarly classified substances such as peyote and iboga (INCB, 2010, p. 47).

This legislative gap and 'half-measures' statements on the status of ayahuasca must be understood in the context of the contradictions in the two United Nations legal frames of reference: drug policies, and human rights. From the human rights perspective several authors have emphasized the 'humanization of international law', which in the field of drug policies assumes that legal measures do not violate the right to privacy, health, ethical treatment and collective rights (Miró, 2014). One example is the use of the coca leaf by indigenous American peoples (Boiteux et al., 2014), and the principle of proportionality of crime and punishment, accepted in most international treaties and by the INCB, but which remains an unresolved problem in drug policies (Uprimmy Yepes, Guzmán, & Parra Norato, 2013).

The case of ayahuasca is related to the right to religious freedom in a process that has its precedents in the United States with the Native American Church (NAC) and the ritual use of peyote. In 1994 the NAC was granted full protection for its members to use peyote under the American Indian Religious Freedom Act Amendments (Feeney, 2014). In New Mexico, the UDV later used the same procedures to protect the ritual use of *hoasca*, when in 1999 an assignment of the substance was seized under the Controlled Substances Act. Members of the UDV invoked the Religious Freedom Restoration Act, and in 2006 the United States Supreme Court decided unanimously in favor of the UDV and the use of *hoasca* for religious purposes (Griffin, 2013). In 2009 the UDV precedent helped an Oregon branch of the Santo Daime win their lawsuit against the US government for the right to drink their sacrament legally (Groisman, 2013). In Brazil, in 2004 the government approved the use of ayahuasca under the constitutional right of freedom of faith and worship; in Peru use was approved in 2008, through the declaration of ayahuasca as natural cultural heritage by the National Institute for Culture (Labate & Feeney, 2012).

The situation facing ayahuasca centers and churches in Europe is fairly heterogeneous, and varies from one country to another, beyond the international conventions designed to unify criteria, particularly the European Convention of Human Rights and the United Nations Convention on Psychotropic Substances. Feeney and Labate (2013) identify three legal barriers in Europe: (1) the legality or otherwise of ayahuasca due to its DMT content, and the ambiguity of the abovementioned conventions surrounding the concept of preparation, solution and blending; (2) the ambivalence over whether the religious practices of these centers and churches are regarded as legitimate in terms of fundamental human rights; (3) whether they represent a significant threat to public health, morals or security. Each country has drawn on these three precepts to arrive at it its own conclusions. Holland, for example, recognizes ayahuasca as a fundamental sacrament in religious practices. The French and Italian authorities determined that ayahuasca is a derivative of natural non-controlled products, and as such it is not specifically prohibited. In contrast, in Germany the mere presence of DMT is sufficient for it to be considered a threat to public health, providing the grounds for the prohibition of its religious use.

Although the Spanish constitution recognizes the rights to freedom of worship and religion, they are limited according to whether they impact on health and public order (López-Pavillard, 2008). This conflict between religious freedom and public health led to a lengthy lawsuit by the Santo Daime church which began in 2000 when officials from the Central Narcotics Unit confiscated the beverage and arrested three people in Barajas Airport, Madrid. In October of the same year the verdict was given that the dose was insignificant and did not produce sufficient hallucinogenic effects. The church of Santo Daime then presented the necessary documentation to register as a religious organization with the

General Directorate for Religious Affairs of the Ministry of Justice. Although permission was initially denied, the insistence of the church members, together with the failure of the administration to reach a decision within the established period of six months, ended with the registration of the Santo Daime church as a religious institution (López-Pavillard & De las Casas, 2011). Subsequently the UDV followed the same process, also with some retorts and setbacks, until it was eventually accepted in 2008 (Feeney & Labate, 2013). Legal problems once again occurred in 2008, when Alberto Varela was arrested for possession of the beverage as a public health offense. After fourteen months imprisonment, Varela was eventually absolved. Varela is the founder of *Ayahuasca International*, an organization questioned by the community of ayahuasca practitioners and recently in dispute with indigenous Colombian organizations. Today, with the exception of the Varela case, all other groups operate with caution and many initiatives such as the IDEAA have closed as a result of the instability and legislative gaps in the field.

Religion or medicine?

In all these cases tensions circulate in three core categories: drugs, public health and religious freedom. Groisman (2013) argues that the concepts of health, illness and religious use can be understood as disputed categories in which conflicts and negotiations arise between various political, academic and general social institutions, involving lengthy legal processes. In the case of ayahuasca or peyote, we have seen how a human rights perspective in terms of freedom of worship can tip the balance in some countries, although the ritual practices are still not accepted as medicine. But this separation between medicine and religion is unsustainable in practice, or can only be maintained through rhetorical strategies that disguise the close relationship between the two practices, principally in the field of mental health. As Labate and Bouso (2013) state:

> 'for example, if I claim: "Jesus healed me in an União do Vegetal ritual," I would be "exercising my religious freedom", whereas if I say: "Come and take ayahuasca to cure your depression," would I be "practicing medicine illegally"?' (p. 33, *our translation from Spanish*)

Calabrese (2014) also finds these contradictions in his fieldwork among native Americans in the NAC and their use of peyote. Like ayahuasca, peyote's active compound is classified as a Schedule I drug; in other words it is considered to be potentially addictive and cannot be used for therapeutic purposes. And although the legal emphasis on peyote has fallen on freedom of religion, the peyote rituals fulfill a central function in native medical practices. As Calabrese points out, health problems in indigenous communities are much higher than among the general United States population as regards suicides, alcoholism, homicides, or death from illnesses such as diabetes or tuberculosis. In this context, peyote ceremonies have become an indispensable therapeutic tool in a context in which the population makes no distinction between the clinical and the spiritual.

In the case of both ayahuasca and peyote, the restriction on their use in underdeveloped communities has a high cost in terms of health, since the health resources available to them are scarce, and the evidence suggests that these practices have a positive impact on the health of these communities (Feeney & Labate, 2014). And in both cases there is sufficient research to claim that in the right set and setting, the use of these 'medicines' has positive therapeutic effects. In the case of ayahuasca for example, studies have shown the positive effects on mental health among the adult population (Barbosa, Cazorla, Giglio, & Strassman, 2009; Bouso et al., 2012; Grob et al., 1996; Riba et al., 2002), in adolescents (Da Silveira et al., 2005; Dobkin de Rios et al., 2005), and with specific pathologies such as depressive disorders (Anderson, 2012; Osorio et al., 2014) and addictions (Fábregas et al., 2010; Thomas, Lucas, Capler, Tupper, & Martin, 2013). It should be noted that the literature also reports studies evidencing negative effects and contraindications of ayahuasca. Contraindications cited include the need for caution in cases of cardiac pathologies (Gable, 2006), possible toxicity in pregnancy (Oliveira, Moreira, De Sá, Spinosa, & Yonamine, 2010), and care with interactions with other pharmaceuticals, mainly antidepressants (Callaway et al., 1999) but also other psychoactives (dos Santos, 2013). Research into both positive and negative effects of ayahuasca and other psychedelics is essential for their potential scientific-therapeutic uses, and for reducing the drawbacks that can arise in the religious/spiritual practices associated with them; strategies should therefore be developed that maximize their benefits and minimize possible risks and negative effects (Tupper, 2008).

Conclusions

Our aim in the present article was to rethink the religious/spiritual networks wherein ayahuasca is drank as an essential element of a medical system, using a theoretical framework from critical medical anthropology, with its benefits and limitations. We have seen how the separation of the two domains of religion and medicine resulted from the process of medicalization and the consequent self-legitimation of biomedicine as the dominant medical system in the world today. But this separation occurs above all in the intellectual terrain, in the sphere of discourse. In practice, and as we have seen in this paper, all medical systems are plural, regardless biomedical system attributes to itself the status of legitimate medicine from a situation of hegemony over the other systems.

It is in this context that we must place ayahuasca, both in general and in the particular case of Spain and specifically Catalonia. In these religious/spiritual networks we find different groups, such as shamanic centers, Brazilian churches, holistic centers, among others. Our fieldwork revealed different orientations of the founders of the groups, from professionals (mainly psychologists, psychiatrists, and anthropologists), to 'spiritual seekers' and 'wounded healers'. But, despite their differences, in all cases we found an inevitable 'cultural translation', which consists of a resignification of native ceremonies in psychological and/or New Age terms. We also briefly described the 'therapeutic itineraries' of some participants, showing how and why they participate in these alternative health networks. Many participants come to these networks after a long trek through different therapeutic options. The cases mentioned have found in ayahuasca sessions a place for psychological introspection, highlighting the 'insights' and 'biographical review' experienced. This phenomenon has been described many times, not only in ayahuasca literature but also in psychedelics more broadly studies, and in the novel neuroscientific studies of non-drug-induced religious experience (McNamara, 2009), which suggest a strong connection between psychedelics substances, religious/spiritual experiences, and psychological introspection.

We illustrated how the medicalization process is also involved in the regulation of certain substances, considered 'illegal drugs'. This led us to reflect on the case of ayahuasca, its status in international treaties and conventions, and specifically the tensions that have arisen in Spain around three core categories: drugs, public health and religious freedom. The last category has been fundamental for the recognition of ayahuasca sessions as a religious practice, but does not include their potential therapeutic effects. This denial exposes some difficulties derived from the

biomedical radical separation between medicine and religion. As we have seen, this division is unsustainable in practice, so therapeutic practices in religious settings are usually disguised by their participants, through rhetorical strategies.

Finally, we would like to say that our intention is not to validate one medical system or consider that the criteria of scientific evaluation for health treatments or practices can be exclusively reduced to a symbolic violence or discrediting of the biomedical scientific conception over other care systems. Indeed, we believe that evaluations are necessary in order to favor participants/consumers themselves, minimizing risks and maximizing benefits, and without failing to respect their practices and beliefs. While we do not dispute the importance of evaluating health practices so as to determine how effective or iatrogenic they are in a given population, disciplines such as medical anthropology have shown the impact of social and cultural factors in our modern western medical model, uncovering the relationships of power, legitimation and social relationships general interactions among that constitute what we refer to know as medical health care systems, and allowing a greater questioning of our medical practices and drug policies in general.

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Conflicts of interest

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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SCIENCE, SPIRITUALITY, AND AYAHUASCA: THE PROBLEM OF CONSCIOUSNESS AND SPIRITUAL ONTOLOGIES IN THE ACADEMY

by Ismael Apud

Abstract. Ayahuasca is a psychoactive brew from Amazonas, popularized in the last decades in part through transnational religious networks, but also due to interest in exploring spirituality through altered states of consciousness among academic schools and scientific researchers. In this article, the author analyzes the relation between science and religion proposing that the "demarcation problem" between the two arises from the relations among consciousness, intentionality, and spirituality. The analysis starts at the beginning of modern science, continues through the nineteenth century, and then examines the appearance of new schools in psychology and anthropology in the countercultural milieu of the 1960s. The author analyzes the case of ayahuasca against this historical background, first, in the general context of ayahuasca studies in the academic field. Second, he briefly describes three cases from Spain. Finally, he discusses the permeability of science to "spiritual ontologies" from an interdisciplinary perspective, using insights from social and cognitive sciences.

Keywords: ayahuasca; consciousness; philosophy of science; psychology of religion; science; scientific method; Spain; spiritual ontologies

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Ayahuasca is a psychoactive brew traditionally used by the native population in Amazonas. The name comes from the Quechua, *aya*, meaning soul or dead person, and *waska*, meaning vine, usually translated as "vine of the spirits" or "vine of the dead." The name of the brew varies in each tradition

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or region: in Colombia the Tukano name of *yagé* is used, in Ecuador the Shuar term *natém*, and in Brazil *Daime* and *hoasca*. The beverage is generally prepared by mixing two plants: *Banisteriopsis caapi* (a vine containing beta-carbolines such as harmine, harmaline, and tetrahydroharmine) and *Psychotria viridis* (a shrub containing N, N-dimethyltryptamine, commonly known as DMT, an alkaloid similar to serotonin). The popularization of the brew in Western societies started in recent decades with the spread of shamanic ceremonies in urban contexts and the expansion of Brazilian churches across the world. However, international interest in ayahuasca would not have occurred without academic interest in the brew, which began as an intellectual interest, related to the properties of the psychoactive and its ethnographic background. Later, with the emergence of new academic perspectives, ayahuasca started to be used in spiritual and/or therapeutic settings.

This article proposes to analyze the relationship between science, spiritualties, and ayahuasca, using insights from the history of science, social studies of science and religion, and cognitive science of religion. I start by defining consciousness and "spiritual ontologies," explaining why these concepts are important in the debate between science and religion. I then use these definitions to analyze the origins of modern science and the confrontation with scholastic medieval thought, in the dichotomy between "effective causes" and "final causes." I continue the debate through the nineteenth century, in the new scientific disciplines—biology, psychology, and the social sciences—and in the intersection between academic and spiritual practices. My analysis continues into the twentieth century with the emergence of new schools in psychology and anthropology that are closely related to "spiritual ontologies." Against this historical background, I situate ayahuasca practices at the intersection between science and religion, with a brief analysis of three paradigmatic examples for the case of Spain. Finally, I briefly rethink concepts such as cultural systems, networks, social agents, and cultural translations, in light of the exposed crossroads between science and religion, and from an interdisciplinary perspective, integrating insight from social and cognitive sciences.

Consciousness, Science, and Spiritual Ontology

Defining consciousness is a difficult task. In anthropology, the definition is not easy to operationalize cross-culturally, because the term is used in different ways according to culture and language. For example, in Spanish, *conciencia* connotes awareness, conscience, and social consciousness, and most non–Indo-European languages have no word at all, or the terms do not fit well (Throop and Laughlin 2007). In philosophy and the social sciences there is no standard use of the term. But consensus over use is also lacking in "hard" disciplines such as neuroscience, and some authors suggest avoiding a precise definition until further progress has been made (Crick

and Koch 1998). In this article, I consider consciousness in a wide sense, as the cognitive capacity of humans to perceive, feel, and think about their external and internal world, and establish—to a greater or lesser extent—a syncretic unity of knowledge and experience. Following Immanuel Kant (2003), consciousness involves both logical and aesthetical faculties, and supposes an individual to be capable of binding—*Verbindung*—the multiplicity of experience in an "apperceptive synthesis." Although I will not address the limitations of this definition, it is important to mention recent critical perspectives; for example, the inclusion of nonhuman animals as conscious beings, and its ethical derivations (Cavalieri 2014), or the problem of agency in objects in the "new materialism" and actor-network theory (Coole and Frost 2010; Latour 2008).

My proposal is that one of the demarcation criteria between science and religion is related to the problem of what consciousness is, and how it must be used to achieve valid and reliable knowledge. We will see how, because the "orthodox view of science" depends on the strict refinement and confinement of conscious extensional faculties, its intentional properties have to be expelled because they are considered to be too metaphysical. This "demarcation criterion" has allowed the formal separation of science from the religious scholastic perspective, but caused different problems with some disciplines—social sciences, psychology, and biology—and with spiritual beliefs within the scientific community.

In this article, I propose a specific view of religion and spirituality. I will use the two terms interchangeably as I believe that, at a cognitive core level, they can be considered as the same phenomenon, characterized by the intuitive belief of an "ontology of spirituality" (Apud 2013). This characteristic goes beyond the classical distinction between substantive/formal/dogmatic religion, and functional/informal/mystical spirituality (Hervieu-Léger 2005). I propose that the notion of an "ontology of spirituality" implies the following:

(1) The belief not only in spirits but also in consciousness as ontologically independent of the extended world, including body and brain, and interacting in a spiritual realm with other supernatural and/or spiritual agents. The belief in supernatural agents is an intuitive assumption present in all the world's religions and spiritualities, as the cognitive science of religion has suggested since the publication of Stewart Guthrie's article *A Cognitive Theory of Religion* in 1980.

(2) A close relationship between this intuitive belief and altered states of consciousness (henceforth ASCs), because these phenomenological experiences give factuality to such beliefs. Note that ASCs occur in a large proportion of the population, usually through techniques of trance and/or possession, which are present in more than ninety percent of

the world's cultures (Bourguignon 1980), or through using certain substances named "psychedelics" or "entheogens" (including ayahuasca), the effects of which in the nervous systems produce a wide variety of mystical experiences (Cole-Turner 2014).

(3) Modern science's reaction against the particular "spiritual ontology" of the scholastic worldview, grounded on the Aristotelian "final causes." This reaction led to the rejection of other mystical traditions, but also to a deep conflict with scientific disciplines that deal with intentional causes, and an invisibility of theistic beliefs within the scientific community.

(4) The use of "intentional causes" which I propose, following the cognitive science of religion, is deeply rooted in the natural ability of human beings to recognize "intentional agents," an important evolutionary predisposition that allows humans to identify other living creatures in order to avoid danger (in the case of predators) and socialize (in the case of social peers) (Boyer 1994). I propose that the expulsion of "final causes" from the scientific project was unattainable because the human brain cannot avoid the use of this natural predisposition, and because it is indispensable to understand consciousness, the mind, society, culture, and religion.

The Crossroads of Science and Religion

Final Causes versus Effective Causes. One of the first obstacles modern science had to deal with was the need to distance itself from the teleological explanations (from the Greek, *telos*, end, purpose) of Aristotelian scholastic thought. In Aristotle's cosmology, the universe is comprised of five elements—earth, fire, water, air, and *aether*—arranged like layers of an onion. In this "onion universe" each element has its natural place, according to its essence. Earth, for example, is always at the center, while *aether*, the quintessential element, belongs in sidereal space (Aristotle 2007).

The distinction between essential and accidental attributes is a central concern in Aristotle's *Metaphysics* (1999). The essence of things involves an intrinsic tendency to seek their natural place in the universe. For example, a stone falls to the ground to find its natural place in the cosmos, which is the Earth as a center. Aristotle called this "final causes" a *telos* residing within things. For Aristotle and the scholastics, final causes explain the nature of things, while "effective causes"—those which explain movement in cause-and-effect relationships—are accidental phenomena, involving an external change in the object, but not concerned with its true essence. But with the arrival of modern science, the balance tilted to efficient causes. For Galileo, the goal was clear: scientific knowledge had to be forged through an experimental method, measuring the properties of objects—expressed as efficient causes—in order to arrive at a mathematical formula—expressed in

laws (Galilei 2008). Natural sciences kept only the efficient causes because they can be objectively observed and measured. By contrast, final causes were considered too metaphysical and subjective.

Galileo put experience at the forefront in what he called *sensate esperienze* ("sense experience"). For Aristotle, experience was not immediate knowledge, but a process with a singular and personal history, in a chain that connects sensation, memory, and experience. So sensorial experience was not reliable on its own for constructing premises in syllogistic reasoning. This aspect of Aristotelian thought was taken by the scholastics to establish the biblical dogmas as the ultimate truth. In medieval thought, experience and hypothesis were considered useful, but always to serve the eternal truths of the Bible. In contrast, Galileo considered experience as the origin of knowledge—not any kind of experience, however, but one explicitly controlled by an observational method, and exposed by the criticism of scientific peers; that is, observable events that anyone could measure and test with the correct standardized method.

The foundation of science as knowledge dedicated to "effective causes" was a necessary step to escape from certain religious and dogmatic worldviews. It was also necessary to highlight a method based on the dialogue between hypotheses and empirical data. But this distinction was also somewhat artificial, and the notion of a radical paradigm shift between medieval thought and the Renaissance has been relativized by some authors (e. g., Duhem 1985). The "Whig history of science" (Mayr 1990) usually considers the scientific revolution as the conflict between scientific mechanism and scholastic organism, but the contexts seem to be more complex than a two-rival scenario. According to Guillermo Boido (1996), there was at least one more tradition, neoplatonism, that had a significant influence on Kepler, Galileo, and Paracelsus. However, none of these three traditions abandoned the idea of God: in organism, God was the *prima causa* of planetary motion; in mechanism, the universe was a machine and God the engineer; in neoplatonism, God was the great mathematician behind the laws of the universe. The idea of God as an intentional agent, with a "divine program," was present in all three paradigms. These different perspectives on the relation between human rationality and "divine revelation" produced different "historiographies of the truth" (Hanegraaff 2012).

The Problem of the New Sciences in the Nineteenth Century. In the nineteenth century, the new disciplines concerned with both human and living beings had to deal with the dichotomy between final and efficient causes. While disciplines like chemistry could adapt to the new mechanism paradigm, others like biology had the problem of studying living organisms, with behaviors and attitudes for which simple cause-and-effect explanations were not valid. The contradictions between biology and mainstream science were not fully resolved until the discovery of the cell—and the general idea

that living creatures have an internal organization—and were finally laid to rest with the discovery of DNA by Francis Crick and James Watson (Monod 2000). Meanwhile, biology was treated as a "soft science," and biologists had to work on various hypotheses about the principle that differentiates life from inorganic matter (Jacob 1973). Vitalism was one explanation, as an enigmatic force within every live being, considered in different approaches from materialistic (electricity, magnetism) to philosophical (e.g., Bergson 2007). Finally, vitalism did not survive as a scientific theory, and the idea of intentional behavior as an emerging product of life evolution was the final solution that conciliated causal and intentional explanations (Wuketits 1984; Monod 2000).

In the social sciences, the difficulties were related to the "qualitative-quantitative debate" (Guba and Lincoln 2005). The social sciences followed two main paths to gain recognition as reliable scientific disciplines. The first of these was to emulate the experimental method as conceived by the natural sciences, by adapting the scientific experimental method to the quantitative study of social and cultural phenomena. The second path was to follow the humanities through the ideas of the German neo-Kantian school and its distinction between natural sciences—concerned with cause-and-effect explanations—and human sciences—concerned with understanding representations. The idea was to develop a comprehensive science of human meaning and experience, the first step toward the birth of qualitative methods in sociology and anthropology (Hamilton 1994). In the course of the twentieth century, both paths—but especially qualitative research methods—would be questioned by the orthodox scientific view.

In psychology, the causal-versus-final-explanations dichotomy varied according to academic school. In experimental psychology the tension was addressed by Wilhelm Wundt, who made the distinction between physiological psychology, studying the elemental sensations of consciousness through experimental methods, and folk psychology, studying superior psychic functions like language and culture through a descriptive method (Cole and Engeström 1993). In behaviorism, opposition to the use of introspection and the denial of "mind" as a scientific concept led to the one-way road of mechanistic explanations. In psychoanalysis, Sigmund Freud followed the path of interpretation—*Deutung*—as a tool for exploring the psyche and its symbols, but not in contradiction with mechanism explanations (Moizeszowicz 2000). However, all these alternatives came from a secular psychology, where consciousness was understood as emerging from the organism (Freud, Wundt) or as a nonexistent phenomenon (behaviorism). There were also other ways of explaining consciousness; for example, as an autonomous entity, relatively independent from organic matter, and with its own ontological foundations. The idea of a spiritual realm or force was popular among scientists from all disciplines, although this notion was not always proclaimed in public.

The Spiritual World in Nineteenth Century Science. The existence of a spiritual world was not an alien idea in nineteenth century scientific circles. One example was the "discovery" of magnetism in the late eighteenth century by Friedrich Mesmer, at a time when psychological science did not yet exist. For Mesmer, magnetism represented an effort to unify spiritual and mechanic ontologies in a common materialistic world, assuming the existence of a subtle physical fluid that fills the universe and connects people, earth, and heavenly bodies. Disease was conceived as an unequal distribution of this fluid in the human body, and healing was understood as achieving a new equilibrium (Ellenberger 1994). This conception of magnetism had a great impact in academic circles, and chairs on mesmerism were instituted in the German universities of Berlin and Bonn. However, in the decade of 1850 Mesmer's work was discredited, and the therapeutic effects of magnetism were dismissed as products of the "imagination."

But immediately after the fall of "animal magnetism," a new movement, spiritualism, was on the rise in the United States. This movement dates back to 1847 in Hydesville, a small village in upstate New York, when the Fox sisters began hearing rappings and noises, which they decided to answer by establishing a communication method with strokes and movements. After a few years, spiritualist sessions had become common practice in social gatherings in Europe and the United States. These events spread the belief in consciousness as a spiritual and "natural" mysterious energy (Albanese 2005).

Spiritualism had a strong impact in all social environments and countries around the world. Some of the most renowned scientists and philosophers of the time supported these ideas, including William Crookes, Henri Bergson, William James, Alfred Wallace, Charles Richet, and Max Planck. In 1882, the Society for Psychical Research was founded in London, with members such as Crookes, James, and Bergson. In Germany, the term *Parapsychologie* was first introduced by the philosopher Max Dessoir in 1889 in the occultist journal *Sphinx*, while in France the term *Métapsychique* was mentioned by Richet in 1905, after years of studying psychic phenomena (Asprem 2014). In the twentieth century, the psychologist John Coover studied paranormal phenomena in laboratory settings at Stanford University, and Joseph Rhine founded the first laboratory of parapsychology at Duke University, using the term "parapsychology" for the discipline, and "extra sensorial perception" for the phenomena studied (Kreiman 1994; Asprem 2014). According to Egil Asprem (2014), although the founders of psychical research struggled for the creation of an academic discipline on its own right it was not until the creation of the laboratory at Duke in 1930s that parapsychology became a university discipline. But even in this promising period, this new discipline could not solve the methodological problems and theoretical fragmentation that haunted its predecessors.

Spiritual Ontologies and ASCs: Psychology and Anthropology in the Twentieth Century. Catherine Albanese (2005) points out the interest in the spiritual realm as part of the common worldview of "nature religions," which include theosophy, spiritualism, transcendentalism, and a special interest in oriental mysticism. This interest in mysticism and spirituality was an important antecedent for the emergence in the second half of the twentieth century of new academic schools, concerned with spiritual experiences and ASCs. Disciplines such as anthropology and psychology (and also other disciplines dedicated to the study of religion) attributed new meanings to religion, producing the emergence of new forms of religious practices (von Stuckrad 2014). In psychology, the first steps came from Carl Gustav Jung and his ideas of the psychological value of mystical experiences, and Abraham Maslow and the foundation of humanistic psychology, conceived as an alternative to behaviorism and psychoanalysis. These perspectives gave rise to several schools with a concern for the existential, humanistic, and spiritual dimensions of human experience, such as Alexander Lowen's bioenergetic school, Fritz Perls's Gestalt psychotherapy, and transpersonal psychology.

Perhaps transpersonal psychology takes the closest interest in the human spiritual dimension. Maslow introduced it in 1967 as "transhumanist psychology," recognizing the spiritual realm of the psyche, and proposing the use of Western and Eastern ASC techniques to access this realm (Walsh and Grob 2005). The other founder of this school is Stanislav Grof, a pioneer in the clinical study of lysergic acid diethylamide (LSD), who believed that transpersonal psychology challenged the mechanism paradigm of Western societies by introducing a spiritual dimension of consciousness (Grof 1994). Transpersonal psychology also posited a new kind of evolution, not biological, but an evolution of consciousness, as part of the spiritual development of humankind, and against Western scientific materialism (Walsh 1994). The general idea was not to ignore scientific knowledge, but to transform it in a spiritual way, as though it were a kind of "paradigm shift" in Thomas Kuhn's terms (Tart 1977).

The emergence of these new perspectives must be considered within a post–World War II and Cold War context, with the crisis of the modern Western paradigm of progress, and the rise of countercultural movements in the 1960s. The crisis of modernity had a variety of causes: irresolvable social inequalities, an increasingly competitive and individualistic culture, the growth of environmental problems related to modern technologies, extended bellicose conflicts around the world, the menace of new weapons of mass destruction, and cyclical economic crises. All these problems created a social disenchantment with modern Western culture and its promises of social emancipation, in what Jean-François Lyotard (1993) called "postmodernity." As a reaction, countercultural movements appeared in the form of the hippy movement, feminism, ecologist organizations, and antiwar

movements. This general criticism of the Western model of emancipation included a critique of the mainstream scientific materialistic worldview. Scientific commitment to social emancipation was regarded with suspicion, a reasonable attitude if we consider science's involvement with the arms industry, environmental crisis, medical mercantilism, and other social problems.

The biomedical scientific model, for example, was harshly criticized for its commercial nature, as well as its inefficiency and iatrogenic effects. In the search for new alternative medicines, the holistic movement emerged with a range of alternative practices aimed at "getting back to nature," introducing humanistic medicine, developing a spiritual conception of well-being, and recovering Eastern and Western heterodox medical practices (Baer 2003). In the academy, this disenchantment with the "standard view of science" materialized in what Anthony Giddens (1976) called the demise of scientific "orthodox consensus." In the philosophy of science, the vision of science as neutral, objective knowledge was challenged by Thomas Kuhn in his *The Structure of Scientific Revolutions*, and in the social sciences qualitative methods, taking different critical approaches, began to gain popularity.

At the same time, the positivistic tradition in anthropology was being displaced by symbolic anthropology as a criticism of the objectivity criteria of modern anthropology, and the discipline's association with colonialism and imperialism. With this criticism came a growing appreciation of non-Western symbolic worldviews, including an increasing interest in shamanism. Previous interest in this subject had been purely intellectual, when Claude Lévi-Strauss ([1949] 1997) and Mircea Eliade (2009) explained the shamanic ritual as an ethno-psychotherapeutic practice. Both authors transformed the prior understanding of shamans as people who were either mentally ill or quacks into specialists in ethno-psychotherapy. But in the 1960s anthropologists themselves started to become shamans. In Carlos Castaneda's *The Teachings of Don Juan* in 1968, a story emerged of the naïve rational Western scientist who is initiated into an ancestral practice and learns of a superior wisdom from an exotic shaman. Later, after his fieldwork in the Amazon rainforest, Michael Harner founded the Center for Shamanic Studies. These initiatives also had a major impact on society, with the emergence of neoshamanic practices in networks of spiritual seekers and psychonauts.

First-hand ethnographic exploration of ASCs contributed to the discussion about the existence of paranormal phenomena, and anthropologists' accounts of these experiences started to appear. A classic example is Edith Turner's fieldwork in Africa, where she witnessed spiritual beings (Turner 1994) and paranormal phenomena (Turner 1992). Michael Winkelman (1982) addressed the controversy, stating that paranormal phenomena exist and that, although anthropologists frequently witness them, they do

not usually publish their experiences out of fear of being discredited by their peers. The comments and replies to the article reflected a range of postures in the anthropological community, from the most critical (e.g., Erika Bourguignon) to supporters like Marlene Dobkin de Rios. More recently, Jeremy Narby and Francis Huxley (2005) highlighted the problem of ethnographers ignoring paranormal phenomena. Harold Ellens (2008) wrote along similar lines about journals devoted to religion, spirituality, and theology, and David Luke (2012) observed the same problem in clinical and anthropological reports on psychoactive substances.

Ayahuasca, Science, and Religion

The Popularization of the Brew. Psychedelics cannot be separated from this history that combines science and spirituality. They have played an important role, mainly after the discovery of LSD by Albert Hofmann, and together with neoshamanism and the new schools of psychology mentioned earlier. In the countercultural milieu, psychedelics were initially conceived as a privileged door to access spiritual realms, and as an important tool for the "revolution of consciousness" (Méndez López 2013). Since their prohibition in the 1970s, their revolutionary connotations have become less important, but recreational, psychonautical, and spiritual uses have continued against the less controversial background of "new age networks" (Rothstein 2001).

Although ayahuasca had been recognized in the nineteenth century by Richard Spruce and Manuel Villavicencio, academic interest in the beverage became fashionable after its description by the father of modern ethnobotany Richard Evans Schultes, in the second half of the twentieth century (Williams 2015), at the same time the first studies on psychedelics were published. However, the chemical compounds of ayahuasca had not yet been clearly identified, and psychedelic laboratory research focused on other more well-known substances, such as LSD, psilocybin, and mescaline. In anthropology, the first ethnographic studies into ayahuasca came from Gerardo Reichel Dolmatoff (1969) in Colombia, Michael Harner (1972), who explored its use by the *jivaros* of Ecuador, and Marlene Dobkin de Rios (1973), who wrote on the use of ayahuasca in healing practice in Peru. In the 1970s the brothers Terence and Dennis McKenna ([1975] 1994) developed an interest in the brew, and Luis Eduardo Luna (1986) studied the Peruvian *vegetalismo*. But it was not until the 1990s that ayahuasca captured international attention. Stephan Beyer (2009) identifies the exact moment in 1991 with the publication of Luna's book *Ayahuasca Visions,* with paintings of the visions by the Peruvian *curandero* Pablo Amaringo (Luna and Amaringo [1991] 1999).

The Brazilian churches Santo Daime and União do Vegetal (UDV) started to spread abroad in the 1990s. These churches related to ayahuasca

are syncretic religions influenced in different ways by Umbanda, Spiritism (Allan Kardec's systematization of spiritualism), popular Catholicism, and/or Amazonian shamanism. For example, the UDV is more rationalistic, allowing spoken questions between participants and "masters" during the session, and denying the possibility of mediumistic possession. Santo Daime forbids the spoken word, but uses dance, hymns, and accepts the incorporation of spirits (Goulart 2008). As formal and institutionalized religions, they have their own network organizations, with their own centers and pilgrimage sites. But they also interact with therapists and holistic centers, and participate in the scientific community in a variety of ways. In Brazil, many academic researchers are also members of the Santo Daime and UDV churches, and numerous dissertations and scientific articles have been published on the subject of ayahuasca. The UDV church also has an institutional interest in promoting scientific research, and has its own medical department and scientific commission, conceived within the idea of convergence between spiritual knowledge—the science of Solomon—and academic knowledge (Labate and Melo 2014).

Ayahuasca in Spain. Spain played an important role when ayahuasca first arrived in Europe, perhaps due to aspects of its cultural background that eased the reception of ayahuasca in the country. This background was prepared by the early psychedelic influence, and the posterior arrival of alternative medicines, spiritual practices, and new schools of psychology. The psychedelic movement had an early influence in Spain, both in social and academic circles. Spanish psychiatrists started to study the therapeutic applications of LSD and other psychoactive substances in the early 1950s (Usó 2001). However, only a few years lapsed before the same researchers who had spoken of their possible therapeutic effects began to alert the population about their toxic and dangerous effects. According to Juan Carlos Usó (2001), this switch in the message was due to strong political pressure from the United States in the international context, and the commitment of Francisco Franco's dictatorship to policies designed to halt any countercultural initiatives. As in the rest of the world, the psychedelic research agenda was suspended, but recreational and social uses could not be stopped, and places like Ibiza and Formentera became popular points on international psychedelic routes.

Whereas psychedelics arrived earlier, alternative medicines came somewhat late to Spain, at the end of the 1970s (Perdiguero 2004). The new schools of psychology mentioned previously also began to appear in this period: in 1976 Luis Pelayo founded the Instituto de Terapia Bioenergética Anthos (Anthos Institute of Bioenergetic Therapy); in the 1980s several Gestalt associations were created, such as the Asocación Española de Terapia Gestalt (Spanish Association of Gestalt Therapy) in Madrid and the

Institut Gestalt (Gestalt Institute) in Barcelona; in the 1990s transpersonal psychology was introduced by Manuel Almendro.

Ayahuasca arrived in Spain in the 1990s through three major initiatives: the psychology school of Claudio Naranjo, the anthropologist Josep Maria Fericgla, and an addiction treatment center founded by the psychiatrist Josep Maria Fábregas. The three cases are paradigms of how scholars redefine spiritual practices in academic terms: Naranjo as the classical example of the use of psychedelics in the "perennial" background of new spiritual psychologies; Fericgla as the anthropological reformulation of shamanic practices; Fábregas as an example of the dialogue and syncretism between biomedical practices and traditional healing systems. The three cases represent specific ways of integrating alternative medicines, spiritual ontologies, Western academic health practices, and the use of psychedelics.

The life of the Chilean psychiatrist Claudio Naranjo is a perfect example of the intersection between psychology and spirituality in the second half of the twentieth century. His biography combines all the aspects discussed in this article: his training in new psychologies such as Gestalt (in which he is one of the most renowned successors of Perls); his interest in east Asian meditation (Naranjo 1976); his critique of Western culture and the need for a radical shift of consciousness (Naranjo 2005); his holistic and syncretic perspective through the Seekers After Truth program; and the idea of altering consciousness with psychedelics to facilitate spiritual self-healing (Naranjo 1973). Naranjo's first contact with ayahuasca was in the 1960s, through Schultes and Harner, whose advice guided him to the Putumayo department of Colombia, where he came into contact with the brew and published a pioneering study about its effects (Naranjo 1967). But it was years later that Naranjo placed greater emphasis on ayahuasca's psychotherapeutic applications, as a result of a profound mystical experience (Naranjo 2012, 28–29). Ayahuasca first appeared in Spain in the late 1980s, after Naranjo met the church of Santo Daime in Rio de Janeiro, and decided to arrange a meeting with the church in Spain as part of the Seekers After Truth program (López-Pavillard 2008). He would later decide not to continue working with Santo Daime, mainly because of the formal aspects of the doctrine and sessions. Naranjo's design of the ritual was much more eclectic and flexible than the structured setting of the church. This separation did not stop Naranjo from organizing more ceremonies in Spain and other parts of the world.

The second case is not from psychology but from cultural anthropology. Born in Barcelona, Josep Maria Fericgla grew up at a time when psychedelics were not difficult to find. In anthropology and related disciplines, there was already an intellectual curiosity about the relationship between psychedelics and culture, so it is not unusual to find that one of Fericgla's first papers was about the psychedelic mushroom *Amanita muscaria*, and its relation with the creation of symbols, myths, and culture

(Fericgla 1985). In the early 1990s Fericgla went to Ecuador to study the use of *natem* by the Shuar (Fericgla 1994). On his return to Spain, he founded the Societat d'Etnopsicologia Aplicada i Estudis Cognitius (Society of Applied Ethnopsychology and Cognitive Studies) and organized international conferences about entheogens, bringing together notable scientists in the field such as Albert Hofmann and Jonathan Ott.

Fericgla currently works on a range of activities related to the development of the inner world; these include workshops on holorenic breathwork, awareness of life through the experience of death, learning to love and say goodbye to things and people, and courses on meditation and on psychotherapeutic applications of ayahuasca. His interpretation of the mystical experiences of ayahuasca revolves around the vitalist-like idea of an energy expressed in every being, conceived as a transcultural human faculty, and articulated in different cultures, for instance in the Chinese idea of *chi*, and in the ineffable world of shamanism. Through his workshops and courses, Fericgla teaches how to express and let this vital energy flow in order to connect with the inner self and integrate existential values. Fericgla remains strongly critical of Western society, stressing the need to find alternative ways of spiritual and existential self-awareness.

The third illustration is the Instituto de Etnopsicología Amazónica Aplicada (Institute of Applied Amazonian Ethnopsychology or IDEAA) founded by the psychiatrist Josep Maria Fábregas as a pilot project in the year 2000. Initially located in Belo Horizonte (Mina Gerais, Brazil), it was strategically moved to Prato Raso, a site near Céu do Mapia, the headquarters of Santo Daime/CEFLURIS (Fernández and Fábregas 2013). IDEAA focused on the use of ayahuasca to treat cases of addiction that proved to be more resistant to conventional therapies. Most of its patients were from Spain, so the isolation and the remoteness of the center were important factors in the therapeutic setting. The center is no longer operating, but a significant number of therapists and professionals learned from this experience, and now continue working with ayahuasca on their own initiative.

The first contact Fábregas had with ayahuasca was in malaria eradication programs in Amazonas. In these programs, interaction with shamans as social authorities was an important factor in gaining better access to communities. In the dialogue between Western medicine and folk healing traditions, some of the substances the shamans used proved effective in the treatment of certain diseases. One of these substances was ayahuasca, and Fábregas started to assess whether it could be used in some resistant cases of addiction. The idea was already being applied in Tarapoto, Peru, by French psychiatrist Jacques Mabit, who founded the Takiwasi center in the late 1980s (Cárcamo and Obreque 2008). Similarly to Fábregas, Mabit witnessed the usefulness of traditional medicine when working in a hospital in Peru. In a later trip to the upper Amazon, he discovered that the

local population used *curanderos* for addiction problems. This ethnomedical use of the brew inspired him to found Takiwasi (Mabit Bonicard and González Mariscal 2013). Mabit's initiative was a strong influence in the creation of IDEAA, integrating alternative medicines, east Asian practices, and psychological techniques from the gestalt, bioenergetic, and transpersonal schools. There are also differences, however; while there is a strong presence of the Peruvian Amazon *vegetalismo* in Takiwasi—not only in the use of ayahuasca, but in the variety of plants found in its herbalist tradition—IDEAA borrowed elements from Santo Daime (Fernández and Fábregas 2014).

At the present time the uses of ayahuasca in Spain are heterogenic, and come through different routes, people, and organizations. But considering the crossroads between spirituality and science, and also the beginnings of ayahuasca use in Spain, the three cases presented are the most important ones. Claudio Naranjo was the first to bring ayahuasca to the country, and has also had an intellectual influence in psychological and therapeutic circles. Fericgla and Fábregas were perhaps more important, because under their supervision a number of therapists were trained who now lead groups related to ayahuasca. They also had an impact in Spain's contribution to the renaissance of psychedelic studies, promoting a new generation of researchers and studies in the field.

Discussion: Some Brief Insights from Social and Cognitive Perspectives

Cultural Translations. In all the cases described there is "cultural translation" from the original ayahuasca practices to the Spanish context. Original elements, such as the hymns of Santo Daime, or the classic chants and instruments of the Amazonian native healers, are usually combined with elements from other traditions, such as east Asian meditation, ethnic and/or new age music, and psychotherapeutic moments of "integration" after the ceremony. These changes are explicitly made by the professionals because the functions and goals of the ritual are different from the original contexts. Whereas in Santo Daime the ritual is related to a formal and communal religious/mystical/healing practices (cf. Barnard 2014), and in the *mestizo* Amazonian culture the *curanderos* use ayahuasca to treat folk illnesses and witchcraft, in Western ceremonies ayahuasca is used in a psychotherapeutic setting, with a focus on existential and personal conflicts. The elements in the ritual are redefined within the idea of a redefinition of the ritual according to psychotherapeutic goals and our own Western cultural matrix.

These changes involve a "cultural translation" from the original culture to the Spanish context. The translation of symbols and practices is an inevitable part of every intercultural exchange, and is never unilateral. For example, as I described in a previous article, in the exchange between urban

holistic centers and Peruvian ayahuasca *curanderos* the translations go both ways, in a process I called "double assimilation":

> (1) On the Western side, the adaptation of Amazonian *vegetalismo* to mystic-esoteric practices reformulated under the therapeutic notions of the New Age and the redesign of the ayahuasca ceremonies to meet the needs and demands of an urban population with existential problems, using insight as a therapeutic tool; and (2) in the case of the Peruvian traditions, the assimilation of the *curanderos* to a transnational spiritual market system, adapting their practices to the needs of the gringo (white Western people), in a supply–demand relationship that offers good economic returns, and in which the *curanderos* recruit their public through travels around the world, the creation of healing centers adapted to a Western public, and participation in transnational ayahuasca networks and the world market of beliefs, increasing day by day thanks to globalization and information and communication technologies like the Internet. (Apud 2015, 8)

In fact, the idea of two cultures exchanging is an oversimplification. The *mestizo* cultural background of the healers of the upper Amazon has included many elements of Western culture since the times of the conquest (MacRae 1992). For example, in the case of shamanism and other healing traditions, there is a strong influence from Spanish traditional medicine, with practices like *baños de limpieza* (cleaning baths), and different folk diseases. Moreover, the shamanic practices of the upper Amazon are neither monolithic nor isolated traditions. As Beyer (2009) points out, shamans from different geographic and cultural areas have had fluid contact since pre-Columbian times through an extensive interethnic navigation network along the Amazon river. Thus the diffusion of knowledge—with its respective cultural translations—is the rule, not the exception (Fotiou 2010).

Systems, Fields, and Networks. Some authors have proposed that the cultural background of Amazonian shamanism can be better explained in terms of networks rather than the classic idea of "cultural systems" (Langdon 2006; Beyer 2009). The idea of culture as a network is used to illustrate the less systematic and formal nature of symbolic knowledge and cultural practices. In the study of religions, it usually describes those traditions which do not have the formal organization of traditional religions, for example "new age networks" (Rothstein 2001). But it would be useful to consider whether more formal and structured religions such as Catholicism, Buddhism, Islam, or Judaism could also be described as networks, despite their hierarchical structures and authorities. This question is related to the general debate of what a cultural system is, and whether cultural and social phenomena can be explained in systemic terms.

In classical sociology, the idea of an underlying system can be traced to authors such as Émile Durkheim and Talcott Parsons, who proposed a systematic order in both society and culture. The latter, culture, was

considered in terms of its social functions, as a "symbolic order" capable of establishing consensus, and maintaining commitment to social structures. But in the 1960s, constructionist sociology questioned the idea of a social order, focusing on the micro-social dialectics between society and individuals, and introducing the idea that rules are also broken and redefined by the reflexivity of the social agents. For the case of religion, the sacralization of the world was considered as a "nomic battle" between social actors in the construction of social reality (Berger 1999). Another alternative was Pierre Bourdieu's concept of social field, as a game with certain rules and agents competing for the legitimacy of their practices and beliefs. Bourdieu applied this idea in both scientific (Bourdieu 2001) and religious fields (Bourdieu 2006).

In anthropology, the idea of culture as an organized system is strongly rooted, perhaps because of the German heritance of Wilhelm Dilthey's concept of "worldview"—*Weltanshauung*—and its influence on the foundation of cultural anthropology since Franz Boas (Stocking 1989). There is also the influence of sociology—for example, the French tradition from Durkheim to Lévi-Strauss; or from Parsons to Clifford Geertz in the case of the United States—in that in symbolic anthropology culture acquired autonomy from social systems (e.g., Geertz 1973). In the 1980s and with postmodern anthropology, the culture system model was criticized and replaced by the conception of culture as a heterogeneous phenomenon. This change was the result of a general criticism of classical ethnographies and their use of monolithic cultural descriptions, considered as ethnocentric and colonialist ways of understanding other societies. To escape from this vision, anthropology started to experiment with new forms of doing ethnography, which included the description of culture as a polyphonic and fragmentary phenomenon. The idea was also reaffirmed with globalization and the interest of anthropology in urban societies, where syncretism and heteroglossia are strikingly evident.

Finally, and more recently, Bruno Latour's (2008) actor-network theory uses the term "network" in a different sense, strongly influenced by the conception of "rhizome" devised by Gilles Deleuze and Félix Guattari. In a critique of what the author considers "metalanguage," categories such as society and culture are discarded. For Latour, there are only translations between mediators, and traceable associations that can be studied as networks. But networks are nothing more that the track the researcher has constructed, and not a real phenomenon *per se*. Furthermore, actors are the sum of their agencies and not an autonomous ego (Latour 2008).

All these alternatives to system theories have their strong and weak points. In the case of sociology, Bourdieu's notion of field allows us to analyze both science and religion in political terms. But the problem of this notion is that while it can manage the diversity of agents inside a specific field relatively well, it gives the idea of a certain impermeability

from one field to another (Hervieu-Léger 2005). And in our specific case, the category "ayahuasca" is in itself a product of the permeability between science and religion, in what Tupper and Labate (2014) call the "ontology of ayahuasca." On the one hand, in recent decades academic studies have been constructing a scientific object of study known as "ayahuasca," a category that includes not only different variations of traditional recipes, but also lyophilized powders for experimental research. On the other hand, Brazilian churches have also intervened in the definition, in a bid for political legitimation:

> Currently, the extended meaning of "ayahuasca" in global public discourses is somewhat ontologically stabilized as a brew composed exclusively of *B. caapi*, *P. viridis* and water. The sacraments of the international Brazilian churches, daime (Santo Daime) and hoasca tea (UDV), have helped fix the meaning of "ayahuasca" to this simple recipe. The UDV's traditions at one time allowed for the use of admixture plants with its hoasca sacrament, but for strategic reasons associated with securing political legitimacy for its religious practices, it ultimately institutionalized the more standardized "pure" brew of *B. caapi* and *P. viridis*. However, outside these church settings, a wide range of preparations may be dispensed as "ayahuasca" in contemporary indigenous, mestizo, or hybridized ceremonies, sometimes unwittingly and sometimes knowingly. On the other hand, *yage*, which is usually made of *B. caapi* and *D. cabrerana* in Colombia, or *natem*, which is made with *B. caapi* but not necessarily *P. viridis* in Ecuador, are frequently represented homogeneously as "ayahuasca". Thus, people reporting on their use of "ayahuasca" consumed in settings other than the Brazilian ayahuasca churches may have encountered a diverse range of brews and assorted admixture constituents. (Tupper and Labate 2014, 73)

So "ayahuasca" can be considered as a conceptual generalization of a heterogenic compound related to different sociocultural practices, including scientific research. In this construction not only academic agents intervene, but also religious institutions such as Santo Daime and UDV. All these social agents constructed the category "ayahuasca" as an abstraction that serves in disputes, negotiations, and legitimations in the drug policies arena.

The Individual as a Node. One main weakness of sociologic perspectives such as Bourdieu's notion of field is the reduction of religious phenomena to social relationships of legitimation. By contrast, in cultural anthropology the postmodern idea of culture as a plural and polyphonic phenomenon introduced the individual's meanings and narratives as an essential part of the ethnographic accounts. However, anthropology also became reductionist in terms of culture as a "self-contained phenomenon" (Bloch 2012), where the subjects end up being prisoners of an "exhaustive cultural transmission" that explains everything (Boyer 1994). Their autonomy is not saved at all, despite the idea of their

reflexivity and the polyphony of their voices. Actor-network theory is not an exception but a paradigmatic example: agents became a product of their multiple agencies and translations, and their characteristics could only be explained in their agencies with other actors in a network *ad infinitum*. They are paradoxically singular and active, but also extremely passive and produced by their associations.

In contrast to an epistemological tradition which considers authors and subjects as an effect of epistemic, cultural, and social agencies, I want to mention the importance of the individual as a creative and communicative node, situated in and between networks. Individuals are heterogenic social agents, but this heterogeneity happens in the subject as a psychological unit. And although individuals are "fragmented" in different social roles, they also try to cogently synthesize their own experiences and commitments in their various roles as scientists, therapists, and/or religious/spiritual practitioners. The three cases from Spain could be considered as examples of this: they belong to certain academic traditions and practices, but they also have their own biographic trajectories. Although their activities could be related to certain cultural traditions, their own personal traits are also related to individual psychological characteristics such as their particular charismatic personalities, and their personal spiritual experiences. This statement may sound obvious, but it is neglected not just by a few academic streams, a consequence of their rejection of "psychologism."

Spiritual Ontologies as Natural Psychological Phenomena. The rejection of "psychologism" also produced a disavowal of explanations in terms of psychological "innate predispositions," that is, cross-cultural cognitive phenomena that cannot be explained solely by cultural transmission. The phenomenon implies universal features of the human mind-brain, and their direct effect on the spread of ideas (Bloch 2012). One of these features is the ontological assumption of the existence of "intentional agents," an evolutionary acquisition of great importance for the recognition of other living beings, and for socialization among other human individuals (Boyer 1994). The recognition of intentional agents is a necessary condition for animistic and religious beliefs (Guthrie 1980; Barrett 2000), so "spiritual ontologies" primarily depend on this ability. In science, the expulsion of "final causes" led to the devaluation of "intentional explanations," suspected of being metaphysical explanations. It also led to the reduction in the variety of religious, spiritual, and theistic beliefs in terms of dogmatism, within a "Whig" history of science versus medieval thought. But despite these conceptions, the presence of spiritual ontologies continued and will continue in science, expressed public or privately, sustained by individual scientists or by schools and currents of thought.

As I mentioned in the first section, the presence of "ontologies of spirituality" in the scientific field is related to four main issues: (1) the belief in

spirituality in a wide sense of the term, including different perspectives and cosmologies; (2) a recurrent relation between these beliefs and ASCs, the last ones giving certain "sense factuality" to the first ones; (3) a scientific reaction against these kind of beliefs since the foundation of modern science; and (4) the persistence of these beliefs in the academic field, despite the mainstream scientific rejection. All of these points can be considered for the case of different academic traditions, including those related to ayahuasca.

First, and considering the history of science over the centuries, renowned scientists and philosophers supported religious ideas such as the belief in spirits, or the existence of vital forces. As we have seen for Spain, the case of ayahuasca could be considered as a novel paradigmatic example, but also with roots in previous academic traditions. Second, ASCs produced by ayahuasca have given factuality to such beliefs, in the same way as different spiritual "methods" and "rituals" gave a sense of factuality to spiritualism in the nineteenth century and neoshamanism in the twentieth century. Third, while it is true that modern science reacted against "final causes," this could not halt completely the emergence of different "ontologies of spirituality." Among these ontologies, I have considered certain spiritual perspectives related to ayahuasca, nurtured by previous academic perspectives related to the new psychologies and the anthropological neoshamanic reformulations described in the previous section. The permanence of these perspectives is related to the persistence of "spiritual experiences" and "intuitional beliefs" as natural predispositions of human cognition.

Conclusions

At the beginning of the article, I proposed that the initial problem of science can address the question of what is consciousness, and how it must be used to construct valid and reliable knowledge. The "standard method of science" relies on the formalization of conscious experience in terms of measuring its extensional properties, and the expulsion of intentional properties from the program of investigation. This was a necessary step to escape from scholastic dogmatism, but it had the negative effect of devaluing intentional explanations. This also brought about a "Whig" history of science, with the two-rival scenario of science versus religion, ignoring that the idea of God, and also spiritual ontologies, had not been totally expelled, even in the mechanism paradigm. I described how the basic religious idea of consciousness as ontologically independent of the extended world was sustained by some nineteenth-century scientists, under the influences of spiritualism and oriental mysticism, and later in the twentieth century, in a countercultural milieu. Ayahuasca history is one chapter in these intersections, from the first studies about the brew to its popularity in the 1990s. In the case of Spain, I briefly

described three cases, analyzing them in light of the crossroads of science and spirituality.

I also briefly proposed a theoretical framework to understand this permeability of science and spirituality, integrating a psychological level of analysis that is generally excluded by cultural and social perspectives. With these remarks I do not want to give the wrong idea that the above-mentioned theories are not useful in any way. Each one sheds light on certain aspects in studies of both science and religion, but they are also too bounded to their own disciplines and their definitions of what the phenomena are (cultural, social, associations). I think that the problem is not the categories used—system, networks, fields—but rather, difficulties arise (1) if the categories are conceived as heuristic explanatory models with their benefits and flaws; (2) if the descriptions of a cultural system/network include how dynamic changes occur in a system, and how they interact with different networks (Czachesz 2014), for example, how religious networks produce changes in scientific disciplines, and vice versa; and (3) if the model is open to an interdisciplinary dialogue with other noncultural explanations in order to escape from the overdetermination of "the social" and/or "the cultural."

The permeability between science and religion is possible because spiritual ontologies can always find their place in the scientific community, both in scientists' private beliefs and in schools of thought, producing different "trajectories of reflection of science and religion" (cf. Hefner 2009). This permeability should not be conceived as a necessary obstacle to scientific development. In fact, when used properly it can be considered as a positive characteristic for the avoidance of homogeneity, and for the production of new ideas, if we consider the importance of metaphor, analogy, and abductive thinking in the scientific "context of discovery" (Peirce 1988; Samaja 1998). Religion, art, and other social phenomena can inspire scientific thought, and play a major role in new theories and inventions. Furthermore, faith should not be considered as synonymous with dogmatism, and there are many scientists whose faith does not come into conflict with their scientific performance.

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PHARMACOLOGY OF CONSCIOUSNESS OR PHARMACOLOGY OF SPIRITUALITY? A HISTORICAL REVIEW OF PSYCHEDELIC CLINICAL STUDIES

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ABSTRACT: In the second half of the twentieth century, when psychopharmacology was not developed as we know it today and psychoanalysis was an influential school, various psychiatrists began to develop a 'pharmacology of consciousness,' and became interested in hallucinogens as new paths for accessing the unconscious. However, with the psychedelic model, the pharmacology of consciousness turned also into a 'pharmacology of spirituality,' focused on the use of spiritual experiences as catalyzers of psychological change. This article is a historical review of the origins and development of this spiritual aspect of psychedelic research, from its beginnings in the 1950s to the 'Renaissance of psychedelic studies' that we have witnessed in recent decades. The guiding principle is that spiritual experiences have played a key role in psychedelic studies, shaping scientific ideas, psychotherapeutic strategies, and the ideological positions of many of the researchers interested in the clinical applications of hallucinogens.

KEYWORDS: psychedelic research, spiritual experiences, pharmacology of consciousness, pharmacology of spirituality.

Since the 1990s, we have witnessed what some authors call the 'Psychedelic Renaissance' (Sessa, 2012a, 2012b), after two decades of almost no clinical research on the potential psychotherapeutic uses of hallucinogens. The first studies can be traced back to the 1950s, when psychopharmacology was not a developed discipline as we know it today, and psychoanalysis was an influential school in mainstream psychiatry. In a psychoanalytical milieu dominated by the idea of unveiling the unconscious, hallucinogens aroused the curiosity of psychiatrists, as a new way to access the unconscious, which was faster than free association. It was a 'pharmacology of consciousness,' interested in the therapeutic effects derived from the analysis of the subjective experience in altered states of consciousness (henceforth ASCs) rather than the pharmacological action itself. However, with the psychedelic model, the pharmacology of consciousness subsequently became a 'pharmacology of spirituality,' and some ASCs were recognized as transcendental experiences, which were the main catalysts for psychological therapeutic changes. The connection between psychopharmacological drugs and spirituality was an important influence in the transpersonal paradigm, in which experiences beyond the body and ordinary reality began to be considered as ontologically valid. The idea was that changing the brain's chemistry allows us to access different spiritual realities, which Thomas Roberts (2006) calls 'pharmatheology,' and Nicolas Langlitz (2013) calls 'neurospirituality.'

In this article, spiritual experiences will be considered using a generic definition, as those related to ASCs in which the subject experiences a reality different from the

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ordinary material world. In these kind of states, consciousness is experienced as independent of the natural world, and interacting in a spiritual realm. Sometimes the experience includes supernatural agents, other times it can be related to feelings of transcendence, awe, wholeness, joy. The term ASCs was coined by the psychiatrist Arnold Ludwig (1966), who attempted to scientifically understand the complex cultural variation of experiences and procedures involved in those states. It was subsequently popularized by Charles Tart within a transpersonal paradigm, in which both altered and ordinary states of consciousness were considered equally reliable sources of knowledge (Tart, 1969, 1971, 1972). ASCs occur in more than 90% of the world's cultures (Bourguignon, 1980), and usually involve chemical and/or nonchemical techniques. These experiences include communication with supernatural beings, possession, mystical experiences, communication with divinity, shamanic trances, near-death experiences, out-of-body experiences, cosmic journeys, remembrances of other lives and death-and-rebirth experiences, among others. Some authors place these heterogenic experiences in a common broad category. Others scholars stress the diversity of experiences, or the attribution of meaning to the experience as the key element in defining its spiritual or religious quality (for a review of the topic, see Czachesz, 2017).

This article is a review of the spiritual aspect of the history of psychedelic research. The guiding idea is that spiritual experiences have played an essential role since the beginnings of psychedelic studies. These experiences have shaped scientific ideas, psychotherapeutic strategies, and the ideological position of many of the scholars interested in the clinical applications of hallucinogens. Furthermore, these experiences were not only observed in the experimental subjects or patients, but also experienced by the researchers themselves. Most of them created a strong commitment to spiritual perspectives, since these phenomenological experiences gave factuality to spiritual beliefs. Thinking of the psychedelic model in terms of a pharmacology of spirituality implies considering it as an academic hybrid, between science and religion.

The article starts with the beginnings of pharmacology of consciousness, and its relation with a psychoanalytic perspective, which became popular in the first half of twentieth century. The second section continues with the emergence of the psychedelic model, which assumed a pharmacology of consciousness especially concerned with spiritual experiences, mainly after Osmond & Hoffer's observations in their studies of alcoholism. The third part describes how these new academic spiritual perspectives contributed to the countercultural movements of the 1960s, and describes the beginnings of censorship in hallucinogen studies. The final section covers the renaissance of psychedelic studies in the 1990s, describing the general context, and then focusing on the specific case of some new treatment centers, considered as cultural hybrids of western and non-western therapeutic and spiritual practices.

The Birth of Pharmacology of Consciousness

The discovery of *Lysergic Acid Diethylamide* (LSD) by Albert Hofmann established a new agenda of studies of hallucinogens and their application to mental health problems. These substances were initially thought to be

psychotomimetics *-psychoto*, psychosis; *mimesis*, imitation, which copied the effects of mental illnesses, and caused a reversible psychosis. This property was considered to be a window on the phenomenological world of mentally ill patients, and useful for a better understanding of their subjective experiences. The psychotomimetic model could be traced back to the nineteenth century, when Kraepelin and other psychiatrists suggested that the various forms of madness could have a common origin in an endogenous toxin (Yensen, 1998). The idea was also that some substances could temporarily recreate the experience of being mad. The French psychiatrist Jacques-Joseph Moreau de Tours, who used hashish both on patients and on himself, was the first to study the idea. Later, in the 1920s, Kurt Beringer (1927) replicated Moreau de Tours' idea but used mescaline instead of hashish.

Since Albert Hofmann discovered LSD's psychoactive properties in 1943, the same psychotomimetic conception was applied, and various scientists soon began to establish a new research field that Stanislav Grof (2014) refers as the 'pharmacology of consciousness.' The discovery of LSD was immediately followed by the study of other substances, such as psilocybin, mescaline, ibogaine and harmaline. In the early 1960s, various psychotomimetic substances were being studied by scientists for their potential therapeutic applications for depression, anxiety, end-life distress, chronic pain, addictions, and other psychological disorders. As pointed out by Grof (2008), the variety of psychotherapeutic uses of these substances was reflected by the many different names used in the professional literature: psycholysis (Leuner, 1962), psychedelic therapy (Hoffer & Osmond, 1967), oneiranalysis (Delay, Pichot, & Lemperiere, 1963), and hypnodelic treatment (Levine & Ludwig, 1965). At some risk of oversimplification, these therapies are usually divided in two main categories: the psycholytic therapies (which used smaller doses of the psychoactive agent, combined with drug-free analysis sessions), and the psychedelic therapies, involving higher doses, and the central role of 'peak experiences' to generate a psychic change.

The psycholytic model - from *psycho*, mind and *lysis*, dissolution - spread mainly in Europe, with 18 centers using psycholytic therapies in the 1960s (Passie, 1997). The German psychiatrist Hanscarl Leuner was one of the first to coin the term, as *Psycholytische Therapie* (Leuner, 1962). This paradigm included the therapies that used hallucinogens to assist patient analysis, in order to create new ways of accessing repressed unconscious contents and memories. One of the first reports of this possible use was written by Busch & Johnson (1950), who considered the effect of LSD as a transitory toxic state that weakens the barriers of repression, and as a possible tool for shortening psychotherapy. The general idea of inducing oneiric experiences in therapy was not uncommon in psychoanalysis, if we consider the initial use of hypnotherapy by Sigmund Freud, the importance of dreams in psychoanalytical interpretation, and the idea of engendering 'free association' in a setting where the patient is laying on a couch. The classic psychoanalytical method could perhaps be considered a mild kind of dream-like ASC for accessing the unconscious. In the early studies of the new pharmacology of consciousness, Walter Frederking wrote about this relationship between dreams and the novel use of intoxication,

> In the course of psychotherapy, the close connection between the subject and his dream is clearly and meaningfully revealed in still another manner: the patient's essential problems are presented to him during the state of intoxication just as they are in his dreams. This comes about in one of two ways: in some, childhood memories are uppermost, reaching very far back and with strong emotional content; instead, in others, life situations including their psychopathological history are presented in dream-like symbols. (Frederking, 1955, pp. 262–263)

In England, Sandison , Spencer, & Whitelaw (1954) also studied the effects of LSD as a way to produce memories and abreactions. In France, Delay, Pichot & Lempériere were doing the same thing under the name of oneiranalysis, which stressed not only the interpretation of the unconscious, but also the biological modification of the patient's mood, and the positive effects of the transference between doctor and patient:

> The therapeutic effect of psilocybine can be conceived in a double perspective; first, a direct biological action of the drug on the organism, especially a stimulating effect on mood and awareness [...] Secondly, there is a psychological action through the utilization of material brought up in the course of the experiment, and through alterations in doctor/patient relationship. [...] The emergence of childhood memories or unpleasant conflictual situations produces intense emotional reactions of cathartic value. Remembering well what has occurred during the experiment the patient can give a detailed report of it. It is in fact in the hours or days following the experiment that the most fruitful processes of association and interpretation continue, in which the patient readily links what he has just lived through with his past experiences. [...] A transference relationship is established, which can be used therapeutically, since it allows the patient an easier externalization of his emotional needs and a better grasp of the meaning of the material brought up during the experiment. (Delay et al., 1963, pp. 40–41)

In all these cases, psychiatrists were therefore experimenting with new ways of accessing the oneiric language of the unconscious, with methods they considered faster than those proposed by Freud. The twofold idea that an inductor of a reversible psychosis could also be a psychotherapeutic tool was not a contradiction within a psychoanalytical framework. This conception was consistent with the Freudian idea that the language of the unconscious was intimately related to psychosis, in what Freud (1915) called the primary process. In the treatment of neurosis, the psychoanalytical method consisted of unveiling the memories hidden in this symbolic language, and re-elaborating the symptoms and repetitions through transference and analysis (Freud, 1914). From a strictly psychoanalytical point of view, hallucinations are a negative repetition and a narcissistic withdrawal defense, but also a failed – but positive - attempt at communicating with missing internal objects and repressed experiences (Melgar, 1995). All of these could be considered of therapeutic value when induced in non-psychotic disorders. Furthermore, in the neuroscientific field, the psychotomimetic paradigm offered a possible way to explain the neurochemistry of psychosis–an idea that was considered plausible after the Nobel Laureate Julius Axelrod discovered N,N-Dimethyltryptamine in human brain tissue (Saavedra & Axelrod, 1972).

But the misinterpretation and decontextualization of these notions were also a way to discredit the potential therapeutic applications of these substances. Furthermore, for a considerable number of psychoanalysts, the similarities between the effects of hallucinogens and psychosis were too close for them to be considered medical applications,

> For most psychiatrists and psychologists, psychotherapy meant disciplined face-to-face discussions or free-associating on the couch. The intense emotions and dramatic physical manifestations in psychedelic sessions appeared to them to be too close to what they were used to associate with psychopathology. It was hard for them to imagine that such states could be healing and transformative. As a result, they did not trust the reports about the extraordinary power of psychedelic psychotherapy coming from those colleagues who had enough courage to take the chances and do psychedelic therapy, or from their clients. (Grof, 2014, p. 296)

The Psychedelic Model: A Pharmacology of Spirituality

In 1957, Humphry Osmond decided to move away from the psychotomimetic model, replacing the term with psychedelics – *psycho*, mind; *deloun*, reveal - signaling the mind-opening properties of these substances (Osmond, 1957). Psychedelic therapy was initially developed by Osmond with Abram Hoffer at the University Hospital in Saskatoon, Canada, using large doses of LSD on alcoholic patients. The initial idea was to provoke an artificial *delirium tremens* in the patients, a 'hitting bottom experience' (Hoffer & Osmond, 1967). It was a kind of shock therapy without the dangers of the natural delirium, which allowed the patients to experience the consequences of their self-destructive behavior. However, what Hoffer and Osmond discovered was that the patients who benefited most from the treatment had not had any frightening experiences, but instead mystical and meaningful ones. One of the psychiatrists using LSD with alcoholics in Saskatoon was Colin Smith, who reported three common experiences with hallucinogens: effects resembling *delirium tremens*, the remembrance of repressed material, and experiences similar to a kind of religious conversion. Although he also started with the idea of producing a hitting bottom experience, he finally considered the other two experiences as the important ones for the recovery of patients:

> I began using the hallucinogenic drugs with the idea that the delirium tremens-like experience might act as a caveat to the alcoholic, the more effective in that it occurred in a setting of therapeutic exploration and optimism, and was being combined with rehabilitative measures. At no time, however, was the experience designed as merely a frightening one. Later I began to place more emphasis on the second and third phenomena. Many of the patients who were favorably affected seemed to undergo a kind of conversion experience. They felt differently about themselves and their fellow men, were able to overcome their need for alcohol, and in some cases, reportedly, even became social drinkers. (Smith, 1959, p. 293)

Both in psycholytic and psychedelic therapies, the main focus was not the substance itself, but the experience as a key therapeutic factor. This was not consistent with the mainstream, and Morton Jellinek's idea of alcoholism as an objective biological disease located in the brain (Dyck, 2006). The idea of alcoholism as a medical disease could be traced back to Benjamin Rush at the end of the nineteenth century, but Jellinek's ideas in the 1950s were an important step towards the full medicalization of alcohol-related problems (Apud & Romaní, 2016). Besides, Jellinek's refusal to consider alcoholism as a moral problem was a boost for the temperance movement, so spiritual experiences as part of the treatment had no place in his medical conceptions (Jellinek, 1960). However, the psychedelic perspective did not contradict the tenets of *Alcoholics Anonymous* (AA) and its more religious approach. As it is well-known, the co-founder of AA, Bill Wilson, not only initially approved of LSD use for alcoholic treatment, but also experimented with the substance himself, and frequently communicated with Hoffer and Osmond in an attempt to introduce spirituality into the medical conceptions.

Unlike psycholytic therapy, the experiences produced in psychedelic therapy were not only related to psychodynamic material (e.g., unconscious remembrances, emotions, and traumas), but also to perinatal and transpersonal experiences (Grof, 1972), and to mystical ones, such as a sense of unity, transcendence of time and space, ineffability, and a sense of awesomeness, love, purity and joy (Pahnke & Richards, 1966). After a long career studying the clinical applications of psychedelics, William Richards emphasizes the importance of these kinds of experiences in recovery from addictions:

> ...when an addict finds within himself the memory of mystical consciousness, his view of himself, others, and the world is likely to be forever altered. Having experienced incredible beauty and love within himself, it is much more difficult to view himself as worthless. He knows that there is no source of guilt or remorse that cannot be resolved and forgiven. The noetic awareness of his interconnectedness within the family of man can replace feelings of alienation and estrangement. And, of course, there is no doubt that the "higher power" stressed in Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) now clearly is recognized as a very real and vibrant reality. (Richards, 2009, pp. 144-145)

The importance of these experiences was a common topic in studies of psychedelic treatment of addictions, and it was quite clear that the therapeutic effect could not be considered solely as a psychopharmacological action.

The idea of using large doses in order to provoke profound existential or mystical experiences was a crucial element in all the treatments studied within the psychedelic model (Griffiths, Richards, Johnson, McCann, & Jesse, 2008; Griffiths, Richards, McCann, & Jesse, 2006). This idea was very popular in American universities and research centers, through various studies and applications: at Harvard University, Timothy Leary and Richard Alpert conducted the controversial *Psilocybin Project*; in California, Sidney Cohen, Oscar Janiger and others created a psychedelic therapy center; at the Chicago Medical School, Eric Kast and his

collaborators studied the psychotherapeutic use of LSD; at Spring Grove State Hospital (later renamed the Spring Grove Hospital Center) in Baltimore, Maryland, psychedelic research was conducted by a team of old and new researchers, including Stanislav Grof, William A. Richards, and Albert Kurland. Psychedelics offered a useful therapeutic tool, as they could directly address William James' 'noetic quality' of mystical states, producing profound intellectual and emotional changes (James, 1902). The connection was also consistent with the early descriptions of traditional religious healing practices, in which spiritual experiences were usually provoked –with or without substances–in order to cope with psychological or social problems (e.g., Aberle, 1957; Eliade, 1951; La Barre, 1938; Lévi-Strauss, 1949).

However, it was also the influence of the mystical experiences that the researchers themselves had undergone which led to the transition from a mere pharmacology of consciousness to a pharmacology of spirituality. For example, the Chilean psychiatrist Claudio Naranjo emphasized the psychotherapeutic applications of *ayahuasca*, after having a profound mystical experience:

> This experience was an ascension, a progress in my spiritual awakening; but also a descent, because this progress produced a movement of my attention to my body, to the ground, to death, to the instincts and apparently, to the constitutive particles of the material world. This session involved not only a journey to death, but also a change of identity in which, after a certain period of time, I experienced myself as a cloud of subatomic particles, not caring about putting my body together or being part of nature's elements. At the end of this momentary and never expected immortal experience, I felt myself to be a healthy animal for the first time in my life. And as I owe yage this great leap into my long process of healing, I must also use it in the healing of others. (Naranjo, 2012, pp. 28–29, my translation from Spanish)

Psychology is not the only example, considering that psychedelic and spiritual ideas were developed by different scholars in a variety of disciplines: the ethnobotanist and ethnopharmacologist brothers Terence and Dennis McKenna had their own experiences in *La Chorrera* in the Colombian Amazonia (McKenna & McKenna, 1994); the anthropologist Michael Harner had a quite frightening one with the shamans of the *Jivaros* in Ecuador (Harner, 1980); the ethnomycologists Robert Gordon Wasson and Valentina Pavlovna also had a psychedelic experience in a mushroom ritual in Oaxaca (Wasson, 1957). The spiritual experiences undergone in real life by the researchers were an important factor in the establishment and support of spiritual beliefs, and created a strong commitment to the need for a spiritual shift in modern western culture.

Spirituality, Counterculture, and Prohibition

While this pharmacology of spirituality was developing a new research agenda. Western society was experiencing a tense cultural crisis. The turning point of this crisis came in the 1960s, in a post-War and Cold War context, and the general criticism of the western model of social progress and emancipation, including the

mainstream scientific materialistic worldview and its promises of rational solutions to social inequalities, economic crisis, and health problems. This crisis of modernity had various causes: social inequalities, individualistic culture patterns, environmental crisis, warfare all over the world and weapons of mass destruction, and economic and social instability. All these problems led to disenchantment with the western modern model of social emancipation, which Lyotard (1979) called post-modernity. Countercultural movements made their appearance: hippies, feminism, ecologism, indigenism, anti-war movements, Civil Right movements, and of course, the psychedelic movement.

Some authors stress the leaking of LSD from scientific laboratories to the general population as the origin of first, the psychedelic countercultural abuses of the substance by naïve and inexperienced young people, and second, the subsequent political prohibition (e.g., Grob & Bravo, 2005; Hofmann, 1979). However, this idea implies a classic internalist conception of an unpolluted history of science, which is not influenced by external social biases. Science was not isolated from the countercultural milieu of that time, and some emerging trends in psychology and anthropology cannot be explained without this general social background. The foundations of the psychedelic movement were already being laid in the 1950s, with the exchange of ideas between scientists and other social actors. For example, Aldous Huxley (1954) published *The Doors of Perception*, in which he described his experience with the mescaline provided by his friend Humphry Osmond. The book led to reactions from the novelist Thomas Mann, the psychiatrist Steven Novak, and a vigorous debate with the theologian Robert Zaehner. A few years later, in 1957, *Life* magazine published an article about the trip by Gordon Wasson and his wife Valentina Pavlovna to Oaxaca, where they participated in a ritual with mushrooms (Wasson, 1957). The article had a significant public impact, and triggered a wave of psychedelic tourism to Mexico. In the same decade, the beatniks became interested in hallucinogens, and in the early 1960s Ginsberg and Burroughs published their famous *Yage Letters* (Ginsberg & Burroughs, 1963). Hallucinogens were present in the social media, and scientists were both an influence and influenced by this cultural milieu.

Science was not isolated from post-modernity and countercultural movements. Within the *American Psychiatric Association*, different factions were struggling to establish the political definitions of mental health and therapy (Richert, 2014). In the social sciences, disenchantment with modern science led to what Anthony Giddens (1976) called the 'breakdown of the scientific orthodox consensus.' In cultural anthropology, positivism and its multiple schools (structuralism, functionalism, neo-evolutionism) were displaced by symbolic anthropology, which was more critical of modern science, and open to other cultural non-western worldviews. As a reaction to modern scientific materialistic worldview, some anthropologists started not only studying psychedelics and ASCs, but also became shamans themselves (e.g., Castaneda, 1968; Harner, 1980). This spiritual turn in academia–with the corresponding rejection of scientific materialism and mechanism– was part of the general social countercultural longing for alternative non-western models of emancipation. The same situation arose in psychology, with new schools in the second half of twentieth century, such as humanistic psychology, the gestalt school, transpersonal psychology and the Bioenergetic School.

Transpersonal psychology focused on the importance of spiritual and transpersonal phenomena (Ferrer, 2014), and since its foundation has developed various ASC techniques for accessing those experiences (Puente, 2014). It is important to note, however, that focus is not limited to the experiences per se, but the way in which transpersonal experiences can be integrated to serve individual and societal development. Transpersonal psychology is also interested in non-western mystical traditions, and some scholars may posit a common core of spiritual awareness as part of a perennial philosophy. Such perspectives go far beyond the usual cognitive limitations of western materialistic reductionism. According to Méndez López (2013), psychedelics have an important role in this worldview, as a direct path to a 'revolution of consciousness.'

The countercultural movements were considered subversive and dangerous for the status quo in the United States, at a time when the entire world was polarized by the Cold War. In this context, Richard Nixon declared the 'war on drugs,' due to not only being worried about hippie, black and anti-war movements (as it was mentioned by former Nixon domestic policy chief John Ehrlichman, in Baum, 2016), but also being interested in finding a good excuse for military intervention in Third World countries (Chomsky, 2003). In 1971, the United Nations *Convention on Psychotropic Substances* included psychedelics on the list of illegal drugs, grouping together all substances related to the expansion of consciousness, without discriminating with regard to their different toxic properties, medical advantages, or psychological effects (Escohotado, 1992). The consequence was the sudden death of psychedelic studies:

> In 1966, 70 active research projects investigating the clinical effects of hallucinogens were being conducted; by 1970 only six remained; by the 1980s they were virtually non-existent. The focus of the few remaining hallucinogen research programs shifted from the clinic to the research laboratory, where these substances became pharmacological tools to explore brain neurochemistry. (Nichols & Chemel, 2006, p. 12)

The Renaissance of Psychedelic Studies

The prohibition of psychedelics and the consequent suspension of the research agenda was part of a historical context, and so was the 'renaissance of psychedelic studies' in the 1990s (Sessa, 2012a, 2012b, 2015). One crucial factor was new political initiatives in the regulation and legalization of prohibited substances. In drug policy, the various aspects of the war on drugs are increasingly perceived to have failed. First, there is the idea that prohibition policies are incapable of dealing with drug-trafficking, and also that trafficking networks are the logical result of prohibition (Miró, 2014). Second, there is a perceived need for a 'humanization of international law' for drug penalties, most of which infringe basic human rights, such as the right to privacy, health, ethical treatment (Boiteux, Peluzio Chernicharo, & Souza Alves, 2014), and the proportionality of punishment according to the crime (Uprimmy Yepes, Guzmán, & Parra Norato, 2013). Third, these policies have been unable to deal with important health emergencies in recent decades. Paradigmatic examples were the epidemics of HIV-AIDS, heroin, and

hepatitis-C in the 1980s, which resulted in the failure of prohibition strategies, and the consequent implementation of alternative ways of dealing with drug abuse such as harm reduction programs (Funes & Romaní, 1985). The success of these programs in countries like Holland, United Kingdom, Spain and Australia led to a review of the prohibitionist paradigm. Today, an increasing number of countries are starting to consider new alternative policies on drugs, including Spain, Portugal, the United States, Uruguay, Holland, Bolivia and New Zealand. Accompanying these changes is the progressive normalization of the use of some soft drugs, e.g., cannabis, and the transnationalization and popularization of certain psychedelics, e.g., *ayahuasca*, in what some authors have called New Age networks (Labate & Jungaberle, 2011). Taken together, all these factors have created a large population interested in the legitimation of their practices, in a spectrum that includes recreational uses (cannabis), spiritual/religious practices (*peyote* by the *Native American Church*, or *ayahuasca* by Brazilian churches), and psychotherapeutic uses (the use of psychedelics in alternative therapy centers).

However, the foundations for this renaissance were also laid by the researchers and therapists that initially experimented with psychedelics. Prohibition forced them to look for other non-chemical ASC techniques, which became popular in psychotherapeutic circles and among spiritual seekers. Stanislav Grof developed the Holotropic Breathwork (Grof & Zina, 1993), Hanscarl Leuner the Guided Affective Imagery (Leuner, 1984), and Ralph Metzner explored techniques such as yoga, meditation, and shamanic rituals (Metzner, 1979). As Grof points out:

> The last three decades have brought many revolutionary changes that have profoundly influenced the climate in the world of psychotherapy. Humanistic and transpersonal psychology have developed powerful experiential techniques that emphasize deep regression, direct expression of intense emotions, and bodywork leading to release of physical energies. Among these new approaches to self-exploration are Gestalt practice, bioenergetics and other neo-Reichian methods, primal therapy, rebirthing, and holotropic breathwork. The inner experiences and outer manifestations, as well as therapeutic strategies, in these therapies bear a great similarity to those observed in psychedelic sessions. These nondrug therapeutic strategies involve not only a similar spectrum of experiences, but also comparable conceptual challenges. As a result, for therapists practicing along these lines, the introduction of psychedelics would represent the next logical step rather than dramatic change in their practice. (Grof, 2014, p. 300)

It was in the 1990s when psychedelic studies started to reappear at various centers in Switzerland, Germany, Spain, England, Holland, Israel, Brazil, Peru, and other countries. Many universities and research centers returned to psychedelic research: Rick Strassman at the University of New Mexico, William Richards and collaborators at Johns Hopkins University, Charles Grob and collaborators at the University of California Los Angeles, Stephen Ross and Anthony Bossis at the New York University's Medical School, Jordi Riba and collaborators in the *Hospital de la Santa Creu i Sant Pau* in Barcelona, Felix Hasler and collaborators at the University of Zurich, Gerald Thomas and collaborators at the University of British Columbia and the University of Victoria in Canada.

Organizations funding and/or providing legal advice to psychedelic initiatives also appeared, such as the *Multidisciplinary Association for Psychedelic Studies* (MAPS), the *Heffter Research Institute*, the *International Center for Ethnobotanical Education Research & Service* (ICEERS), the *Beckley Foundation*, and the *Núcleo de Estudos Interdisciplinares sobre Psicoativos* (NEIP). A wide variety of substances such as MDMA, psilocybin, mescaline, ibogaine, DMT, LSD, and ayahuasca began to be studied with modern technology and fulfilling the proper methodological criteria, which were absent in the studies in the first period. The possible clinical applications include problems such as the treatment of end-of-life related anxiety, obsessive-compulsive disorder, cluster headaches, addictions and post-traumatic disorders.

In this revival of psychedelic research, views differ about the relationship between psychoactive substances and spirituality. For example, the *Council on Spiritual Practices* is openly concerned about psychoactive substances as tools to make direct religious experiences easier, and provide a closer encounter with spirituality for different kinds of people. The *Heffter Research Institute* considers itself as a scientific organization, free from religious values, which reflects a "... neuroscientific disenchantment and depoliticization of hallucinogen research" (Langlitz, 2013, p. 45), although the institution has a strong interest in the health effects of mystical and spiritual experiences. *MAPS* directly addresses the overcoming of policy impediments in psychedelic research (DPA & MAPS, 2015). The *International Transpersonal Association* of Stanislav Grof is interested in transcendental and transpersonal experiences; the *European College for the Study of Consciousness*, founded by Hanscarl Leuner, is diverse and interdisciplinary, bringing together natural and social scientists for a better understanding of psycholytic studies.

One new feature of this new period was the appearance of applied therapeutic centers combining academic psychotherapeutic approaches with traditional spiritual/medical practices: *Takiwasi* in Peru, *Runawasi* in Argentina, *Wasiwaska* in Brazil, *Nierika* in Mexico, *IDEAA* in Spain and Brazil. All of them are cultural hybrids that in different ways combine traditional medical practices, alternative medicines, oriental practices, and psychological techniques from gestalt, bioenergetic, and transpersonal schools. Although these centers started to appear in the 1990s, some initiatives had already begun in the 1980s, especially for the treatment of addictions. The *Ketamine Psychedelic Therapy* was founded in 1985 by the psychiatrist Evgeny Krupitsky in Russia, using *ketamine* combined with psychotherapy for the rehabilitation of heroin and alcohol addicts (Krupitsky, 1992). In 1986, Howard Lotsof founded *Endabuse* in Holland, using ibogaine in the treatment of addictions (Donnelly, 2011). However, it was in the 1990s when a variety of addiction treatment centers started to appear, with most combining western and non-western traditional treatments.

One of the most popular psychedelics used in these centers is *ayahuasca*, an Amazonian concoction usually prepared by mixing two plants: *Banisteriopsis caapi* (a vine containing the beta-carbolines harmine, harmaline and tetrahydroharmine), and *Psychotria viridis* (a shrub containing N,N-dimethyltryptamine, an alkaloid similar to serotonin). It was first described in the nineteenth century by Manuel

Villavicencio (1858) and Richard Spruce (1873, 1908), and later by Richard Evans Schultes in mid-twentieth century, at the same time as the first studies on psychedelics were being published (Schultes, 1967). However, psychedelic studies preferred to focus on other more well-known substances, at a time when the psychopharmacological properties of ayahuasca were not fully understood. It was during the renaissance of psychedelics that ayahuasca began to be given a central role on the updated psychedelic agenda.

An important historical and cultural factor was the popularization and appreciation of traditional medical practices as alternatives to biomedical treatments, and the need for new health strategies, as laid out in the Declaration of Alma-Ata (WHO, 1978). In Latin America in the late 1970s, the psychiatrist Mario Chiappe (1977) studied the traditional medicine of Peru, and argued that its practices were more effective than usually considered by biomedicine. He paid particular attention to psychoactive plants, used both in the Amazon forest (ayahuasca) and in the mountains (the *San Pedro* cactus). He also stressed the folk uses of these hallucinogens for addiction problems among the local population. Chiappe was an important influence for the French psychiatrist Jacques Mabit, who in the late 1980s founded the first center to use traditional Peruvian medicines and western therapies to treat addictions (Mabit Bonicard & González Mariscal, 2013). The center was called *Takiwasi* – from the Quechua for 'the house that sings'- located in the city of Tarapoto. Takiwasi provided a major boost for the spread of these kinds of centers interested in spiritual approaches, mixing western therapies with shamanic traditional healing practices. One of these centers was founded by the Argentinian psychologist Sacha Domenech. He initially went to Northern Peru to study the shamanic use of *San Pedro* with the famous *curandero* Eduardo Calderon Palomino (Domenech, *personal communication*, May 2014). A year later, he travelled to the Amazon rainforest and met Mabit, and took part in the foundation of Takiwasi. After working in Takiwasi, he returned to Buenos Aires, and created the *Runawasi* center in 2001, which is still operating, and focuses mainly on addictions. Another center was the *Instituto de Etnopsicología Amazónica Aplicada* (Institute of Applied Amazonian Ethnopsychology, or IDEAA) created by the Catalan psychiatrist Josep Maria Fábregas in 2000, in the Brazilian Amazon rainforest (Fernández & Fábregas, 2013). The center focused on the use of ayahuasca to treat resistant cases of addiction in patients brought from Spain. IDEAA no longer exists, partly because of the ambiguous interpretations of international treaties in Spain and Europe (Apud & Romaní, 2017; Feeney & Labate, 2013).

Conclusions

Although the psychedelic research agenda has had positive results in the therapeutic use of hallucinogens since its beginnings, it has also encountered resistance in western modern societies and in academic circles. In a broad cultural sense, these kinds of substances have sometimes been associated with profane cults, and related with madness, evil, lust, and superstition (Escohotado, 1992). Furthermore, since the industrial revolution, hallucinogens have not found a useful place in the chain of production-and-consumption: they are neither stimulants for working harder than usual (with the exception of the novel study of 'microdosing'

to improve daily activities), nor intoxicants for relaxing during leisure time. If that was not enough, they may also lead to anomic, countercultural, and subversive ideas. In scientific circles, the idea of a pharmacology of consciousness has intrigued some psychiatrists, interested in new ways of accessing to the unconscious. With the development of modern psychopharmacology and Neo-Kraepelian psychiatry, however, the subjective side of the treatment started to be considered too soft and less scientific. The situation worsened as those experiences were spiritual–a category in direct confrontation with mainstream scientific ideas. Last but not least, one must mention the countercultural ideology developed by academics related with psychedelic studies, in a paranoid Cold War context, and the war on drugs (Ellens & Roberts, 2015).

But spiritual perspectives persisted, although they were forced to seek other non-chemical techniques for ASCs, and over the decades the ground was prepared for a new revival of psychedelic clinical studies. This new revival is taking place at different institutions with different views about science and religion. This movement shows that scientific communities are permeable to spirituality–something that can be traced back to the relation between mysticism and physics in the first half of twentieth century, or further back, to the spiritualism in scientific circles in the nineteenth century, and even to the Neoplatonism of Kepler and Galilei. This permeability can be explained by the fact that scientists are also heterogenic social agents, with different beliefs and life experiences. Although they are fragmented in different social roles, they also try to synthetize their own experiences and commitments, producing different trajectories of reflection of science and religion (Hefner, 2009). In the specific case of psychedelic studies, there is another important factor, which is the effectiveness of spiritual experiences on the transformation of behaviors and beliefs, revealing perhaps not the unconscious, but the need to consider religion and spirituality as an important dimension of human experience.

The renaissance of psychedelic studies is today attracting the attention of important journals including *Scientific American* (Jacobson, 2014) and *The New Yorker* (Pollan, 2015). Times have changed, and some generations have grown up with a different conception about drugs, and their real and their imaginary dangers. But the controversy will continue, and the future of psychedelic studies will be debated both in the academic and the mass media, considering both their spiritual/religious value (Hood Jr., 2014; Richards, 2015; Roberts, 2016; Smith, 2000), and medical applications (Grof, 2014; Richards, 2009; Winkelman, 2015) .

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Section III

Ritual Healing, Addictions, and Ayahuasca. A Theoretical Model.

Ritual and healing in the light of different SRPs and theories

Regarding ayahuasca networks as health care systems was an interesting idea that contrasted with the fact that it had been rejected by mainstream biomedicine. But being a health care system is one thing, and considering a health practice as effective in its therapeutic goals is quite another. In these research articles I mention more than once that clinical studies have suggested that ayahuasca and psychedelics in general can have a therapeutic use. But this research is not an assessment of the efficacy of the therapeutic uses of ayahuasca. As a qualitative study, in the next section the idea is to describe and analyze the narratives of some patients who have been treated with ayahuasca for an addiction disorder. Our main goal is to understand how and why ritual ayahuasca healing works in these cases. For this I will use insights and studies from cognitive and cultural approaches, and I will propose an interdisciplinary model that considers different dimensions of the ritual and spiritual healing.

In the current section I present various SARs which will reveal how ayahuasca works as a ritual healing: the medical anthropology approach in the Placebo Agenda, the studies on rituals and ASCs, the Cognitive Science of Religion, the study of religious experience, and the study of addictions. To these five SARs we must also add another one that was mentioned in the section above –psychedelic studies – and two more that are presented in this section: studies on Religion & Health, and Conversion Studies. It is important to mention that this research does not focus on assessing the effectiveness of ayahuasca, but on analyzing some cases of addicts who have been cured using ayahuasca, and trying to understand what happened in the process. To this end, I use various SRPs and theories, particularly ones that provide a multilevel perspective, and mainly try to understand the interactions between cognition and culture. The idea of the articles presented here is to describe different theories and SRPs which have focused on the ritual from an interdisciplinary and multi-level perspective. Writing my theoretical framework in various articles was also a great opportunity to publish some reviews of the topic that are scarce in Spanish language literature (e.g. the neuropsychology of Religious Experience, or Cognitive Science of Religion).

The first article, entitled "Medical anthropology and symbolic cure. From the placebo to cultures of meaningful healing", is a review about how medical anthropology explains symbolic and ritual healing, and how it is related to the placebo agenda and new perspectives consisting of neurobiology, cognitive, social, and cultural levels. The second article, "Anthropology, psychology and altered states of consciousness. A critical review from an interdisciplinary perspective", addresses the study of ASCs, trance, and possession in anthropology, and describes these perspectives from an interdisciplinary and multi-level point of view. The third article, "Beliefs, rituals, and memory. An introduction to the Cognitive Science of Religion", describes the main

ideas of this novel interdisciplinary field, including the cognitive study of religious rituals. The fourth article, "Psychology, neuroscience, and religious experience. A critical review", describes the study of religious experiences from theology and philosophy, to psychology and neuroscience. Finally, the article "The crossroad of addiction. Different models in the study of drug dependence" describes the study of addictions from three different models. The idea is to use all these models as a starting point to understand the ritualistic and medical use of ayahuasca from cognitive and cultural perspectives.

As I have mentioned above, it is not irrelevant that our empirical object of study –the "new spiritualities"- is also on the academic agenda and influences the practices studied (e.g. neoshamanic perspectives of anthropology; transpersonal theories of psychology). This is of particular importance for this research, since the worldviews studied sometimes come from the same academic field, but could also be agonistic or antagonistic SRPs. However, it is also important to mention that the theories and SRPs mentioned are not monolithically ascribed to a religious, spiritual or secular worldview. They all have different kinds of scientist, with their particular ideological and institutional affiliations. Religious scientists take part even in cognitive or neuroscientific programs, and religious institutions fund research with the purpose of getting positive results about the effects of religious practices. While transpersonal perspectives usually address this issue in a more direct way, other approaches, such as some sui generis models of religious experience, have a more subtle commitment and –rightfully – play their cards under the rules of naturalistic theories, and in the context of methodological experimental justification. This is not an argument that invalidates the results obtained since every research and study has its own biases. The important thing is the final quality, validity and reliability of the procedures and results. Furthermore, if we consider that diversity is an important driving force behind scientific discoveries and inventions, then the coexistence of different secular, spiritual, and religious adscriptions of scientists and institutions could be positive, as long as rationality, empirical research, validity criteria, and methodological skepticism are respected. Another important thing every scientist should attend to, is to incorporate reflexivity in their studies. That is, to analyze and question how, and from which theoretical or ideological framework they are thinking, whether they belong to a post-positivistic, postmodern and/or religious tradition.

Table 1. Different SARs, SRPs, and theories described in this section.

SAR	SRP/Theories	Level of explanation	Possible Healing mechanism
Psychedelic Research	Psycholytic model	Psychological Somatic	ASCs as faster ways of accessing unconscious material and shortening psychotherapy.
	Psychedelic model	Psychological/spiritual Somatic	ASCs as ways of causing peak experiences and bringing about psychological conversion.
Placebo Agenda	Psycho-neuro-immunology	Psycho-neurological Somatic	Connections between neurological systems and other somatic systems. Diversity of mechanisms (dopaminergic, endogenous opioids, and other neurochemical systems).
	Behaviorism	Psychological (stimulation) Somatic.	Neutral conditional stimulus paired with biologically significant unconditional stimulus.
	Attributional theory	Psychological (attribution/expectancies) Somatic	Personal expectations and self-attribution to the effectiveness of the treatment.
	Psychoanalysis	Psychological (affections/symbols) Somatic	Psychological affective reactions expressed in the autonomic and visceral systems; symbols as mediators of psychological emotions and desires.
	Medical Anthropology	Socio-cultural Neuro-psychological Somatic (depending on the author)	Cultural styles of attaching meaning to a treatment. Different mechanisms: symbolic effectiveness (Lévi-Strauss), dramatic performance (Turner), meaning response (Moerman), transactional symbols (Dow), ASC rituals (McClenon; Winkelman).

ASCs, Trance and Possession Studies	(Pre-) History of religions	Socio-cultural Neuro-psychological (depending on the author)	Trance as a neuro-psychological experience for dealing with cultural problems (Eliade; Lewis-Williams & Dowson); Trance as a dream (Whitley).
	Anthropology of trance and possession	Socio-cultural, spiritual Neuro-psychological (depending on the author)	Ritual dissociation and catharsis (Bourguignon); transpersonal experiences and healing (Laughlin), ASCs as integrative practices (Winkelman).
	Distributed/situated cognition perspectives	Socio-cultural Neuro-psychological	Rituals as biocultural manipulation of cognition (Geertz, Apud).
Cognitive Science of Religion	Hazard-precaution system theory	Psychological	Ritualistic cognitive overload, lower levels of anxiety, hyper-suggestion and acritical thinking (Boyer & Liénard)
	Prosociality*	Socio-cultural Psychological	Intragroup commitment and solidarity (Irons, Sosis & Alcorta, Bulbulia)
	Ritual and search of meaning	Socio-cultural Psychological	Ritual triggers search for meaning (Sperber)
	Ritual form hypothesis	Psychological	"Super-permanent" effects of superhuman agency (Lawson & McCauley)
	Modes of religiosity	Socio-cultural Psychological	Memory, transmission of knowledge and social cohesion (Whitehouse)
	Cognitive Resource Depletion Model	Socio-cultural Neuro-psychological	Cognitive exhaustion, suggestion and permeability to collective narratives (Schjoedt et al.)
	Ritual stimulation	Socio-cultural Neuro-psychological	Different modes of stimulation influencing the transmission of memories and ideas (Czachesz)

Religious Experience Studies	Ergotropic-trophotropic model	Neuro-psychological Somatic	Autonomic responses producing positive or negative effects (Cannon, Fischer, Gellhorn & Kiely, Benson, Davidson)
	Sui generis model	Neuro-psychological Somatic	Autonomic responses (d´Aquili & Newberg), process of "decentering" (McNamara)
	Perspectives influenced by Attribution theory	Socio-cultural Neuro-psychological (depending on the author)	Importance of attribution in the religious quality of the experience (Azari et al.; Taves).
	Moderate experience models	Socio-cultural Neuro-psychological	Different types of experiences according to tradition, ritual stimulation, beliefs (Schjoedt, Czachesz)
Religion & Health*	Biomedicine, psychology, sociology, anthropology	Socio-cultural, spiritual Neuro-psychological Somatic (depending on the author)	Health behaviors, social support, emotional health, "supernatural", amongst others
Conversion Studies*	Psychology, sociology, anthropology	Socio-cultural, spiritual Neuro-psychological Somatic (depending on the author)	Religious experiences, social affiliation, narrative and symbolic effects of conversion

In the table above I have summarized the various SARs mentioned in this section related to ritual/religious healing (the drug & addictions SAR is excluded from the table, as not all its SRPs deal with this specific topic). I have added two more SARs (Religion & Health; Conversion Studies), and one more SRP (Religion & Prosociality) that were omitted from the articles for reasons of space. They are marked with an asterisk (*) in the table. Prosociality is a category that includes a diversity of behaviors related to cooperation, solidarity and social commitment. The connection between socialization and religion can be traced back to the sociology of Emile Durkheim, who considered religion as the first form of collective organization and the first symbolic shared cultural system, produced during the "effervescence" of social interactions. In psychoanalysis, Sigmund Freud (1992 [1921]) also described how religion produces enduring social bonds between members of the same group and, inversely, excludes outsiders. Later, in social psychology, Gordon Allport (1966) related prosociality with intrinsic religious motivation (religion as an end in itself), which generated a special interest of the discipline in the subject (for a review, see Preston, Salomon &

Ritter, 2014). In the specific area of CSR, the prosocial effects of religion were first addressed by the anthropologist William Irons (1996), who used the "costly signaling theory" of the biologist Amotz Zahavi to explain religious behavior. In Zahavi (1977) theory, the gazelle and the lion share a signaling code in which the first jumps vigorously to show the lion that an eventual chase would be unsuccessful. Although the signal seems unnecessary at first sight, it is in fact beneficial for both prey and predator, in terms of the final energy cost. Iron uses the same logic to explain the apparently "unnecessary" character of religious ritualistic behavior, describing it as a costly hard-to-fake system of signals that displays honesty and commitment of the member to the group. The hypothesis of religious rituals as costly signals opened up a research agenda involving a variety of researchers and studies both for and against the positive association between religion and prosociality (for a review of the subject, Bulbulia & Sosis, 2011). Prosociality is an important factor to consider in this research, since mental health problems – and especially addictions – always involve a social dimension. Besides, in a broad sense, humans beings are naturally and evolutionarily prepared to "feel good" when they are together, and "feel pain" when they are isolated. Prosocial trends such as empathy, love and altruism are needed for a healthy personality. Following Cloninger & Kedia (2011), the absence of these expressions are usually associated with mental problems, social dissatisfaction and/or unhealthy life conditions, since social behavior plays an important role in self-awareness and "…antisocial behaviour in human beings is the unregulated expression of primitive impulses because it is a consequence of the failure of the human capacity for apperception of unity" (Cloninger & Kedia, 2011, p. 63).

The scientific study of the relation between health and religion can be traced back to the beginnings of the 20th century and the interest of biomedical researchers (Oman & Thoresen, 2005). Since then, according to an extensive review done by Koenig et al. (2001), more than a thousand studies on the topic have showed that religion has more positive effects on health than negative ones. Likewise, Newberg & Lee (2006) reviewed various studies about religion and health, in which religious participation usually correlates with decreased morbidity and mortality, better surgical outcomes, breast cancer survival rates, positive behaviors and life-styles, general well-being, and coping with medical problems in general. They also mentioned the negative effects of religion, such as the opposition to certain health care interventions (e.g. blood transfusion, contraception), the prejudice and violent behavior in certain groups, cases in which religious leaders abuse church members, and what they call spiritual abuse (convincing people that they are going to suffer eternally). Finally the authors conclude the following:

> In general, clinical studies of religion and spirituality on health are fraught with challenges. Designing studies that are able to establish cause-and-effect relationships is difficult. This is especially true in the study of religion and health, where many confounding factors abound. However, there is evidence that religion can provide health benefits. It is clear that religion can bring social and emotional support, motivation, healthy life-styles, and health care resources. Clinical studies are valuable in identifying possible associations, raising further questions, and guiding subsequent research. Clinical studies can also confirm possible cause-and-effect relationships elucidated by physiologic studies (Newberg & Lee, 2006, pp. 52–53).

Most the researchers believe that the correlation between religion and health should not be addressed directly but through other more specific interacting mechanisms, such as good health behaviors, psychological states, coping, social support, the relation between stress and the immune system, and emotional health – meaning, purpose, self-esteem, optimism, hope, gratitude, humility (Hood, Hill, & Spilka, 2009). Oman & Thoresen (2005) mention that some scholars also use supernatural or "psi" explanations, in ways similar to other SARs I describe in the review articles. The current research adopts an evolutionary perspective to explain these and other effects of the religious rituals. I understand ritual healing as a practice that can produce self and social healing, but also deception, acritical thinking, and false optimism. All these procedures can help to reduce stress and to unleash the self-healing powers of the body in the case of placebo, but they can also have the opposite effect, triggering self-harming mechanisms and producing a nocebo response. Furthermore, religious healing is a positive thing in itself, but the context that surrounds the healing may sometimes not be healthy or positive. In these cases, ritual healing can act as a mechanism of legitimation of charismatic or institutional authorities that can be deleterious for the participant in the long-term. We will see this situation in a specific case in the article "Ayahuasca, addictions, and ritual healing in Catalonia. A qualitative study of two cases using an interdisciplinary model that combines cognitive and cultural perspectives."

Finally, there are the studies on conversion, which can be traced back to the beginning of the 20th century. The first theories followed William James´ idea of conversion as a positive psychological process, and of religious personal subjective experience as the main trigger of conversion, overestimating other factors (Cigán, 2009). Later studies were more heterogenic in both methods and theories, and involved different disciplines such as sociology, psychoanalysis, cognitive science, social psychology, anthropology, history and theology. In 1970s there was an increase in the concept of "sect", associated to a special and negative kind of conversion, regarded as "brainwashing". These ideas came from various anti-sect groups and associations, which focused sometimes on truly dangerous religious groups, but also on minority religious movements that they analyzed using biased and ethnocentric ideas (for a review, see García Jorba, 1999; Prat, 1997). To counterbalance this perspective, academic researchers started to criticize the ideas of the anti-sect movements, stressing the importance of more impartial perspectives (Stark & Brainbridge, 1985).

Theories about conversion started to stress the multi-causal components of conversion, and their relation with the general process of socialization (Rambo, 1993). In anthropology, the study of narratives of conversion also included the positive outcomes of finding an identity and establishing a social commitment to a particular group (Cantón Delgado, 1996; Garma, 1985; Vallverdú, 2010). In this respect, anthropology has revealed conversion to be a kind of rite of passage, in which participants do not break completely away from their previous lives, but create a narrative that negotiates past and present worldviews in different ways to produce a new syncretic biographical identity (Austin-Broos, 2003). Ethnographic accounts of conversion narratives have provided important descriptions of the relation between religion and meaning, particularly when individuals are confronted by a crisis or an ambiguous situation. In social psychology, attributional theories have shown that, although most people use naturalistic explanations for daily problems, there is a strong probability of using supernatural/religious attributions when meaning, control or self-esteem is compromised (Hood et al., 2009). In this regard, in comparison to secular meaning systems, religion is usually more comprehensive because it provides a better framework to give meaning to suffering, death, tragedy and injustice (Park, 2005).

Articles in section III

- Apud, Ismael & Romaní, Oriol. Medical anthropology and symbolic cure. From the placebo to cultures of meaningful healing (draft version; not published yet).

- Apud, Ismael. Anthropology, psychology and altered states of consciousness. A critical review from an interdisciplinary perspective (final manuscript, accepted for the journal *Cultura y Droga,* vol. 24, year 2017).

- Apud, Ismael & Czachesz, István. Beliefs, rituals and memory. An introduction to cognitive science of religion (draft version; not published yet).

- Apud, Ismael & Czachesz, István. Psychology, neuroscience, and religious experience. A critical review (draft version; not published yet).

- Apud, Ismael & Romaní, Oriol. (2016) The crossroad of addiction. Different models in the study of drug dependence. *Health & Addictions/Salud y Drogas*, *16*(2), 115–125. Online: http://ojs.haaj.org/index.php/haaj/article/view/267

Medical anthropology and symbolic cure. From the placebo to cultures of meaningful healing.

Abstract: The perspectives of medical anthropology on symbolic cure are crucial for understanding placebo mechanisms on the medical agenda. However, while classic biomedical conceptions of the placebo discredited cultural factors as legitimate therapeutic tools, the anthropological critical approach confronted this perspective in the opposite way, rejecting the role of neurobiological factors, and using culture as a self-contained phenomenon. This article is a critical review of the symbolic healing, stressing the importance of an integrated and interdisciplinary study of the "placebo response", and the need to go beyond both biological and cultural reductionisms. Various perspectives from medical anthropology will be described, ranging from classical to multilevel perspectives that enable consideration of the placebo in its neurobiological, psychological and cultural dimensions.

Keywords: placebo, symbolic cure, meaning response, multilevel analysis, medical anthropology.

Introduction

The etymology of "placebo" comes from the Latin, meaning "I will please" (Jacobs 2000). In medicine, the idea is that placebo's function is to please rather than to offer a real improvement in the patient's health. Mainstream biomedical thought considers placebo to be an intrusive effect, under the general label of "non-specific factors". However, in recent decades, there has been a new research agenda, concerned with how neurological, psychological, and cultural factors are involved in the placebo response. Medical anthropology's contribution to this agenda is also present, as part of an interdisciplinary agenda involving other disciplines closer to the natural sciences.

This article is a critical review of symbolic cure in medical anthropology, from a perspective that supports an integrative and interdisciplinary study of the "placebo response", and the need for distance from both biological and cultural reductionisms. The first part of the article describes the basic elements, perspectives, and definitions related to the placebo response. Different neurological, psychological and cultural studies that have opened the Pandora's Box of "non-specific factors" are briefly mentioned. The following section describes the emergence of symbolic cure in anthropology and its various transformations, from structuralism, to performance, embodied, and postmodern perspectives. The advantages, biases, and difficulties of these different approaches will be discussed. Although these perspectives should be considered as important steps in the recognition of symbolic and non-symbolic effectiveness of traditional healing practices, the current article proposes the necessity of one more step for cultural anthropology. This next step is addressed in the last section of the article, through the perspectives of some medical anthropologists that have been integrated cultural, psychological, and neurobiological levels into their analysis. Their formulations will be considered as promising perspectives for understanding the placebo within an interdisciplinary agenda.

The placebo response

The definition of a placebo is problematic, since it is not a unified and unambiguous concept, but instead covers a variety of things: inert substances (placebo pills), medical procedures (e.g. sham surgery), psychological interventions, and the patient-practitioner relationship. According to de Craen et al. (1999) the first medical uses of the word "placebo" dates from the late XVIII Century. But it is not until the second half of XX century that placebo started to be used in control groups, as part of the randomized controlled trials (Meldrum 2000; Dehue 1997). In this period, placebo started to be considered as an useful tool to discriminate between the effects caused by the "specific factors" of the treatment, and those caused by confounding "non-specific factors", such as the symbolic and social "noises" attached to the relationship between the patient and practitioner. It is in this period when more precise medical definitions of placebo made their appearance. Some authors defined it as a therapeutic procedure without an objective specific activity for the condition treated, but that has an effect on the patient´s health (Shapiro 1964; Brody 1980). Later, definitions included individual and cultural expectations, and their physical and psychological impact over the patient (Andersen 1994).

Placebo reflects the biomedical idea that real treatments must be studied at a biochemical level, while the wide range of factors surrounding the patient-practitioner relationship are a kind of "noise" that must be controlled. This implies a biased conception that the clinical significance of treatments is not about a better recovery by the patient, but rather a better outcome compared to the placebo treatment (Kaptchuk 2002). Consequently, a broad amalgam of non-specific effects are discarded into a single dustbin of "untruthfulness". Despite this, nowadays researchers are studying the mechanisms of the placebo within different explanatory models, beyond the simple label of "non-specific" effects. The mechanisms in the placebo response are difficult to specify, since there is not only one mechanism involved, but rather a variety of them. It is a real and complex biopsychosocial phenomenon so, as point out de Craen et al. 'It seems therefore unlikely that a single universal theory can explain all placebo effects. Currently, several theories are taken seriously as possible explanations for the placebo effect, among them classic conditioning, response expectancy and a psychoneuroimmunological response' (1999, 514). At a neurobiological level, the placebo analgesia has been studied since Levine et al. (1978) discovered that placebo pain reduction can be blocked by *naloxone*, an opioid antagonist, indicating that endogenous opioids must be involved in the placebo response. Later research on the placebo effect also included non-opioid mediators, and interactions with the cardiovascular and respiratory systems (Benedetti et al. 2005). Psychoneuroimmunology was emerging at almost the same time, when Ader & Cohen

(1975) induced a conditioned immunosuppression response, pairing a saccharine solution of water with an injection of *cytoxan* (an immunosuppressive inducer). This first study subsequently led to the discovery of the underlying neuropeptide mechanisms connecting the immune and nervous systems (Pert et al. 1985; Williams et al. 1981), and their relationship with various diseases such as depression, irritable bowel syndrome, skin diseases, cancer, HIV, and wound healing (see Goodkin and Visser, 2000 for a review). Psychoneuroimmunology opened a new understanding of how psychological, cultural, and even religious factors can have influence over physical diseases, producing a variety of positive or negative medical outcomes that can be related to the placebo response (Cohen and Herbert 1996; Koenig and Cohen 2002).

Today, clinical studies of the placebo response include various afflictions, such as Parkinson´s Disease, chronic pain, ulcers and depression. These studies show that there is more than one placebo mechanism, although there appears to be common elements, such as the activation of the dorsolateral prefrontal cortex and dopaminergic activity in the ventral striatum of the limbic system. These areas may trigger a downstream of biochemical responses which vary under different conditions. For example, in Parkinson's Disease it triggers the release of dopamine in the dorsal striatum; in pain, it causes the release of endogenous opioids (Lidstone and Stoessl 2007). The placebo response can be understood as a top-down effect, modulating the activity of brain regions that are similarly treated with bottom-up drug actions (Lieberman et al. 2004). The placebo and nocebo also seem to be inversely related. The placebo response seems to increase dopaminergic and endogenous opioid activity in different areas of the brain, while the nocebo response is associated with the deactivation of dopaminergic and opioid release (Scott et al. 2008).

In psychological studies, the two classic theories for understanding the placebo response are the conditioning explanation and expectancy theory (Stewart-Williams and Podd 2004). Placebo conditioning has been recognized since Pavlov's first ideas, but it began to be studied in the late 1950s based on the idea that a neutral conditional stimulus acts as a placebo when paired with a biologically significant unconditional stimulus (for a review see Siegel 2002). Expectancy theory came later, with Albert Bandura's idea that personal efficacy expectations are central to the placebo effect (Bandura 1977). The idea was consistent with the discovery by attributional theory that the patient's self-causal attribution of the treatment's effectiveness had a better outcome than attribution to the drug (Davidson, Tsuimoto, and Glaros 1973). Later, Irving Kirsch (1985) continued Bandura's idea centered on personal response expectancies, and their influence on therapeutic treatment. According to Shapiro & Shapiro (1997), although these expectancies could be related to personal or social profiles, there is no consistent data relating

the placebo response to personality traits (e.g. neuroticism, psychosis, intelligence, education, impulsivity, depression or obsessive- compulsive disorder), or demographic variables (e.g. age, sex, intelligence, race, social class, ethnicity or religion). This data also suggests that the placebo response could be a capacity inherent in all of us.

In Psychiatry, and within a psychoanalytical framework, Franz Alexander coined the term "psycho-physiological autonomic and visceral disorders" for the first edition of the DSM in the early 1950s, considering it as a visceral expression of affection related to the musculoskeletal, cardiovascular, gastrointestinal, genitourinary and endocrine organs. However, in later versions of the manual, and with the decline of psychoanalysis as an influential perspective in American psychiatry, the idea of mental illnesses as psychological "reactions" gradually declined in importance, the biological aspects of diseases were emphasized, and the concept of psychosomatic responses was diluted (Oken 2009). Nevertheless, the DSM-V includes the broad category of "Somatic symptom and related disorders" (APA 2013, 309–28), and various disciplines are trying to understand the phenomenon within an interdisciplinary agenda (Dimsdale et al. 2009).

At a socio-cultural level, the medical anthropologist Daniel Moerman considers placebo effect to be a "meaning response", defining it as the physiological and psychological effect of meaning on the treatment (Moerman 2002). A meaning response is related to various elements of the therapeutic setting: the physician (the doctor's costume, technical language, attitudes and manners), the patient (e.g. "adherence" to the treatment), the relationship between the patient and therapist (e.g. empathic interaction), and the substance itself (e.g. warm colors usually act as stimulants and cool ones as sedatives). Different – explicit or implicit - cultural styles of attaching meaning can be found in western and nonwestern medical practices, and in drugs as biomedical technology and the expectancies and meanings of their users (Brives 2016).

From superstition to symbolic effectiveness

Medical anthropology should be more concerned with focusing its theoretical and empirical agenda towards placebo studies, in order to both describe and explain these cultural differences and symbolic effects in the variety of healthcare systems. However, anthropologists are usually suspicious of biomedical research, mainly because the mainstream medical approach has been largely biologically reductionist. This attitude is also a reaction to the evolutionist past of anthropology itself, when traditional practices were considered primitive and superstitious.

At the beginnings of anthropology, traditional medical practices were considered a kind

of superstition closely related to magic. Indigenous healing practices were not considered valuable, and ethnographies trivialized medical issues (Martínez Hernáez 2008). The disease was only the disturbance of natural world in the world of culture, and very few studies focused on the subject, with the exception of William H. R. Rivers' *Medicine, Magic, and Religion*, the first book which included medical practices and beliefs in the ethnographic agenda. Sir Edward Burnett Tylor proposed that "primitive man" was not irrational, but usually does not separate the facts of the real world from mental imageries and phantasies. This confusion was considered to be the origin of belief in spirits (the soul of the dead seen in dreams, or the experience of being a mind separated from the body), and consequently, the origin of animism as the first kind of religion. Tylor proposed a cultural evolutionary history, from the "primitive science" of magic and animism, to our modern scientific thought. James George Frazer continued with this idea, but highlighted animism as a way of thinking in terms of agents and intentions, and magic as kind of "primitive science" that understands nature in a mechanistic way (for a review see Apud 2011).

In the case of shamanism, the evolutionist idea of magic as a pre-scientific and erroneous procedure was also combined with the stereotypes of the "quack" or "mentally ill" shaman. However, a new version of the shaman as a folk therapist appeared in the second half of twentieth century, when Claude Lévi-Strauss proposed the idea of "symbolic effectiveness" in two articles, "The Sorcerer and his Magic", and "The Effectiveness of Symbols", which were both published in French in 1949, and translated into English in the classic book *Structural Anthropology* (Lévi-Strauss 1963). Using ethnographic examples, Lévi- Strauss analysed the effect of symbols in folk medical practices. One example is from the autobiography of Quesalid, a member of a *kwakiutl* tribe in Canada. Quesalid was sceptical about magic and decided to learn shamanic tricks in order to expose them as false. He learnt various techniques such as magic chants, fainting simulation, using spies in private conversation, and the classic techniques of expulsion of a disease-object. After mastering the techniques and using them as any other shaman would, Quesalid discovered that surprisingly, the treatments were useful and effective. It therefore appeared that what was actually doing the healing was not the objective reality addressed by the procedures and representations, but instead the psychological impact of the story and the dramatic procedure on the patient. The shaman seems to give the patient a language in which unspoken mind states and experiences find a verbal expression and an explanation, producing therapeutic effects. Cultural narratives, stories, and ritual dramas provide a cognitive system for interpreting difficult situations, governed by uncertainty, pain, or despair.

For Lévi-Strauss, the shaman was similar to a psychoanalytical therapist, as both use

techniques related to abreaction, transference, and interpretation in different ways. However, it was not Sigmund Freud's idea to consider a parallel between psychotherapy and religious practices. In fact, his view of religion was negative, as he considered it a kind of collective neurosis giving false gratifications, through promises of a better afterlife (for an interesting review, see Dominguez Morano, 1991). For Freud, religion protects us from the cruelties of nature, culture, destiny, and death. It works as a sedative (a kind of placebo?) in the same way as art and intoxicants (Freud 1992b [1930]; Freud 1992a [1927]). After Freud, some psychoanalysts (who were also religious in some cases) transformed the Freudian neurotic model of religion into a psychotherapeutic one. Carl G. Jung was the first to consider myths, fables, and religious narratives as therapeutic stories, and was subsequently followed by Joseph Campbell, Bruno Bettelheim, and Françoise Dolto (Apud 2007). Even Georges Devereux, who considered shamans as socially legitimated madmen, described elements of psychotherapeutics in Euripides' Bacchae (Devereux 1970). In the 1980s, some psychoanalysts began to understand religion using Donald Winnicott's idea of the transitional object, a symbolic mediator that projects the mother's qualities to help with the child's psychological independence. The idea began with Ana Maria Rizzuto (1979), who described some qualities of God as a kind of transitional object, derived from the imaginary qualities of maternal goodness. For these new perspectives, religion is not an escape from reality, but rather a transitional space to develop emotional and intellectual features of personality (Merenlahti 2008).

From structure to process

In a similar way to what happened in psychoanalysis, in anthropology, and after Lévi-Strauss' symbolic effectiveness, interest in the validity and objectivity of the magic procedures and beliefs was replaced by the importance of religion in the construction of intersubjective shared cultural symbols. This change was part of the anthropological symbolic turn in the second half of twentieth century, which assumed the primacy of symbols in the shaping of the human experience, both intellectually and emotionally. For example, in *The Interpretation of Culture,* Clifford Geertz (1973) defined religion as a system of sacred symbols, the main function of which is to shape not only the worldview of its adherents, but also their mood, ethos, motivations, and sense of reality (the "aura of factuality"). The symbolic turn was an important step in the recognition of culture as an essential dimension to understand not only human experience in general, but also the experiences of sickness and health in particular. But the criticism of modern anthropology (including Lévi-Strauss' structuralism), and the opposition to the *Standard Model* of Scientific method led to a gradual lack of interest in how symbolic

effectiveness could work in the interplay between the different neurological, psychological, social, and cultural levels of explanation. The concept of culture turned into a "self-contained phenomenon" (Bloch 2012).

Despite the reaction against Lévi-Strauss' structural anthropology, the idea of "symbolic effectiveness" remained influential, floating alone in the forest of symbols. While Lévi-Strauss aimed to find underlying and ahistorical structures of cultural phenomena, symbolic anthropology focused on the historical and dynamic processes. For example, Victor Turner (1977) considered the ritual to be composed of symbols organized in a temporal sequence that make up a "social drama". What is important is not to describe an underlying symbolic structure, but to explain these dramatic movements in the ritual process. Turner took Arnold Van Gennep's idea of "liminality", a threshold phase in the ritual, in which participants experience a paradoxical and ambiguous anti-structure state, a moment outside time and beyond social structure. During this stage, former social boundaries disaggregate to begin again, allowing the individual to return revitalized to the social structure. Although anthropologists usually turned their back on neurological correlations, Turner ventured some brief explanations of how liminal states could activate the archaic limbic brain and the right "emotional" hemisphere (Turner 1985).

Beyond symbols: phenomenology, embodiment, and postmodernism

Critical medical anthropology was consolidated in the 1980s in opposition to the biomedical model, and considered western medical practices as just one more system that medical anthropology had to study on equal terms as the others (Martínez Hernáez 2008). The main idea was to break with the biological reification of biomedical explanatory models, and consider disease as a sign related to a context, in the classic polarity between explanation (*Erklärung*) and comprehension (*Verstehen*). Priority was now given to the "subjective" side of the disease: narratives of illness, the cultural context, experiences of illness and the labelling of deviations. The idea of *illness* as a symbol was a natural consequence of the symbolic turn, reflected in the influence of Turner's ritual symbols on Byron Good´s (1977) idea of the "semantic illness network", and Geertz´s "cultural systems" in Arthur Kleinman´s (1980) "health care systems". The transfer of these ideas to medical issues was an important step for the inclusion of cultural perspectives in the study of health, confronting with biomedical mainstream reductionism. But, as a side effect of this antagonism, critical medical anthropology discarded biological levels of analysis, considering them nothing but cultural explanations, with no more objectivity or reliability than other non-western medical explanations. Although it was a foreseeable reaction against the mainstream biomedical perspective and its underestimation of the symbolic

dimensions of health and disease, this reaction led to the isolation of culture as the only level of explanation for many anthropologists.

As positive improvements, different critical views within the symbolic perspective lead to new important perspectives in cultural anthropology, if we consider the route from structuralism to postmodernism. For example, initially the "effectiveness of symbols" theory implied that the same mythic structure is shared by both the patient and the healer. Later, different cultural anthropologists reconsidered this notion, based on their ethnographic observations of how symbolic healing does not need a shared system of belief, only certain therapeutic conditions causing a patient response to construct some kind of personal meaning, shared or otherwise. For example, in the case of Amazon shamanism and neoshamanism, the effectiveness does not reside in a shared mythology, but in the differences and the articulation of the shaman/patient imaginaries (Langdon 2013; Demange 2002; Apud 2015). Michael Taussig called this "social implicit knowledge", and it involves an alternation of miscellaneous fragments of symbols and gestures in the ritual: the chants of the shaman, the narratives of the patients, silences and laughter (Taussig 1993). Furthermore, even in other ethnographic cases where there is a general myth, their particularization varies considerably from person to person, as described by Vincent Crapanzano (1975) in the use of female demon figures in Morocco, by Gananath Obeyesekere (1981) in the use of "personal symbols" in Sri Lanka, James Dow (1984) in his fieldwork with the Otomi shamans of Mexico, and Linda Barnes (2005) in the concept of *qi* in acupuncture.

Another improvement was going beyond the idea that symbolic effectiveness is about order, which was also rooted in the general idea that culture is a cogent and homogeneous system. With the shift towards Postmodernism, culture was reconsidered as a heterogenic, fragmentary, polyphonic, and dialogic phenomenon. The idea of ethnographic text as representing a homogeneous cultural reality was abandoned and considered part of colonialist and positivistic tradition (Clifford 1995). Postmodern anthropology abandoned the "ideology of representation", and believed that ethnographies should "evoke" a singular event or process, rejecting any idea of "transcendence", and embracing the idea of reality as a fiction produced by the researcher (Tyler 1986). In connection with this tradition, Michael Taussig questioned Lévi-Strauss' and Turner's ideas of ritual, considering them the heirs to a western "Metaphysic of the order" tradition, deeply rooted in Aristotle's notions of "dramatic art" (Taussig 1992). As an alternative, he proposed a model of an "epic art" that shakes the relationship between signifiers and signified, and a romantic conception of the symbol, considering it not as a particularization of the general but instead as a poetic expression of the particular, without

referring to any universal. For Taussig, dissimilar perceptions and symbols are put together in the ritual, shaking old habits and suggesting new ways of seeing things. There is not a main plot from chaos to order, but rather an exaltation of reality, a challenge to representation (Taussig 1993). It is important to note that Taussig's ideas against order seem to be well suited to his fieldwork with the Colombian shamanic use of *yage*, a powerful Amazonian hallucinogenic compound. However, other authors who studied the use of the same compound in Peru – where the substance is called *ayahuasca* - have found a dramatic and ordered process, at least when shamans are dealing with witchcraft or folk illnesses (Beyer 2009; Luna 1986).

A third improvement was to escape from a symbolic model that was too intellectual, and focused essentially on the symbolic aspects of human experience, while downplaying the role of the body and nonrepresentational aspects of the experience. In anthropology, some scholars started to consider the cultural transmission of more subtle signs such as gestures, emotions, postures and perceptions. Medical anthropology has embraced the idea of going beyond language and analysing the experience in a holistic sense: Scheper-Hughes & Lock (1987) elicited the body in its existential, phenomenological, social and political dimensions; Kleinman & Becker (1998) used the idea of "sociosomatics" when considering the dialectic between the body and the social world in medical problems. In the specific case of religious healing, Thomas Csordas (2008) introduced the concept of "embodiment" after his fieldwork with charismatic churches and the Navajo people (Csordas 1988). The author's central idea was to go beyond the religious cure as purely a manipulation of symbols, and introduce an embodiment perspective, which consists of the phenomenological study of the corporal lived experiences of the participants as a complement to symbolic descriptions. In this perspective, cultural performances of religious healing practices include body and symbols, integrated within the participant's unique "concrete" experience that constructs a discourse of the cure. To Csordas, notions such as "placebo effect" or "suggestion" cannot comprehend the meaning of this discourse. The cure must be explained in terms of the capacity of the entire rhetorical performance to take the patient to a new phenomenological world prior to his/her illness.

However, despite all these improvements, there is certain contradiction if we give serious consideration to the statements by the symbolic and postmodern anthropologies of escaping from ethnocentric perspectives of the native cosmologies and worldviews studied, and not reducing them to our academic western perspectives. It is easy to realize that even if the idea of "symbolic effectiveness" is in some ways valid for native healing procedures, it still rejects native cosmologies as ontological realities. All the perspectives described consider that the effectiveness of these practices is not the result of direct manipulation of real cosmologies,

but rather of the "symbolic" or "performative" effect of the procedure on the participants. The myth is reduced to a narrative and the ritual to a dramatic performance. Even in the latter perspectives, the problem is exactly the same: from symbols to embodiment, or from scientific "realism" to postmodern "fictions", all these perspectives reduce native cosmologies to *etic* notions such as symbols, embodiment, performance, drama and fictions. The people of the cultures studied do not usually consider their cosmologies and worldviews to be fictions; they have their own "metaphysics of order", and thinking of their reality as fictions is as ethnocentric as thinking of them from an evolutionary or positivistic perspective. We must reconsider if it is possible to escape from representation and reduction – which is not the same as "reductionism" - since thinking always reduces realities to abstract models, in postmodern anthropology, in "positivistic" traditions, and indeed, in native cultural traditions. The problem is not about if we are representing or not, but how the representative model we construct fits in with different empirical findings. This idea does not necessary contradict or ignore the importance of analysing the epistemological, cultural and personal biases of our abstract models. As mentioned elsewhere, reflexivity and epistemological vigilance should always be present in any research (Apud 2013). The real problem is not whether we are being reductionist, but if our model is capable of integrating the complexity of reality, going beyond both biological and cultural reductionisms.

Symbolic healing: psychological and physiological levels interacting

Addressing the importance of considering different levels of analysis, some medical anthropologists have been working on more integrative models in this area, in order to improve a cross-cultural medical perspective, without denying the biological dimension of the disease (e.g. Browner, Ortiz de Montellano, and Rubel 1988; Leatherman and Goodman 2011; McElroy 1990; Lende and Downey 2012; Grund, Kaplan, and De Vries 2004; Seppilli 2000). These approaches also contradict biomedical classical reductionism, which usually downplays the role of culture in medical issues.

In the case of native healing practices, when biomedicine is interested in their positive outcomes, it usually focuses on the pharmacological components rather than on the subjective or cultural variables that could lead to an improvement in health. Furthermore, when there are no pharmacological actions involved, the effect is considered solely psychological, with no repercussion on the body. However, what does the idea of a uniquely psychological effect mean? And scientifically speaking, where does the mind emerge from, if not at a physiological level? Daniel Moerman (1979) addressed this contradiction, explaining how biomedicine thinks in terms of an implicitly Cartesian dualism, in which the body and mind are separate from each

other. He introduced the term "symbolic healing", in an attempt to integrate both levels, considering the indivisibility of psychology and physiology, and the possible feedback between the psychosocial and neuroendocrine systems.

Later, James Dow (1986) considered the properties of symbolic healing to be a result of a universal deep mental structure with rules, in the same way as described by Chomsky for language. The structure consists of a kind of action-representation system in which the healer persuades the patient that the general mythic model is valid for the particular problem. This procedure involves the particularization of the general collective myth in terms of transactional symbols, which the healer manipulates to attach the patient's emotions to the myth. The healing effect of this structure can be explained in terms of a nested model of a hierarchical organization of living systems (somatic system, self system, social system, and last, the ecological system), where transactional symbols are mediators connecting the self, the somatic, and the social system.

In the late 1990s, the medical anthropologist James McClenon (1997) proposed a "placebo health hypothesis" - the idea that religious healing involves placebo and hypnotic procedures that trigger physiological natural healing processes, such as psychoneuroimmunological effects and psychosomatic responses. McClenon's theory includes the universality and heritability of religious healing practice, considered as a natural consequence of evolution. According to his hypothesis, early hominids practiced therapeutic dissociative rituals over millennia, because these practices provided a survival advantage in terms of health and social cohesion. Natural selection favoured the genes related to these suggestibility and dissociative trends, which created recurrent patterns for the foundations of beliefs in spirits, life after death, magic abilities, shamanism and other religious forms (McClenon 2006).

Similarly, Michael Winkelman analyses cultural healing from an evolutionary and neuro-phenomenological perspective. He believes that the underrated factors agglutinated under the label of the "placebo response", such as expectations, cultural symbols, and personal meanings, have a profound impact on biological processes, explaining the effectiveness of ethnomedical traditions (Winkelman 2009). In Winkelman's theory, religion is a symbolic top-down cognitive healing system that causes physiological responses and eventually enhances human health. This effect occurs through various ritual practices which trigger what he calls *Integrative Modes of Consciousness* - the natural capacity of human beings to generate cognitive, emotional, physiological and social homeostasis (Winkelman 2010).

Conclusions

There is a confrontation between the perspectives of biomedical and critical medical anthropology that is being reconsidered by some scholars. On one hand, the classic biomedical perspective, based on the idea of the placebo as a dump of "untruthfulness", is being redefined by some researchers in the field, within a new placebo agenda that attempts to understand the various factors covered by the easy label of non-specific factors. On the other hand, medical anthropology has shown the importance of symbols and culture in the healing process, but most of the times using culture as a self-contained phenomenon. The situation has changed, and nowadays the discipline also has researchers who are trying to understand the relationship between cultural and biological levels, and the mechanism of symbolic healing within a wider evolutionary perspective. These efforts are giving medical anthropology new ways of joining the interdisciplinary debate with the natural and medical sciences.

We have seen different perspectives on symbolic cure, within a critical review that stresses the importance of considering cultural, psychological, and neurobiological models of explanations together. Studies of the placebo at a neurological level have shown the human mind's natural ability to generate neural top-down control over physiological processes, while ethnographies have shown how "personal symbols" are particularized from cultural environments to produce health effects in different illnesses and problems. In the path from the effectiveness of symbols to meaning response, anthropology has created a promising line of research for the interdisciplinary study of the placebo and nocebo responses. The involvement of medical anthropology on this agenda is very important, as it enables theoretical and ethnographic accounts to reconsider symbolic "non-specific factors" as valuable and useful in different cultural contexts.

Placebo effects are considered by the biomedical mainstream to be unscientific and illegitimate. But if they are effective, and considering that medicine's goal is to heal, why not use them? (Kaptchuk and Miller 2015). David Newman (2008) calls this contradiction the "placebo paradox": it is unethical to use a sham medicine, but it is also unethical not to use something that heals. Furthermore, sometimes these strategies are the last resort for people who have used various conventional treatments without finding a solution for their illness. Last but not least, the importance of having a plurality of health strategies is an important topic in health policies, bearing in mind the difficulties of access to health services in some parts of the world - a problem that is mentioned in the WHO's *Traditional Medicine Strategy 2002-2005* (WHO 2002). For all these reasons, the participation of medical anthropology on this interdisciplinary agenda is essential.

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Antropología, psicología y estados alterados de conciencia. Una revisión crítica desde una perspectiva interdisciplinaria.

(*Anthropology, psychology and altered states of consciousness. a critical review from an interdisciplinary perspective*).

Resumen: Objetivo. Analizar los estados alterados de conciencia a través de un diálogo interdisciplinario entre la antropología, la psicología y las neurociencias. Metodología. En primer lugar se analizará a grandes rasgos las definiciones de consciencia y estados alterados de conciencia, por medio de las disciplinas enunciadas, describiendo sus convergencias y divergencias. Posteriormente se realizará un recorrido por las distintas concepciones antropológicas sobre las prácticas de trance y los debates suscitados por las tensiones relacionadas entre las dicotomías: *etic* y *emic*, cognición y cultura. Resultados y conclusiones. Finalmente se describirán los distintos modelos antropológicos que realizan una síntesis actualizada del tema; integrando biología, cognición y cultura desde una perspectiva interdisciplinaria que permita superar reduccionismos tanto biológicos como culturales.
Palabras clave: antropología, psicología, estados alterados de conciencia, trance, interdisciplinariedad.
Abstract: The current article is a review of the anthropological studies related to Altered States of Consciousness, under an approach that claims for an interdisciplinary dialogue between anthropology, psychology, and neuroscience. Firstly, I analyze the definitions of consciousness and Altered States of Consciousness in the different disciplines mentioned, describing their agreements and disagreements. Secondly, I make a description of the different anthropological approaches to trance rituals, and the debates related to dichotomies such as etic-emic, and cognition-culture. Finally, I describe some anthropological approaches that have developed an updated synthesis of the topic, integrating biology, cognition, and culture, under an interdisciplinary perspective that goes beyond both biological and cultural reductionisms.
Key words: anthropology, psychology, Altered States of Consciousness, trance, interdisciplinarity.

Introducción

El uso de técnicas de manipulación de la consciencia es un fenómeno ampliamente extendido tanto en términos geográficos como históricos. La antropología, a través de la descripción etnográfica de distintas culturas, ha logrado registrar este fenómeno demostrando su asociación a prácticas religiosas al igual que recreacionales y médicas. Sin embargo la idea general de la manipulación de los estados de conciencia requiere el análisis de algunas cuestiones teóricas a veces desdeñadas por la antropología y vinculadas a la relación entre cerebro, mente, evolución y cultura. Algunas de estas cuestiones serán analizadas brevemente en este artículo, en especial: la vigilia como un estado de conciencia 'ordinario' y su relación con otros estados de conciencia; la importancia adaptativa de distintos estados de conciencia para la especie humana, incluyendo no solo la vigilia y el sueño sino también aquellos vinculados a la manipulación de la consciencia mediante técnicas culturales y/o sustancias; la comprensión de las técnicas culturales de alteración de la consciencia como un modo de manipulación de las capacidades neuropsicológicas naturales del cerebro.

Cuestiones como la consciencia/vigilia, la adaptación entendida en clave evolutiva o la naturaleza neuropsicológica de las disposiciones mentales, han sido difíciles de asimilar para gran parte de la antropología cultural de la última mitad del siglo XX debido a su resistencia al uso de categorías psicológicas, cognitivas y neurológicas; a pesar de que dichas categorías resultan imprescindibles para un cabal entendimiento de la consciencia y sus estados. Tal como señala

Maurice Bloch (2012), dicha resistencia es producto de un fuerte rechazo de la antropología a sus orígenes naturalistas. En la naciente antropología de finales del siglo XIX, las concepciones psicológicas jugaron un papel central en el evolucionismo cultural bajo una concepción etnocéntrica que fue dura y justificadamente criticada. Esto trajo, por un lado, un rechazo hacia el evolucionismo en su conjunto; paradigma que hoy resulta central a la hora de entender la historia natural de nuestra especie y de los seres vivos en general. Por otro, esta crítica conllevó a un temor hacia todo 'psicologismo' y un consecuente reduccionismo de los fenómenos mentales en términos culturales.

A pesar de ello, distintas corrientes antropológicas han continuado con la construcción de un conocimiento interdisciplinario mostrando la importancia del diálogo no solo con la psicología sino también con otras disciplinas como la biología y las neurociencias. El siguiente artículo es una revisión de los estudios antropológicos sobre los *estados alterados de conciencia*, realizando un recorrido focalizado de aquellas perspectivas que han puesto a la antropología en un diálogo con disciplinas tales como la psicología o las neurociencias; permitiendo una mayor capacidad explicativa (en términos causales), interpretativa (en términos de significación) e interdisciplinaria (integrando los niveles de análisis neurobiológico, psicológico, social y cultural).

En la primera sección del artículo, "Las variedades de la experiencia consciente", se analizará a rasgos generales el problema del estudio de la consciencia; tomando algunas ideas centrales provenientes de la filosofía, la psicología, las neurociencias y la antropología, y de esta manera mostrar la importancia de analizar el tema en clave interdisciplinaria. Por otro lado, se describirá la noción de estados alterados de conciencia (EAC) elaborada por Arnold Ludwig en los años 60; mostrando su importancia y vigencia tanto en términos antropológicos como psicológicos. En la sección "Antropología y EAC", se describirán algunas perspectivas clásicas en el estudio de las prácticas de trance; en donde distintos antropólogos y antropólogas han reflexionado sobre las características psicológicas y culturales del fenómeno. En la sección final, "Biología, cognición y cultura en el estudio antropológico de los EAC", se expondrán algunos modelos teóricos recientes que permiten conectar los distintos niveles de análisis neurobiológico, psicológico, social y cultural. Además, veremos cómo desde estas perspectivas es posible reflexionar acerca del lugar que han ocupado las prácticas vinculadas a los EAC en la historia evolutiva y cultural del ser humano.

Las variedades de la experiencia consciente

El problema de la consciencia

Establecer una definición precisa del concepto 'consciencia', no es una tarea fácil. En el terreno académico no existen definiciones precisas o consensuadas tanto en filosofía, en ciencias sociales

e incluso en disciplinas más 'duras' como las neurociencias. En antropología el concepto ha sido difícil de operacionalizar, si tenemos en cuenta que en muchas lenguas de raíz no indoeuropea no existe una palabra similar y que sus variaciones son considerables inclusive dentro de las lenguas occidentales (Throop and Laughlin, 2007). El término proviene del latín *conscius*, significando 'conocer' (*scius*) "junto a alguien" (*con*). Si bien esta definición del término —como "conocimiento compartido"— nunca fue abandonada por la filosofía, es con René Descartes que el concepto *conscientia* adquiere una connotación más 'cognitiva' e 'individual'; es decir como "testimonio interno" (Bartra, 2007; Heinämaa et al., 2007).

Con Immanuel Kant el problema de la consciencia adquirirá una faceta empírica y otra trascendental (Berrios and Marková, 2003). La primera se relaciona con los fundamentos *a priori* que posibilitan la experiencia y conocimiento del mundo tanto en sus aspectos estéticos (en términos espaciales y temporales) como formales (en términos lógicos). La segunda faceta refiere al concepto de 'apercepción', acto espontáneo del entendimiento que permite la unificación de la experiencia más allá de la multiplicidad de las percepciones. En la apercepción, Kant reconoce el principio más elevado del conocimiento humano: la capacidad de enlazar y sintetizar la cadena de percepciones, de ser consciente de sí mismo más allá de la diversidad de la experiencia (Kant, 2003).

G.W. Hegel, en su giro dialéctico, concebirá esta consciencia como motor de la historia universal. Siendo el espíritu humano un "ser para-sí" que en su libertad es capaz de trascender lo inmediato y de esta manera reconocerse a sí mismo a lo largo de la historia (Hegel, 1997). Esta idea de "consciencia de sí", será mantenida o confrontada de distintas maneras por las corrientes filosóficas del siglo XX. Así, mientras el existencialismo hablará de una experiencia del ser-en-el- mundo (Sartre, 1993), el postestructuralismo confrontará con la unidad del yo y propondrá una versión más fragmentaria de la subjetividad (Deleuze y Guattari, 1998).

En los albores de la psicología William James (1890) propondrá la idea de consciencia como un proceso personal de pensamiento, siempre cambiante y focalizado. Wilhelm Wundt (2007) distinguirá entre funciones elementales (relacionadas a respuestas inmediatas frente al medio) y funciones psíquicas superiores (relacionadas con el sentido de sí, la cultura y el lenguaje). Esta distinción, fuertemente influenciada por la filosofía kantiana, será elaborada de distintas maneras hoy por psicólogos, psiquiatras y neurocientíficos en general (Cole y Engeström, 1993; Damasio, 1999; Edelman and Tononi, 2000).

Actualmente la conciencia, como "sentido de sí mismo", es considerada una adquisición evolutiva característica del ser humano; la cual involucra mecanismos cognitivos relacionados con la construcción de una memoria autobiográfica y una mayor complejidad en la representación

temporal del pasado, presente y futuro (Skoweonski and Sedikides, 2007). Algunos investigadores la consideran como la capacidad cognitiva de integrar distintas fuentes de información (Baars, 1997) o como una especie de CEO, al que cada función cognitiva reporta sus actividades sin que necesariamente haya un conocimiento de cómo se ha elaborado dicho reporte (Edelman and Tononi, 2000). Otros utilizan la metáfora de un sistema *Online*, capaz de conectar distintos subsistemas inconscientes de acuerdo a la tarea a resolver (Milner and Goodale, 1995).

La búsqueda de un correlato neuronal de la consciencia ha sido en las últimas décadas un tema controversial en el campo académico, con detractores (Chalmers, 2003; Nagel, 1974) y defensores (Crick and Koch, 1998; Dennett, 2006; Searle, 1998). Hoy en día, existen distintas teorías sobre el correlato neuronal de la consciencia. Siendo breves, podría decirse que no existe un área particular en la que se produzca la experiencia consciente; más aún, si existe una centralidad del sistema tálamo-cortical y sus regiones asociadas (Edelman and Tononi, 2000). Pese a las críticas que la noción 'neurocientífica' de la consciencia frecuentemente enfrenta, entre las más mencionadas la de ser 'reduccionista' o de "negar la libertad humana", es interesante notar como existe cierta continuidad en la noción de consciencia superior (comenzando por Kant, siguiendo con Wundt y culminando en las psicología y las neurociencias). Esta continuidad no es tan clara, por ejemplo, para la antropología cultural; ya que en muchas ocasiones reduce al sujeto a sus constricciones culturales, menospreciando al sujeto psicológico en su relativa 'libertad', al enfrentarse a procesos de socialización y endoculturación.

Por otro lado, la búsqueda de un correlato neuronal de la consciencia no supone necesariamente la negación de la libertad humana; pudiendo ser entendida tan solo como el esfuerzo por entender los mecanismos neurológicos y cognitivos vinculados a nuestra capacidad de tomar decisiones; esfuerzo que puede y debe integrarse a otros niveles sociales, culturales, económicos y políticos. Desde una perspectiva interdisciplinaria, la identificación de un correlato neurológico no debería considerarse como la reducción del fenómeno estudiado a un determinado nivel —en este caso, el biológico—. Una perspectiva integrativa supone que los hallazgos de cierto nivel deben ser estudiados en su relación con los restantes niveles, no dando por sentado en forma *a priori* la causalidad o determinación de ningún proceso. Como veremos en la última sección de este artículo, la integración del modelo neurobiológico en ciertas vertientes de la antropología no ha supuesto reduccionismo alguno sino que ha permitido la integración entre historia natural e historia cultural; actualizando el trascendentalismo kantiano y el historicismo hegeliano de acuerdo a los avances científicos del siglo XXI, algo que no debería asustarnos al ser libre —y a veces no tan libre— pensadores.

Estados alterados de conciencia

La idea de una "consciencia normal" supone un patrón psicológico de medida para toda experiencia, algo que ha sido relativizado en mayor o en menor grado por distintos investigadores (Harner, 1990; Tart, 1969). Si bien puede problematizarse la idea de una consciencia 'normal' u 'ordinaria', lo cierto es que resulta bastante evidente que durante el transcurso del día desarrollemos nuestras actividades en un estado de vigilia que —más allá de sus fluctuaciones— nos permite estar atentos y focalizados en los problemas mundanos. Cuando estas funciones son alteradas significativamente, nuestra capacidad de tomar decisiones o de realizar actividades a las que estamos altamente automatizados se ve comprometida; dificultando no solo las interacciones sociales, sino también acciones mucho más simples tales como caminar, percibir nuestro entorno, comer o movernos. Por otro lado, mientras en estados de conciencia 'normal' somos capaces de reconocernos y situarnos en una línea temporal autobiográfica, esta situación puede cambiar en distintos grados cuando estamos bajo ciertos EAC. Vemos entonces como todas esas características de la consciencia —mencionadas primero por Kant y luego por los estudios neurocientíficos— se ven comprometidas, lo cual supone cierta vulnerabilidad si lo pensamos en términos adaptativos. Pero, entonces, ¿por qué el ser humano tiende de todas maneras a alterar su consciencia?, ¿por qué las prácticas de trance relacionadas a EAC tienen una presencia cultural tan extendida por el mundo? Estas preguntas no son nuevas para la antropología, si tomamos en cuenta que el uso de alucinógenos en contextos religiosos ha sido estudiado por esta disciplina desde finales del siglo XIX. Por ejemplo, en Norte América, la expansión del uso ritual del peyote (*Lophophora williamsii*) llevó a que distintos antropólogos se interesaran por la difusión y consolidación de la Iglesia Nativa Americana como movimiento de resistencia indígena (Aberle, 1957; Kluckhohn and Leghton, 1946; La Barre, 2012; Mooney, 1896). El uso del peyote puso tempranamente en evidencia el papel que juegan las prácticas de trance en contextos críticos de anomia y aculturación, ayudando a los pueblos nativos oprimidos en la búsqueda de nuevas configuraciones identitarias y estrategias culturales de resistencia.

Este carácter adaptativo de los rituales de trance fue reconocido por el psiquiatra Arnold Ludwig (1966), cuando introdujo en la literatura académica el término *estados alterados de conciencia* (EAC), bajo un contexto histórico donde distintos psiquiatras comenzaban a explorar las posibles aplicaciones clínicas de las denominadas sustancias 'psicotomiméticas'. Ludwig fue consciente de los diversos usos culturales de los EAC, e intentó responder al porqué de su amplia presencia. De alguna manera su amplia dispersión debía suponer en términos evolutivos una importante función adaptativa que, Ludwig, desde una perspectiva psicoanalítica, relacionó con su utilidad en el desarrollo de la psique a través de la expresión y elaboración de conflictos psíquicos. Dentro

de sus usos adaptativos, también describió su utilidad para la adquisición de nuevos conocimientos y experiencias (por ejemplo, a través de la meditación, las revelaciones o las experiencias místicas) y su función social (por ejemplo, el uso de la posesión como modos de expresión de los conflictos sociales o del ritual como modo de reforzamiento de las creencias y la cohesión de grupo). Entre los aspectos mal adaptativos, Ludwig menciona aquellos aspectos regresivos de los EAC que conducen a tendencias autodestructivas o a la evitación de responsabilidades y/o conflictos internos.

Ludwig define a los EAC como cualquier estado mental que involucra un cambio en la experiencia subjetiva y en el funcionamiento psicológico con respecto al estado de vigilia. De acuerdo con Ludwig, los mismos pueden producirse a través de: la reducción de la estimulación sensorial del mundo exterior y/o la actividad motora (e.g., trance hipnótico, estados hipnagógicos), el incremento o sobrecarga de la estimulación sensorial, actividad motora y/o emocional (e.g., estados de posesión, trance chamánico, caminatas en el fuego), el incremento de un estado de alerta focalizado (e.g., oración o rezo en forma 'ferviente'), el decrecimiento del estado de alerta y relajación de las facultades críticas (e.g., estados místicos, experiencias estéticas profundas, estados de asociación libre durante la terapia psicoanalítica), la presencia de factores 'somatopsicológicos' (e.g., uso de sustancias psicoactivas). A pesar de que posteriores clasificaciones considerarían nuevos elementos desarrollados a través de las neurociencias (Vaitl et al., 2005), las ideas centrales de Ludwig no perderían vigencia.

En cuanto al correlato neurológico de los EAC, Julian Davidson (1976), en los años 70, popularizó la idea de que en los estados místicos y meditativos el sistema nervioso autónomo sufre una activación ergotópica extensiva (simpática) seguida de un colapso tropotrópico (activación parasimpática) con una consecuente relajación mental que lleva a la conexión de varios niveles cerebrales. A su vez, y en la misma década, comenzará a indagarse la conexión entre estados transcendentales y ciertos casos de epilepsia del lóbulo temporal sugiriendo cierto correlato neurológico (Dewhurst and Beard, 1970; Waxman and Geschwind, 1975). Posteriormente se incluirán otras áreas, como la inhibición de las funciones ejecutivas en la corteza prefrontal, tanto en las experiencias místicas (Schjoedt and Sørensen, 2013) como en los EAC en general (Dietrich, 2003). Algunos investigadores se focalizarán en determinados EAC tales como experiencias fuera del cuerpo (Blanke et al., 2004), experiencias cercanas a la muerte (Marsh, 2010), parálisis de sueño (Cheyne et al., 1999) entre otras. Hoy, los modelos neurocientíficos de los EAC y las experiencias místicas toman en cuenta diversas áreas del cerebro involucrando no solamente la corteza cerebral sino otros sistemas como las estructuras límbicas y el sistema nervioso autónomo (Czachesz, 2016; McNamara, 2009; Schjoedt, 2009).

Antropología y estados alterados de conciencia

El chamán y las técnicas del éxtasis

Si bien, y como vimos anteriormente, a finales del siglo XIX antropólogos norteamericanos reconocían el potencial adaptativo de los rituales del peyote en las culturas nativas, la concepción del trance ritual como práctica médico-religiosa se popularizaría recién en la segunda mitad del siglo XX; con el cambio de perspectiva de anteriores concepciones del chamán 'charlatán', 'primitivo' o "enfermo mental", a la del chamán como 'etnopsicoterapeuta' (Apud, 2013). El primer paso lo realizaría, en 1949, Claude Lévi-Strauss al analizar como los símbolos, rituales y mitos tienen un efecto terapéutico sobre los pacientes del chamán, permitiendo curar distintos tipos de aflicciones a través de lo que denominó "eficacia simbólica" (Lévi-Strauss, 1997). Unos años después, en 1951, Mircea Eliade publica: *El chamanismo y las técnicas arcaicas del éxtasis*; proponiendo al chamán como alguien capaz de curar y resolver distintos problemas de su comunidad a través de las "técnicas del éxtasis". Dichas técnicas permiten al chamán salirse de su cuerpo hacia un mundo espiritual y moverse libremente por el cosmos por medio del *Axis mundi* que conecta cielo, tierra e infierno. Según Eliade (2009), aunque la simbología de este cosmos puede cambiar de cultura en cultura, su estructura esencial se mantiene dado que es un fenómeno 'originario' experimentado por el ser humano en forma ahistórica y transcultural.

La propuesta de Eliade puede entenderse como un "modelo neuropsicológico" (Martínez González, 2007), pues supone que las experiencias relacionadas al trance son una predisposición universal de la mente humana que el chamán manipula, en tanto especialista religioso, a través de las técnicas del éxtasis. Estas experiencias se encontrarían presentes, con sus respectivas variaciones culturales, en otros especialistas religiosos tales como los ascetas, los místicos o los profetas. Todos ellos son expertos en algún tipo de técnica de trance gracias a un proceso que involucra cierto tipo de aprendizaje cultural. El modelo 'universal' de Eliade, permitió especular sobre la presencia del chamanismo en todo tiempo y lugar. Esto llevó a que algunos investigadores comenzaran a interpretar al arte rupestre prehistórico como expresiones del trance chamánico.

A pesar de que la idea fuese planteada inicialmente por Alfred Kroeber (1925), para el arte rupestre de California, es luego de la propuesta de Eliade que comienzan a realizarse interpretaciones 'chamánicas' sobre distintos materiales arqueológicos; por ejemplo, en el arte prehistórico de Mesoamérica (Furst, 1965), en el arte en las cavernas durante el paleolítico superior (Pfeiffer, 1982) o en el arte rupestre en Sudáfrica y California (Lewis-Williams and Dowson, 1988).

En el caso de aquellas prácticas de trance, que involucran el uso de sustancias psicoactivas, Eliade las consideró como una vía fácil, decadente y desviada del verdadero camino del místico; algo que el antropólogo español Antonio Escohotado (1992) criticaría como una "toma personal de partido" y un "cliché etnocéntrico", sin fundamento alguno desde un punto de vista histórico. No obstante, más allá de la posición personal de Eliade frente al uso de 'intoxicantes', su propuesta inevitablemente derivó en la concepción del uso chamánico de sustancias psicoactivas en cuanto prácticas etnopsicofarmacológicas. En el momento en el que Eliade formulaba su modelo del chamán psicopompo se producían otros descubrimientos que permitieron la conexión entre chamanismo y drogas; entre ellos el descubrimiento del LSD por Albert Hoffman, el inicio de los estudios clínicos con alucinógenos en los años 50 y las descripciones etnográficas de los usos tanto religiosos como médicos de dichas sustancias. Todos estos acontecimientos provocaron un fuerte interés por las relaciones entre sustancias químicas, mecanismos cerebrales, estados de conciencia y salud mental.

Es en esta época que Charles Tart, popularizaría definitivamente el término EAC por medio de una compilación de autores especializados en el tema (Tart, 1969). Comenzando nuevos estudios etnográficos focalizados en las prácticas culturales relacionadas a los EAC tanto por el uso de alucinógenos (Dobkin de Rios, 1973; Dolmatoff, 1969; Harner, 1972) como por otras técnicas de trance y posesión (Bourguignon, 1973; Firth, 2011).

Algunos investigadores, dentro de un paradigma transpersonal, considerarían a los estados ordinarios y estados alterados de conciencia como fuentes igualmente válidas de conocimiento (Tart, 1975); proponiendo el estudio de las experiencias transpersonales en distintas culturas (Laughlin et al., 1983), confrontando al 'cognocentrismo' occidental (Harner, 1990) y sugiriendo como dichas experiencias podrían ayudarnos a superar el materialismo científico positivista (Laughlin, 1988). Otros optarán por una visión más cauta, intentando entender las prácticas de trance y posesión en sus aspectos psicológicos y culturales, eludiendo cualquier explicación 'transpersonal'.

Trance y posesión

Como lo señala el antropólogo Brian Morris (2006), los términos 'trance' y 'éxtasis' son utilizados muchas veces en forma equivalente en la literatura académica a sabiendas de que en realidad son términos distintos. La palabra 'éxtasis' deriva del griego *ekstasis*, "salida fuera de sí", lo que supone una experiencia donde el sujeto experimenta una salida de sus propios límites corporales y mentales. 'Trance', por su parte, sería un término más general; aplicable a distintos estados mentales del tipo 'hipnótico' o 'inconsciente'. El término EAC sustituyó en su momento la vaguedad de los términos anteriores, sufriendo distintas reformulaciones debido a

las resistencias de muchos académicos al análisis de las prácticas culturales en términos 'cognitivos'. Por otro lado, y después de que Eliade postulara el término 'éxtasis' —entendido como la capacidad de abandonar el cuerpo y viajar por el mundo de los espíritus— como una característica central del chamanismo, la antropología ha descripto distintos contextos etnográficos en los que las definiciones parecen no ser tan simples.

Luego de su trabajo de campo con los Tikopia de Melanesia, Raymond Firth (2011) propuso la distinción entre posesión (ser controlado por los espíritus), mediumnismo (comunicarse con los espíritus) y chamanismo (control sobre los espíritus), con cierta consonancia con las ideas de Eliade. Unos años después Ioan Lewis (2003) criticaría la distinción realizada por Firth, describiendo como los tres modelos de relacionamiento con los espíritus pueden darse en el chamanismo. Por ejemplo, puede haber posesión controlada y/o el chamán puede abandonar el cuerpo y ser poseído por espíritus al mismo tiempo. También puede haber posesión sin trance cuando, desde un punto de vista *emic*, ciertas enfermedades son concebidas como espíritus que entran al cuerpo.

A su vez, y contrastando con Eliade, Lewis menciona como los fenómenos de posesión se encuentran incluidos dentro de las definiciones clásicas de chamanismo siberiano; por ejemplo, en las observaciones realizadas por el antropólogo ruso Sergei M. Shirokogorov a principios del siglo XX. Lewis llega a la conclusión de que lo más importante no es la distinción entre chamanismo y posesión sino la distinción entre posesión controlada y sin control, siendo el chamán un especialista que desarrolla la capacidad de controlar en mayor o menor grado a los espíritus tanto benévolos como malévolos. De manera similar, la antropóloga Erika Bourguignon estudió los fenómenos de posesión y exorcismo durante su trabajo de campo en Haití. Observando como el concepto de posesión en los haitianos tiene un rango de aplicación más amplio que los conceptos psiquiátricos asociados al mismo (Bourguignon, 1965, 1973, 1980). Mientras que, desde la psiquiatría la posesión podría relacionarse con un estado temporario de pérdida de consciencia, convulsiones y alteración de la personalidad, en el uso *emic* del concepto se incluyen fenómenos que no implican estado de trance alguno —como el hablar soñando o ciertas enfermedades que no involucran cambios en la consciencia—. Así, los haitianos no conciben como posesión ciertos estados delirantes o de disociación que bien podrían ser entendidos como tales. Debido a que el término posesión parece estar culturalmente ligado, la autora propone el término de "disociación ritual" para entender el trance de posesión; definiéndolo como un estado mental donde una parte de la personalidad escindida toma posesión temporal de la consciencia y el comportamiento. El término no tiene la misma connotación patológica que en psiquiatría, entendiendo la autora que dicha disociación

es utilizada en forma positiva, proveyendo a un sector pobre de la población haitiana de una serie de roles alternativos que permiten elaborar deseos insatisfechos y frustraciones de la vida cotidiana.

Posteriormente, y junto con la antropóloga física Louanna Pettay y el psiquiatra Adolf Haas, Bourguignon realiza una investigación transcultural de más de mil unidades culturales y subculturales utilizando el *Atlas etnográfico* de George Murdock (Bourguignon, 1973). El estudio muestra como aproximadamente un 90 % de las sociedades tienen formas institucionalizadas de trance y/o trance de posesión y un 74 % tienen alguna forma de posesión. La investigación también resulta una fuerte evidencia en apoyo a la hipótesis de la asociación posesión-sociedades complejas y trance-sociedades simples (Bourguignon and Evascu, 1977). Como señala Bourguignon, la asociación entre posesión y complejidad social no resulta algo ilógico si tenemos en cuenta que a mayor complejidad social, mayor diferenciación de roles y mayor representación simbólica de dichos roles a través de dioses y espíritus. Asimismo, el trance de posesión puede asociarse a una mayor necesidad de controlar las fuerzas del ambiente y lidiar con problemas relacionados a la deprivación social; algo, que es más frecuente en las sociedades complejas (Bourguignon, 1980).

Biología, cognición y cultura en el estudio antropológico de los estados alterados de conciencia

Reconsiderando psicología y evolución desde la antropología cultural

El modelo de Bourguignon permite distinguir entre lo que sería una perspectiva *emic* de los EAC —vinculada a explicaciones culturales de tipo sobrenatural, relacionadas con la intervención de seres espirituales— y un modelo *etic* —vinculado a explicaciones psicológicas del tipo naturalista, relacionadas con un nivel psicológico de análisis—. John Pilch (1996) realiza una crítica a la distinción de Bourguignon entre lo natural y lo sobrenatural; término 'sobrenatural' introducido en la teología cristiana por Pseudo Dionysus en el siglo IX; siendo, entonces, también un concepto culturalmente ligado. Así, según Pilch, lo que es sobrenatural en nuestra cultura para otras sociedades y/o en otros momentos de la historia occidental resultaría natural. Como alternativa, Pilch propone un método que permite encontrar yuxtaposiciones entre los universos simbólicos del investigador y la cultura investigada de modo que se pueda llegar a una explicación "etic derivada" que concilie ambas perspectivas.

Sin embargo, y desde un punto de vista cognitivo, la crítica de Pilch a la distinción entre lo natural y lo sobrenatural no discrimina entre un nivel categórico y un nivel lingüístico de análisis; ya que, si bien es cierto que pensamiento y lenguaje se encuentran íntimamente ligados en el ser humano, no por ello son procesos cognitivos equivalentes. Por ejemplo:

existen categorías 'intuitivas', no expresadas en el lenguaje, que son frecuentemente utilizadas para pensar. Un caso estudiado por las ciencias cognitivas es nuestra predisposición innata a discriminar "seres vivos" de otros seres inanimados, incluso antes de la adquisición de las categorías lingüísticas para tal distinción (Atran, 1987). Se trata de una capacidad de una importancia adaptativa enorme, si consideramos que evolutivamente se muestra vital la identificación de posibles depredadores o presas. En el caso de la distinción entre lo natural y lo sobrenatural podría decirse algo similar: más allá que existan o no términos lingüísticos para designar lo natural o lo sobrenatural, la mayoría de los seres humanos somos capaces de identificar intuitivamente como 'sobrenaturales' aquellas ideas o experiencias que rompen con las constricciones físicas y biológicas a las que todos nos vemos sometidos en el mundo. Es natural que las personas caminen y no vuelen, que los animales no hablen y que el cuerpo envejezca. Como señala Pascal Boyer (1994), es justamente gracias a la alteración de estas expectativas intuitivas naturales que las ideas religiosas se propagan con mayor efectividad. Boyer las denomina "ideas mínimamente contraintuitivas", ideas que cognitivamente llaman más la atención y son más fáciles de recordar, al incorporar rasgos que mínimamente transgreden las expectativas biológicas y físicas esperables. Es justamente, la 'sobrenaturalidad' de las ideas religiosas la condición de su existencia o al menos de su amplia dispersión global. Se conforman en el juego de lo posible y lo no posible, dentro de un mundo físico compartido universalmente. Para nuestro tema específico podría argumentarse que en los EAC es natural que las personas vuelen, que los animales hablen y que el cuerpo no envejezca. Sin embargo dichas experiencias no se enmarcan dentro de la vida cotidiana sino en el espacio sagrado de lo ritual, el cual es diferenciado como tal del resto de las actividades prácticas de la vida cotidiana. Tal como lo señala Richard Noll (1983) el chamán, a diferencia por ejemplo del esquizofrénico, es capaz de distinguir el mundo cotidiano 'natural' del mundo de su experiencia 'oculta'; puesto que el segundo no es de acceso inmediato, sino que requiere de un entrenamiento y aprendizaje en el "cultivo de las imágenes mentales" (Noll, 1985).

Otro problema es el de cómo distinguir, desde un punto de vista transcultural, lo que es un EAC de lo que es un estado de conciencia ordinaria debido a que resulta difícil concebir un estado de conciencia basal del que partir (Craffert, 2011). Sin embargo, aunque es difícil establecer un estado basal de la "consciencia normal" en sus aspectos más sutiles, es fácilmente constatable que el estado general de vigilia se muestre como un patrón adaptativo fundamental. Resulta poco probable que, desde un punto de vista adaptativo, el estado de vigilia no se haya desarrollado como modelo estable de percepción y procesamiento de información para una

coordinación comportamental efectiva en la identificación de depredadores, la obtención de alimentos, la reproducción, la crianza y la vida en sociedad en general.

Consciencia y EAC podrían considerarse como términos *etic*, construidos en el intento de establecer patrones psicológicos universales, algo a lo que la antropología cultural ha respondido con cierta fobia luego de que el evolucionismo cultural fuera dura —y justificadamente— criticado. No obstante, y como señala Bloch (2012), hoy, muchos antropólogos culturales continúan confrontando con el evolucionismo de primera mitad del siglo XX; a pesar de que la antropología cognitiva actual plantea el evolucionismo en otros términos en los que, si bien se considera importante la interacción entre historia cultural e historia natural, no por ello se reduce la una a la otra. Hoy en día, resulta difícil dar la espalda a una perspectiva evolutiva actualizada que permita entender al ser humano desde una profundidad temporal que lo sitúe no solo en su historia social y cultural sino en el desarrollo de la especie y de los seres vivos en general. El sesgo no es solo de la antropología cultural y social sino también de gran parte de las ciencias sociales, las cuales han concebido la mente como una "tabula rasa" y al pensamiento como una función de dominio general (Tooby and Cosmides, 2005).

Es en el esfuerzo interdisciplinario de efectuar un diálogo entre distintas disciplinas tales como las ciencias cognitivas, la antropología cultural, la arqueología, la biología y las neurociencias que ciertos investigadores han planteado distintos modelos explicativos de los EAC en los que se integran los niveles neurobiológico, psicológico, social y cultural. A continuación, brevemente, se mencionaran algunos diálogos entre los que destacan la arqueología cognitiva de Lewis-Williams y Dowson, la neurofenomenología de Michael Winkelman y algunas perspectivas en cognición distribuida aplicadas al estudio de la religión y los rituales.

Arqueología, chamanismo y cognición

Como vimos anteriormente, el modelo 'neuropsicológico' de Eliade abrió la posibilidad de interpretar el arte rupestre prehistórico en tanto representaciones de las experiencias chamánicas y sus EAC. Una de las propuestas más populares fue la de David Lewis-Williams y Thomas Dowson (1988) quienes, combinando arqueología con neurociencias cognitivas, plantearon un modelo de trance chamánico en tres fases: una primera fase donde predominan los fenómenos entópicos (fosfenos, redes, túneles, espirales); una segunda fase 'constructiva' donde predominan símbolos icónicos cargados de sentido y una tercera fase de alucinaciones propiamente dichas. Postulando la universalidad de dichas fases en la experiencia de trance chamánico, los autores proponen la aplicación de las mismas a distintos contextos arqueológicos posibilitando identificar y realizar conjeturas generales sobre el chamanismo a lo largo de la historia humana. El modelo, a pesar de que no ha estado exento de críticas (Helvenston and Bahn, 2005), resulta interesante

no solo por su aplicación al arte prehistórico sino por su posible comparación con los nuevos modelos neurocientíficos en el estudio de las experiencias místicas y religiosas (McNamara, 2009). Más adelante, Lewis-Williams (2005) desarrollaría una teoría cognitiva del arte, la religión y la evolución humana; partiendo de la distinción entre un polo de vigilia más 'atento' al mundo circundante y un polo 'autístico' más introspectivo y vinculado a los sueños. Lewis-Williams concebirá a los EAC como un producto evolutivo no adaptativo en sus inicios, pero que finalmente adquiere una función adaptativa de vital importancia en el desarrollo cultural y social de la especie humana. Por ejemplo, y de acuerdo con este autor, los dibujos bidimensionales no habrían sido inventados durante el estado de vigilia sino que serían una creación influenciada por las imágenes bidimensionales producidas por nuestro sistema nervioso bajo los EAC. Lo mismo sucedería con distintas representaciones oníricas durante el sueño y cómo ellas han influido en el desarrollo del arte, la religión y la cultura. Los EAC se vincularían entonces a una capacidad imaginativa innata del ser humano, adquisición fundamental sin la cual no podría explicarse la explosión creativa que supuso el paleolítico superior.

Siguiendo esta misma línea, David Whitley (1998) utiliza un modelo neurocognitivo de sueño-vigilia para explicar el arte rupestre chamánico. Para ello recurre al paradigma mente-cerebro utilizado por Allan Hobson en el estudio del sueño, en donde se postulan tres estados primarios: despertar, soñar y dormir. Los estados de trance se explicarían a través de las tensiones dinámicas entre los dos sistemas neurobiológicos vinculados a estos estados: el sistema aminérgico de vigilia y el sistema colinérgico del sueño. Es en la manipulación de estos sistemas que el chamán accede a distintos EAC, rescatando información usualmente inaccesible en el estado de vigilia. Sin embargo, y al igual que sucede al despertar, luego del trance los recuerdos tienden a olvidarse. Para Whitley, el arte rupestre sería una especie de artefacto mnemónico que utiliza el chamán para registrar el conocimiento obtenido durante sus EAC.

Neurofenomenología del chamanismo

En *Shamanism: A Biopsychosocial Paradigm of Consciousness and Healing*, Michael Winkelman (2010) propone un marco neurofenomenológico para el estudio de los EAC interrelacionando estructuras neurológicas y experiencias fenomenológicas de la consciencia. Para ello parte del modelo de "cerebro trino" de Paul MacLean, planeando tres sistemas anatómicos formados en distintos momentos evolutivos y con diferentes funciones comportamentales, emocionales e informacionales. Primero el "complejo reptiliano", localizado en las estructuras cerebrales más bajas (de médula a tálamo) y encargado de las funciones orgánicas (e.g., digestión, respiración), así como de comportamientos básicos (búsqueda de alimentación, reproducción,

defensa). El segundo sistema es el paleomamífero, vinculado al sistema límbico del cerebro medio y encargado del procesamiento de información emocional y social en sus aspectos más básicos (afecto, sexo, agresión, defensa, relaciones sociales). Tercero el sistema neomamífero, vinculado a la corteza cerebral y encargado del procesamiento simbólico, cultural, lógico y lingüístico.

Para entender a los EAC, Winkelman propone la noción de "modos de consciencia"; definiendo los mismos como sistemas funcionales de operaciones biológicamente determinadas que permiten al organismo encontrar un balance homeostático entre los distintos subsistemas cerebrales, de este "cerebro trino", de acuerdo a las necesidades globales del organismo. Existirían cuatro modos mayores de consciencia con sus respectivas funciones fundamentales: (i) el estado de vigilia de la consciencia (encargado del aprendizaje, adaptación y supervivencia); (ii) el sueño profundo (encargado de la recuperación, regeneración y crecimiento); (iii) el sueño REM (encargado de la integración y consolidación de la memoria); (iv) el "modo integrativo de consciencia" (encargado del crecimiento psicodinámico y la integración psicosocial). Estos cuatro estados no estarían completamente separados, sino que existirían fases intermedias; por ejemplo, el estado hipnagógico entre la vigilia y el sueño o el estado hipnopómpico entre el sueño y el despertar.

El "modo integrativo de consciencia" es una capacidad funcional-estructural del ser humano que permite la integración de aspectos comportamentales, emocionales y cognitivos relacionados al funcionamiento personal y social. Involucra la producción de un estado de consciencia, en donde el sistema parasimpático domina causando una sincronización e interconexión de las distintas estructuras cerebrales del cerebro trino. Winkelman describe tres formas mayores de estados de consciencia integrativa: (i) el vuelo espiritual chamánico, donde a través de distintas técnicas se produce una manipulación del sistema nervioso simpático al punto del colapso llevando a un estado de dominio parasimpático donde el chamán experimenta visiones y experiencias fuera del cuerpo; (ii) los estados místicos/meditativos, que suponen por lo general una aproximación directa a un estado parasimpático dominante a través de la concentración, autocontrol, calma, y consciencia de sí; (iii) los estados de posesión/mediumnismo, caracterizados por dominio de los espíritus sobre la persona, generalmente asociados a personas con cierta predisposición neurológica a entrar en estados disociativos. El modelo neurofenomenológico de Winkelman permite pensar a los EAC como "modos integrativos de consciencia" desarrollados evolutivamente para una posible homeostasis adaptativa no solo a nivel psicológico, sino también social y cultural. Sus variaciones culturales pueden conllevar a usos tanto adaptativos como mal adaptativos, así como médicos y/o

religiosos.

Religión, EAC y cognición distribuida

Finalmente tenemos las perspectivas de cognición distribuida, focalizadas en las interacciones entre cognición y contexto tecnológico-cultural. Estas perspectivas surgen con la necesidad de abrir el paradigma clásico de las ciencias cognitivas, donde se parte de una noción de mente exclusivamente centralizada en el cerebro. Para ello distintos investigadores comenzaron a incluir otros elementos tales como el cuerpo, el lenguaje y los artefactos tecnológicos, estudiando como nuestro cerebro utiliza artefactos simbólicos y materiales del contexto circundante para desarrollar distintas tareas cognitivas. Se introduce la idea de que estamos cercanamente acoplados a nuestro medio local y que externalizamos pensamientos e intenciones aprovechando recursos cognitivos externos que transforman nuestras capacidades mentales. Bajo esta perspectiva tanto las operaciones realizadas por el cerebro como los estados de consciencia resultantes son entendidos en su relación dialéctica con el contexto cultural en el que se desarrollan (Apud, 2013; Clark, 2003; Hollan et al., 2000).

En el estudio de los rituales y las prácticas religiosas, Armin Geertz (junto a su equipo de trabajo de la Universidad de Aarhus) propone una perspectiva biocultural de cognición distribuida donde el cerebro no es un órgano aislado sino que se encuentra fuertemente incrustado en sistemas culturales (Geertz, 2010). La perspectiva de Geertz retoma el postulado de la coevolución cerebro-cultura, es decir como el cerebro y sus funciones cognitivas evolucionaron paralelamente y en forma dialéctica con el medio cultural. Para esta perspectiva la religión sería un sistema articulado de símbolos y rituales que ha coevolucionado junto con determinadas habilidades cognitivas como la autoconsciencia, la comunicación simbólica, la empatía, la compasión, la autoridad, los comportamientos rituales, el pensamiento mágico, la preocupación por la muerte y la capacidad de generar EAC (Geertz, 2013). Sería un producto cultural íntimamente relacionado a nuestra naturaleza hipersocial, que hace uso de la manipulación de estados mentales en el encuentro intersubjetivo tanto para propósitos potencialmente positivos (efectos psicoterapéuticos a través de mecanismos relacionados con el placebo) como negativos (manipulación y adoctrinamiento).

En mi trabajo de campo en las redes religioso-espirituales transnacionales relacionadas con la ayahuasca (brebaje psicoactivo de origen amazónico), también he propuesto un modelo de cognición distribuida para la descripción de los rituales y el análisis de las experiencias de sus participantes (Apud, 2013, 2015, 2015). En este modelo la sustancia psicoactiva es considerada una pieza más del ritual, en diálogo con los distintos elementos del contexto ceremonial y las características personales de los participantes. La conjunción de estos elementos permite explicar

la variabilidad de las experiencias durante los EAC, pues, a pesar de que la ayahuasca como sustancia psicoactiva es el agente necesario para su producción, no es condición suficiente para explicar la heterogeneidad de las vivencias subjetivas que se registran.

Para ello, y partiendo de un modelo de cognición distribuida basado en la noción de sistemas de actividad de Michael Cole e Yrgö Engeström (1993), he planteado un modelo analítico del ritual con base en distintos componentes: (i) el diseño ritual (conjunto de reglas y disposiciones espaciales que configuran el contexto inmediato del ritual); (ii) la comunidad (relaciones sociales que mantienen cada uno de los participantes); (iii) el participante individual (sus características psicológicas, su historia de vida personal, su raigambre cultural, sus motivos personales o la "demanda terapéutica" por la que acude a la ceremonia, sus creencias, el momento de su historia personal en el que acude al ritual); (iv) los roles asignados durante el ritual a cada uno de los participantes; (v) los artefactos cognitivos (instrumentos tanto físicos como simbólicos utilizados por el chamán para provocar y guiar las experiencias de los participantes). Así, la influencia directa de todos estos elementos en la experiencia concreta de cada participante durante los EAC nos muestra lo sensible que es la consciencia al contexto cultural y como un mínimo estímulo visual, olfativo, sonoro, e incluso simbólico, puede producir distintas experiencias en los participantes.

Conclusiones

En los años 60, Ludwig planteó en forma clara y adelantándose a su tiempo todas aquellas líneas centrales para el estudio antropológico y psicológico de los EAC: su relación con la polaridad sueño-vigilia; las posibles modalidades de alteración de la consciencia; las técnicas culturales utilizadas para provocarlos; la función adaptativa de los mismos en la evolución de la especie y las posibles consecuencias mal adaptativas que pueden involucrarse. Dichos lineamientos se verán posteriormente reflejados en mayor o menor medida en los trabajos de Bourguignon, Lewis-Williams, Winkelman entre otros. El esfuerzo de cada uno de estos investigadores ha sido fundamental para entender las prácticas rituales asociadas a los EAC en clave interdisciplinaria y poniendo en diálogo antropología, psicología, biología, neurociencias y ciencias cognitivas en general.

La antropología cultural, a través del método etnográfico, ha demostrado la amplia presencia de las prácticas relacionadas a los EAC. Sin embargo, y debido al rechazo de la disciplina a todo tipo de 'naturalismo', ha tendido a menospreciar categorías psicológicas, cognitivas y evolutivas. A lo largo de este artículo se han descrito distintas perspectivas en el estudio de los EAC, privilegiando aquellas que se han interesado por el diálogo interdisciplinario, buscando conectar neurobiología, evolución y cultura, sin por ello caer en el evolucionismo

reduccionista de los comienzos de la antropología.

El estudio de los EAC quizás sea uno de los más subestimados dada su proximidad semántica con los conceptos de 'droga', 'superstición' y otros términos con fuertes connotaciones negativas en la cultura occidental moderna. Sin embargo, y como hemos visto a lo largo de este artículo, su relevancia no es para nada menor en la historia evolutiva y cultural del ser humano. A su vez, y con el creciente interés de las neurociencias en el estudio de la conciencia, los EAC se muestran como un terreno fértil para nuevas conjeturas acerca de la relación entre mente, cerebro y cultura.

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Creencias, Rituales y Memoria. Una introducción a la Ciencia Cognitiva de la Religión

(*Beliefs, Rituals, and Memory. An introduction to Cognitive Science of Religion*).

Resumen: La Ciencia Cognitiva de la Religión es un campo de investigación interdisciplinario que surge en los años 1990s, congregando distintas disciplinas y métodos. Su interés es explicar los procesos cognitivos que subyacen a las creencias y prácticas religiosas, así como situar las mismas en la historia natural y evolutiva de nuestra especie. En el presente artículo se describirá dicho campo interdisciplinario en sus aspectos principales, así como en dos de sus líneas centrales de investigación: la epidemiología de las creencias religiosas, y el estudio cognitivo de los rituales religiosos. Ambas líneas de investigación estudian el problema de cómo las ideas y prácticas religiosas interactúan con la memoria y otros procesos cognitivos, tratando de explicar la amplia dispersión de los fenómenos religiosos en el mundo.
Palabras clave: Ciencia Cognitiva de la Religión, ideas religiosas, rituales religiosos, memoria.
Abstract: The Cognitive Science of Religion is an interdisciplinary research field born in the 1990s. It combines different disciplines and methods, united by the common interest of explaining the cognitive processes underlying religious beliefs and practices, and situating them in the natural evolutionary history of the human species. In the current article, the essential features of this interdisciplinary field will be described, including a presentation of two of its most important research foci: the epidemiology of religious beliefs, and the cognitive study of religious rituals. Both lines of research are concerned with how religious ideas and practices interact with memory and other cognitive processes, trying to explain the widespread occurrence of religious phenomena around the world.
Key words: Cognitive Science of Religion, religious ideas, religious rituals, memory.

Introducción

La "Ciencia Cognitiva de la Religión" (de aquí en más, CCR) es un enfoque interdisciplinario cuyo desarrollo comienza en los años 1990s, integrando distintas disciplinas (e.g. psicología cognitiva, antropología cognitiva, biología evolucionista, neurociencias, filosofía, historia de la religión, psicología del desarrollo), y orientaciones metodológicas (e.g. etnografía, modelos matemáticos, investigación historiográfica, técnicas de neuroimagen, investigación experimental, juegos económicos). El objetivo central de la CCR no es el de interpretar o describir manifestaciones históricas o culturales de determinadas religiones en particular, como sucede por lo general en la antropología cultural, la historia de las religiones, o los estudios de la religión en general. En tanto se trata de un campo interdisciplinario donde lo cognitivo es central por definición, la agenda de investigación está orientada a analizar patrones recurrentes en el pensamiento y comportamiento religioso, de modo de poder explicar el porqué de la presencia cuasi universal de la religión en la historia y cultura humana.

Del mismo modo que las ciencias cognitivas en general, la CCR parte de la idea de que la mente humana no sería una *tabula rasa* capaz de absorber cualquier contenido cultural, sino que poseería una arquitectura propia, con sus constricciones, potencialidades y sesgos. Esto no implica que lo cultural deba ser reducido a nuestra naturaleza biológica, sino que la cultura no es un fenómeno autorreferencial, y que debe ser entendida en su relación con disposiciones naturales de la mente/cerebro, desarrolladas por la especie humana a lo largo de su historia evolutiva. La CCR supone entonces que creencias y prácticas religiosas -al igual que todo conocimiento y acción

humana- son desarrolladas a partir de ciertas capacidades cognitivas, presentes en la arquitectura del cerebro humano desde por lo menos fines del Pleistoceno.

En el presente artículo se describirá a grandes rasgos el campo interdisciplinario de la CCR. En la primera sección titulada "Naturaleza, evolución y cognición en la CCR", se describirá el campo de investigación de la CCR en tanto enfoque naturalista y evolucionista. Para ello analizaremos la noción de la religión como "producto derivado" de la arquitectura cognitiva modular. Esto traerá consigo distintas posiciones en torno a si la religión es o no un fenómeno adaptativo. En la sección "Creencias, agentes sobrenaturales y contraintuitividad" se describirán las principales ideas y problemas en torno al estudio de las ideas religiosas en CCR: el "antropomorfismo" de Stewart Guthrie, la "detección de agentes" de Justin Barrett, y la "contraintuitividad" de Pascal Boyer. Finalmente en "Rituales y memoria", se analizarán las principales teorías del ritual en CCR: la "teoría de la forma ritual" de Lawson & McCauley, la teoría de los "modos de religiosidad" de Whitehouse, y – brevemente- otros modelos posteriores. El artículo se focalizará en éstas dos líneas de investigación, ambas centrales y fundacionales en el campo de la CCR. Cabe señalar que, por motivos de desarrollo temático y de extensión, dejaremos de lado otras líneas que actualmente comienzan a tener un desarrollo cada vez mayor, como ser el estudio de las "experiencias religiosas" o el de los factores "prosociales" de la religión.

Naturaleza, evolución y cognición en la CCR

Si bien la formulación de una teoría cognitiva de la religión puede rastrearse tempranamente a los años 1970s (Guthrie, 1980; Lawson, 1976; Sperber, 1975; Staal, 1979), el campo de la CCR comienza a desarrollarse recién en los años 1990s. Primero a través de la publicación de "Repensando la Religión" de E. Thomas Lawson & Robert McCauley (1990), donde se expone un modelo cognitivo para entender las prácticas rituales religiosas. Un segundo momento lo marca Stewart Guthrie (1993) y su libro "Rostros en las nubes", donde se presenta al antropomorfismo como característica central de la religión. Un tercer momento lo marca la publicación de "La Naturaleza de las Ideas Religiosas" por Pascal Boyer (1994), quien desarrolla y sintetiza las directrices del programa de investigación de la CCR, proponiendo la inclusión de una perspectiva naturalista para el estudio de la religión. Finalmente, los artículos de E. T. Lawson (2000) "Hacia una Ciencia Cognitiva de la Religión", y Justin Barrett (2000) "Explorando los fundamentos naturales de la religión" marcan la consolidación definitiva y el nombramiento del campo interdisciplinario. La mención de las obras de Lawson & McCauley, Guthrie y Boyer no es menor, dado que cada una de ellas marca el inicio de distintas líneas sobre las que se centrará la agenda de investigación de la CCR: el estudio cognitivo de la

estructura ritual, la concepción de las ideas religiosas en términos de agentes sobrenaturales, y la explicación de la religión en términos naturales y cognitivos.

El proyecto de una explicación naturalista de los fenómenos religiosos define el "núcleo duro" del programa de investigación de la CCR, fuertemente enraizado en las ciencias cognitivas por un lado, y la psicología evolucionista por otro. El problema central de la CCR es cómo explicar la religión en tanto producto cognitivo derivado de nuestras capacidades naturales de comprender y relacionarnos con el mundo. Dichas capacidades no pueden entenderse sin remitir a un proceso evolutivo de desarrollo de nuestra mente/cerebro, lo cual implica situar la religión en una profundidad temporal que abarque no solamente una "historia universal" en el sentido "humanístico" del término, sino también una historia natural del desarrollo de nuestra especie y de los seres vivos en general. Para ello, gran parte de la CCR se fundamenta en el concepto de modularidad de la psicología evolucionista, bajo la idea de que nuestra cognición dispone natural, neurológica, y madurativamente de determinadas capacidades de dominio específico denominadas "módulos", adquiridas en el proceso de desarrollo biológico de nuestra especie. La presencia de estos módulos sería universal en la especie humana, dado que nuestra arquitectura cerebral no ha sufrido grandes cambios desde por lo menos los últimos 50 mil años. Ejemplos de módulos cognitivos son los involucrados en el reconocimiento de rostros, en las habilidades lingüísticas, o en el reconocimiento de agentes.

En CCR, la idea de modularidad supone que la religión es un "producto derivado" – *by-product*- de la conjunción e interacción de distintas modularidades, como ser las relacionadas a la detección de agentes, la teoría de la mente, o la cognición social en general. No existiría entonces una "mente religiosa" en sí misma, sino una variedad de fenómenos religiosos que derivarían de procesos y módulos cognitivos más generales. El origen de esta idea puede ser adjudicado a Charles Darwin, quien en "El Origen del Hombre" plantea la hipótesis de la religión como producto de la combinación y superposición de varios elementos psicológicos. En el caso de la devoción religiosa, Darwin rastrea su origen en elementos emocionales como el amor, la sumisión, el miedo, el sentimiento de dependencia, la esperanza, la gratitud. En el caso de las creencias en seres sobrenaturales, su origen podría encontrarse en la atribución de pasiones y agencia a fenómenos naturales. Darwin pone el ejemplo de su perro, que ladra cada vez que una ligera brisa golpea el quitasol, confundiendo el viento con un agente intencional (Darwin, 2009, p. 47). Para Darwin la religión sería un producto de la conjunción de estos distintos elementos psicológicos, una especie de error ocasional, una ilusión de nuestro sistema nervioso, sin una función adaptativa específica.

La hipótesis darwiniana de la religión como un producto derivado de funciones

psicológicas será retomada y discutida en los años 1990s, tanto en el campo de la CCR como en distintas ramas de las ciencias naturales y sociales. El debate se dividirá entre quienes sostienen que la religión es un producto derivado no adaptativo, y quienes piensan que tendría una función adaptativa a nivel individual y/o grupal. La primera posición supone que la religión es un producto derivado de distintas funciones cognitivas, que la selección natural no elimina dado que tampoco muestra tendencias que no permitan su permanencia. Por ejemplo, para el antropólogo Pascal Boyer (2001) las ideas religiosas se propagan fácilmente a nivel poblacional dadas sus características "contraintuitivas", y no porque ofrezcan una ventaja desde el punto de vista adaptativo (desarrollaremos la noción de contraintuitividad más adelante). En el caso de los rituales religiosos, Boyer & Liénard (2006) plantearán a los mismos como productos derivados de sistemas cognitivos de reconocimiento de peligro, que desencadenarían un tipo de comportamiento compulsivo, rígido, estereotipado, redundante, y desconectado de metas coherentes. Este conjunto de rasgos comportamentales producirían una sobrecarga de la atención y la memoria de trabajo, generando una momentánea baja de la ansiedad, pero también una fuerte tendencia a la sugestionabilidad y a la recepción de información en forma acrítica.

Una segunda visión es la "adaptacionista", donde la religión tendría un valor funcional, sea en términos de cooperación social, de transmisión de conocimiento, o de prácticas de sugestión y placebo. Las alternativas dentro de esta segunda opción son variadas, abarcando la idea de la religión como una adaptación genética, como una adaptación no genética de grupos culturales, o como un "producto derivado" de funciones cognitivas que si bien no es adaptativo en sus orígenes adquiere finalmente una función adaptativa (para una revisión del tema, Bulbulia, 2004). A su vez ciertas perspectivas coevolucionistas manejan la posibilidad de una retroalimentación entre evolución biológica y desarrollo cultural, concibiendo a la religión como un sistema de pensamiento y prácticas que se desarrolla dialécticamente con habilidades relacionadas a la cognición social, como ser la autoconciencia, la empatía, el pensamiento mágico, la compasión, la comunicación simbólica, y la manipulación de estados mentales (Geertz, 2013).

Creencias, agentes sobrenaturales y contraintuitividad

Como mencionábamos anteriormente, la idea de una teoría cognitiva sobre las creencias religiosas tiene antecedentes anteriores a la consolidación del campo de la CCR. El primero en plantear el estudio de la transmisión religiosa en términos cognitivos es el antropólogo Dan Sperber (1975), quien introduce la idea de una "epidemiología de las creencias", encargada de estudiar cómo y porqué ciertas representaciones mentales se propagan mejor en las poblaciones humanas. Las ideas religiosas resultarían particularmente exitosas, siendo que surgen

de mecanismos de interpretación simbólica -distintos a los del procesamiento racional de información- que involucran modos cuasi-aleatorios de búsqueda en la memoria, disparados ante situaciones ambiguas. Como resultado, los símbolos religiosos, a diferencia de los signos lingüísticos, terminan siendo un producto cognitivo sin propiedades sistemáticas, con una gran variación y maleabilidad individual.

En 1980, Stewart Guthrie publica el artículo "Una teoría cognitiva de la Religión", cuyas ideas desarrollará posteriormente en su libro "Rostros en las nubes" de 1993. En ambos retoma la idea clásica de antropomorfismo, donde la religión sería un sistema simbólico que utiliza "modelos humanos" –*human-like models*- para la interpretación de fenómenos no humanos (Guthrie, 1980). Guthrie discute con una tradición que desde Durkheim ha menospreciado la idea tyloriana de animismo como definición mínima de religión, y rescata nuevamente el problema de la sobreatribución de agencia como una característica universal de la religión. En el caso del budismo por ejemplo, ampliamente citado como una religión sin dioses, el autor señala como de todos modos las distintas ramas del budismo se encuentran profusamente invadidas por seres sobrenaturales, siendo el "budismo ateísta" una lectura filosófica y "libresca", distante del budismo popular. Al igual que Sperber, para Guthrie las religiones son formas simbólicas derivadas de una forma de pensamiento que intenta explicar fenómenos que inicialmente se muestran ambiguos. Según el autor, los "modelos humanos" serían utilizados más frecuentemente dado que la mente humana está predispuesta la mayor parte del tiempo a procesar información en contextos de interacción social.

En CCR, la interpretación de fenómenos naturales ambiguos en términos humanos se explicaría por la naturaleza profundamente social de nuestra mente/cerebro, pero también por un sesgo propio de la evolución de nuestra cognición, que tiende a sobreidentificar agentes en el mundo circundante. Justin Barrett (2000), lo denomina "Hiperactividad en el Dispositivo de Detección de Agentes" (de aquí en más, HDDA), siendo una disposición modular que surge durante la evolución natural no solo del ser humano sino también de otros animales (presente por ejemplo en el perro de Darwin). Esta hipervigilancia ha resultado más eficiente en términos adaptativos, si tomamos en cuenta que la identificación de "falsos positivos" –por ejemplo, reconocer un depredador donde no lo hay- no conlleva grandes riesgos, mientras que lo contrario puede ser fatal. La HDDA de Barrett supone a su vez que lo característico de la religión no sería el antropomorfismo, sino la identificación de agentes en términos generales, sean o no humanos.

La idea es posteriormente elaborada por Barrett & Richert (2003), quienes a partir del estudio del desarrollo del concepto de Dios en niños y niñas proponen lo que denominan la

"hipótesis de la preparación". Para los autores, las representaciones tempranas de agentes sobrenaturales en niños y niñas se basan en estructuras conceptuales más generales que las antropomórficas, con dos características centrales: i. el reconocimiento general de agentes intencionales, incluyendo animales no humanos, lo cual implica una flexibilidad mayor a la hora de incluir propiedades "sobrehumanas"; ii. la tendencia que niños y niñas muestran a atribuir propiedades sobrehumanas a otras personas, por ejemplo sus padres o adultos en general (idea que los autores rastrean en las teorías de Piaget y Freud).

Volviendo nuevamente a los inicios del programa de investigación de la CCR, Pascal Boyer plantea la idea de la "naturaleza de la religión" (Boyer, 1994), así como la hipótesis de que la religión se caracterizaría por el uso de "ideas mínimamente contraintuitivas" (Boyer, 2001). Como vimos anteriormente, la idea de la "naturaleza de las ideas religiosas" supone que existe un trasfondo cognitivo universal detrás de la formación de ideas en general. Siguiendo los estudios de Frank C. Keil en psicología del desarrollo, Boyer plantea cómo desde edad temprana desarrollamos naturalmente determinados principios intuitivos de dominio-específico, relacionados con una física intuitiva, una biología intuitiva, y una psicología intuitiva. Las categorías se encuentran anidadas jerárquicamente, y de cada una de ellas se derivan espontáneamente determinados "supuestos ontológicos" (Figura 1). Por ejemplo, inferimos y reconocemos cualidades propias de los objetos físicos y sus interacciones mutuas pero, al tratar con seres vivos, agregamos otras cualidades nuevas, en tanto les atribuimos también capacidad de agencia e intencionalidad. Siguiendo los estudios del antropólogo Scott Atran sobre la presencia transcultural de categorías como la de "seres vivos", Boyer plantea como estas categorizaciones serían naturales, en tanto se encuentran determinadas por la arquitectura de nuestra mente/cerebro, más allá de sus manifestaciones particulares a nivel individual y/o cultural.

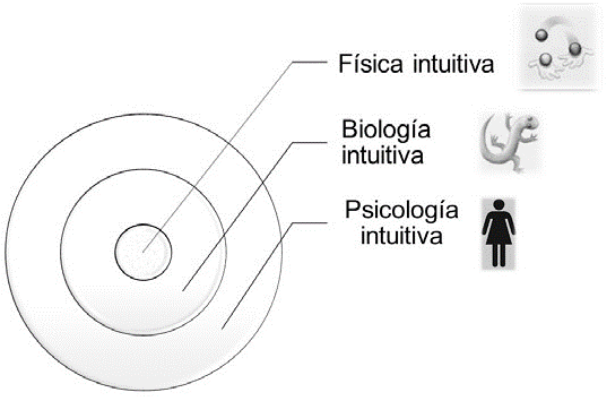

Figura 1. Principios intuitivos de dominio específico.

Partiendo de los preceptos de una epidemiología de las creencias planteada por Sperber, y concibiendo estas expectativas intuitivas de capacidades cognitivas naturales, Boyer

entenderá las ideas religiosas como un tipo especial de representaciones, que se propaga poblacionalmente con mayor éxito debido a que captan una mayor atención a través de la violación de estas expectativas intuitivas. Boyer las denomina "ideas mínimamente contraintuitivas", planteando cómo al incluir una mínima violación de nuestras expectativas intuitivas, las ideas religiosas se hacen más "memorables" que el resto, captando nuestra atención, y volviéndose más fáciles de recordar. Son "contraintuitivas" en tanto rompen con nuestras ontologías intuitivas naturales, violando las explicaciones mecánicas (e.g. una piedra que flota), biológicas (un ser que no envejece) o psicológicas (una entidad con mente no constreñida a un lugar físico); de allí su carácter "sobrenatural".

Boyer plantea un óptimo cognitivo entre lo intuitiva y naturalmente esperable y una mínima contraintuitividad que vuelve a la idea saliente. Si la idea resulta exageradamente cargada de rasgos contraintuitivos se vuelve difícil de recordar, mientras que si no incorpora ningún rasgo contraintuitivo pierde su carácter "saliente" con respecto a otras ideas del entorno. Si bien la "contraintuitividad" de las ideas religiosas no incluye como rasgo central de lo religioso la idea de "agentes sobrehumanos", Boyer no deja de lado su importancia y recurrencia, relacionándola con otras propiedades modulares y naturales de la cognición humana, principalmente las intuiciones morales y nuestros sistemas de inferencia social, que actúan como terreno fértil para la creencia en "dioses legisladores", deidades guardianas de los principios morales, o seres sobrenaturales con "acceso total a conocimiento social estratégico".

La "contraintuitividad" de Boyer, y la "detección de agentes" de Guthrie y Barrett serán hipótesis clave en la agenda de la CCR, derivando en distintos estudios y trabajos que producirán evidencia empírica tanto a favor como en contra, así como distintas reformulaciones teóricas y metodológicas. Dentro de las discusiones más importantes, Scott Atran (2002) distinguirá entre recordar una representación contraintuitiva y estar comprometido ontológicamente a ella, en lo que denomina el "Problema del Ratón Mickey". Cualquiera de nosotros sabe y recuerda quien es el Ratón Mickey. Se trata de un personaje fácil de recordar, y cumple con las características contraintuitivas mencionadas por Boyer para el caso de dioses o espíritus, pero no por ello consideramos que Mickey exista realmente. Esto no sucede con un creyente en Dios, pues no considera a su Dios como un personaje de ficción sino como un ser real y existente. Según Atran, para explicar la creencia en ideas religiosas debemos incluir otros sistemas psicológicos, relacionados con nuestra disposición a entablar compromisos ontológicos, morales y existenciales con ideas y creencias. La misma crítica se puede realizar a la HDDA: si bien la misma puede dar cuenta de cómo inferimos agencia en el sonido del pasto o en la brisa que golpea al quitasol, no puede explicar de todos modos como la HDDA puede derivar en creencias estables y

elaboradas sobre dichos agentes, en vez de simplemente ser eliminadas por falta de evidencia.

Gervais, Willard, Norenzayan & Henrich (2011), coinciden en que si bien la contraintuitividad introduce "sesgos de contenido" que hacen a una idea más memorable y "contagiosa", es necesario a su vez incluir lo que denominan "sesgos de contexto" para explicar la adhesión a las creencias religiosas. Dentro de los mismos tenemos por ejemplo el sesgo por conformidad, el sesgo basado en el prestigio, y las conductas de aumento de credibilidad. Este tipo de sesgos arraigarían la adherencia a creencias dentro de un contexto social determinado, donde la familia, la comunidad y el aprendizaje cultural juegan un papel fundamental en el compromiso del individuo con un sistema de creencias. Por último, pero no menos importante, Porubanova, Shaw, McKay & Xygalatas (2014) demuestran experimentalmente como las ideas que producen una violación de expectativas culturales parecen ser más fáciles de recordar que las relacionadas con principios ontológicos naturales, cuestión que trae consigo muchas relecturas acerca de la importancia de la contraintuitividad en la propagación de las ideas religiosas.

Rituales y memoria

El "sesgo de contenido" atribuible a las "ideas mínimamente contraintuitivas" o a "agentes sobrenaturales" sería entonces condición necesaria pero no suficiente para explicar las transmisión de las creencias religiosas. Para una explicación más completa, el programa de investigación de la CCR debe incluir otros procesos cognitivos que intervengan en la consolidación de un compromiso epistémico y la adhesión por parte del creyente a determinadas creencias o doctrinas religiosas. En este aspecto, el estudio de los rituales religiosos ha ofrecido una ventaja, en tanto supone estudiar el contexto ritual y su incidencia sobre las funciones cognitivas para la producción, transmisión, memorización y adherencia a las doctrinas religiosas. Nuevamente, podemos mencionar a Sperber (1975) a la hora de entender el origen de la teoría ritual en CCR. Continuando con su crítica al simbolismo en tanto "sentido oculto a interpretar", Sperber propone que en el ritual religioso tampoco existe un modelo interpretativo oculto. Para Sperber el ritual no tiene significado alguno, sino que sería un disparador de mecanismos de interpretación simbólica, al producir una situación ambigua e indeterminada que incita a la búsqueda de significado.

En la misma década que Sperber postula su teoría cognitiva del simbolismo, surgen distintas propuestas que se alejan de formulaciones semánticas o interpretativas, y apuntan a entender la estructura del ritual en términos sintácticos, inspiradas en el modelo generativo de la lingüística chomskiana. Primero E. Thomas Lawson (1976) propone entender el ritual como unidad sintáctica dentro de un sistema ritual, al igual que una frase u oración es el producto de la gramática de un lenguaje. Unos años después, Frits Staal (1979) planteará una teoría ritual a partir

del estudio etnográfico del ritual *Agnicayana* del sur de la India, observando la ejecución de dicho ritual, y comparándolo con el canon de los textos antiguos. Para explicar la capacidad de los brahmanes de recordar todo el extenso procedimiento ritual de varios días, Staal propone que toda la complejidad de la acción ritual puede entenderse bajo reglas estructurales de composición y transformación, aplicadas de manera recursiva. Al igual que Sperber, Staal propone que el ritual en sí mismo no tiene un sentido intrínseco; lo importante es su secuencia, sobre la que las personas vuelcan un contenido, construyendo distintos sentidos.

Pero es recién en la década de los noventa, cuando Lawson & McCauley (1990) publican "Repensando la Religión", que comienza uno de los debates fundacionales de la CCR. Siguiendo la analogía lingüística propuesta anteriormente por Lawson (1976), los autores proponen una "hipótesis de la forma ritual", donde describen los componentes estructurales de la acción ritual en términos de una "teoría de la competencia", en el sentido chomskiano de la palabra. Dicha teoría supone relacionar al ritual con capacidades cognitivas naturales de la mente humana, encargadas de la representación de la acción de agentes. Para ello, los autores distinguen entre un nivel semántico del ritual religioso y una sintaxis subyacente, donde es posible capturar la estructura cognitiva del ritual en tanto "sistema de representación de la acción", análogo a la construcción de frases en lingüística.

El ritual, al igual que todo sistema de representación de acciones, estaría compuesto por elementos constituyentes y reglas de formación, pudiendo ser desagregado en tres elementos principales: el sujeto/agente del ritual, el paciente/objeto, y la acción que une a ambos. Hasta allí el ritual no se diferenciaría de la representación de otras acciones cotidianas u ordinarias. Lo que distinguiría al ritual en tanto práctica religiosa sería la conexión de uno de éstos elementos con lo que los autores denominan "Agentes sobrehumanos Postulados Culturalmente" (de aquí en más APC). Toda acción religiosa ritual involucraría entonces a un agente realizando una acción sobre un paciente/objeto, que tarde o temprano debe estar conectada con un APC, a través de lo que los autores denominan "acción habilitante" (figura 2). Describir la estructura ritual total implica conectar un ritual en particular con las "acciones habilitantes" que lo interconectan en un sistema más amplio de rituales y agentes sobrenaturales. Si no hay una referencia directa a algún APC en la estructura inmediata del ritual, debe haber al menos algún elemento conectado con otro ritual que eventualmente conecte con algún APC. La conexión con los dioses es sumamente importante en tanto ellos son los poseedores de la "información estratégica", necesaria –aunque no suficiente- para que el efecto del ritual sea exitoso.

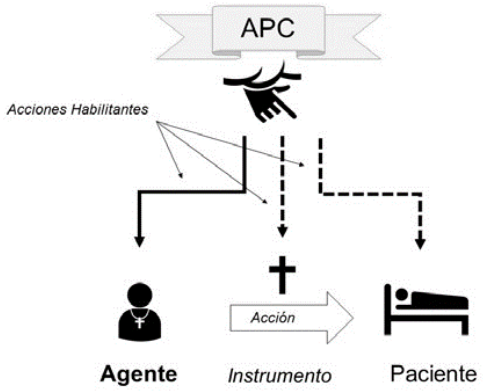

Figura 2. Sistema de representación de la acción ritual.

La representación del ritual deriva entonces de nuestros sistemas cognitivos ordinarios, principalmente de nuestras categorías de representación de la acción de agentes, a la que se agrega cierta conexión directa o indirecta con un APC. Lo central en cada ritual es si este APC se encuentra presente, y si no es así, cuál es el elemento en el ritual que conecta con el mismo. Para lograr una descripción estructural completa del sistema ritual en una religión dada, es entonces importante considerar dos principios generales. En primer lugar el "Principio de Agencia Sobrehumana", que implica establecer de qué modo y a través de qué elemento el ritual está conectado a un APC. Si está conectado con el agente del ritual (por ejemplo un cura o chamán), hablamos de un "ritual con agente especial"; si está conectado con el paciente se trata de un "ritual con paciente especial", y si está conectado con un instrumento es un "ritual con instrumento especial". Dentro de estos tres tipos se destacan los rituales de agente especial, en tanto son los que permiten un mayor grado de conexión con el APC. Éstos rituales por lo general no necesitan ser repetidos (cuánto más directa la intervención del APC menos necesaria es la repetición del ritual) así como tienen un carácter irreversible (la intervención directa del APC genera efectos "superpermanentes").

En segundo lugar tenemos el "principio de Inmediación Sobrehumana", que implica determinar la distancia entre el ritual estudiado y la aparición inicial del APC. Dicho de otra manera, consiste en describir el número de "acciones habilitantes" requeridas para conectar un elemento del ritual actual con un APC. Podemos entonces trazar una tipología de los rituales dentro de un sistema religioso dado (figura 3), donde las conexiones entre un ritual determinado y el APC puede variar en cercanía o lejanía, a través por ejemplo de una autoridad religiosa (números impares de la tipología), o a través del paciente o los instrumentos del ritual (números pares).

	Rituales de Agente Especial	Rituales de instrumento/paciente especial
Nivel 1	Tipo 1	Tipo 2
Nivel 2	Tipo 3	Tipo 4
Nivel 3	Tipo 5	Tipo 6
… Nivel N	… Tipo impar	… Tipo par

Figura 3. Tipos de rituales religiosos.

Esta tipología permite plantear ciertas conjeturas, como ser que, dentro de una comunidad religiosa en particular, el grado de intensidad sensorial será mayor cuando se trata de tipos impares en relación a los pares, sin importar la profundidad ritual. En los tipos impares, la conexión con el "agente" del ritual involucra una acción más directa del APC, que requiere una "pomposidad" mayor para demostrar la importancia de la acción realizada. Las extremas emociones provocadas en este tipo de rituales son útiles para persuadir a los participantes de que los cambios extraordinarios se han producido efectivamente. A su vez, rituales impares -como casamientos, ordenaciones o ritos de iniciación- no son repetidos generalmente, dado que la autoridad religiosa intermediaria del APC garantiza efectos "superpermanentes". Por el contrario, los tipos pares de rituales requieren ser realizados más frecuentemente dado que no tienen efectos "superpermanentes", y requieren menos "pomposidad" ya que están más alejados de la presencia "sobrenatural" del APC. Vemos entonces como estos dos principios permiten clasificar los rituales en sus distintas características: la reversibilidad o irreversibilidad de su efecto, la necesidad de repetición, el lugar central o periférico del mismo en el sistema religioso, el grado de componentes emocionales o sensoriales.

Pocos años después de la publicación de Lawson & McCauley, el antropólogo Harvey Whitehouse (1995) propone su "hipótesis de los modos de religiosidad", elaborada luego de su trabajo de campo en Papúa Nueva Guinea. En su trabajo etnográfico, Whitehouse observa como los habitantes del poblado *Dadul* efectúan una serie altamente repetitiva de sistemas rituales denominados *Pomio Kivung*. Pero de dicho grupo, emerge un movimiento reformista, que comienza a utilizar rituales emocionalmente cargados, bajo la concepción de un retorno de los ancestros del poblado. Whitehouse analiza cómo en los rituales *Kivung* tradicionales predomina un estilo menos emocional, más lógico e integrado. Por el contrario, en los rituales del grupo reformista predomina una alta estimulación sensorial e intensidad emocional. A partir de éstas diferencias el autor propone distinguir dos modos de prácticas rituales: el modo "doctrinal" –caracterizado por su alta frecuencia y baja estimulación, favoreciendo la memoria semántica- y el modo "imagístico" –caracterizado por su menor frecuencia y alta intensidad, favoreciendo la memoria

episódica-. Tal y como señala Whitehouse, la idea no es nueva, siendo que esta dicotomía ha sido reconocida por las ciencias sociales desde sus inicios, por ejemplo en la distinción entre religiones carismáticas y rutinizadas utilizada por Max Weber. El elemento cognitivo que la teoría de Whitehouse agrega a esta dicotomía clásica es el de la memoria, resaltando la importancia de dichos modos ritualísticos en la transmisión de las ideas religiosas, sea a través de la memoria semántica en los modos doctrinales, o de la memoria episódica en los imagísticos.

Ambos modos de religiosidad implican distintos estilos cognitivos de memorización y transmisión de conocimiento. En los modos doctrinales de religiosidad la frecuencia repetitiva facilita el aprendizaje de doctrinas y narrativas, a través del uso de la memoria semántica. La repetición lleva a una reducción en los niveles de motivación (el "efecto tedio"), por lo que deben utilizarse incentivos negativos (e.g. sanciones sobrenaturales) como positivos (promesas de vida eterna o salvación). Los modos doctrinales de religiosidad involucrarían entonces un conjunto de elementos mutuamente reforzantes, que cuando entran coalición generan sistemas históricamente robustos de religiosidad que pueden perdurar por siglos. Se ofrecen como dispositivos mnemotécnicos que permiten estandarizar un cuerpo doctrinal ortodoxo y centralizado. Probablemente surjan recién en la edad de bronce, en sociedades de gran escala, con necesidades de cooperación rutinizada, y donde el anonimato de las grandes comunidades hace necesario este tipo de mecanismos de memorización colectiva para la fijación de un corpus doctrinal entre los distintos miembros de su población.

Los "modos imagísticos" de religiosidad son por el contrario altamente estimulantes, tienen una baja frecuencia en su realización y suelen favorecer la memoria episódica para condicionar el recuerdo de los detalles de la acción ritual. Este tipo de rituales desencadenan una "reflexión exegética espontánea", que conlleva revelaciones o inspiraciones personales, así como la consecuente búsqueda de significado de las experiencias multivalentes y las imágenes religiosas del ritual. Esta reflexividad individual inhibe a su vez la centralización religiosa, tanto en la formación de líderes como en la producción de una ortodoxia. Los lazos emocionales que se producen en dichos rituales son propios de comunidades pequeñas y simples, donde son comunes las prácticas de trance. Probablemente sean formas de religiosidad muy antiguas, cuyos orígenes se remontan al Paleolítico Superior.

Tanto en la "hipótesis de la forma ritual" como en los "modos de religiosidad", el ritual es entendido como una práctica fundamental en la creación, transmisión y memorización de las ideas religiosas, principalmente en sociedades donde predomina la transmisión oral, y no existe la escritura. El problema es aún mayor en sociedades de gran escala, donde predomina el anonimato de sus miembros, aspecto que la teoría de Whitehouse es capaz de explicar en mejor

forma, a través de sus modos doctrinales. Cabe destacar que la teoría de los modos no es solamente una teoría cognitiva, sino también una teoría social, proponiendo un modelo de múltiples variables (figura 4), donde el problema clave es cómo estos estilos cognitivos se relacionan con variables no cognitivas, que Whitehouse clasifica como "sociopolíticas".

Variable	Modo doctrinal	Modo imagístico
Características psicológicas		
1. Frecuencia	Alta	Baja
2. Nivel de intensidad	Baja	Alta
3. Memoria	Semántica	Episódica
4. Sentido ritual	Aprendido	Generada internamente
5. Técnicas de revelación	Retórica/lógica/narrativa	Icónica/multivalente/multivocal
Características sociopolíticas		
6. Cohesión social	Difusa	Intensa
7. Liderazgos	Dinámica	Pasiva/ausente
8. Inclusividad/exclusividad	Inclusiva	Exclusiva
9. Dispersión	Rápida	Lenta
10. Escala	Gran escala	Pequeña escala
11. Grado de uniformidad	Alta	Baja
12. Estructura	Centralizada	No-centralizada

Figura 4. Modos de religiosidad de Whitehouse.

Whitehouse critica a McCauley & Lawson en tanto la "teoría de la forma" solo apunta a los procedimientos del ritual, sin preocuparse por su sentido cultural y contexto social. Whitehouse enfatiza en la importancia de un esfuerzo interdisciplinario para el estudio transcultural de la religión, considerando que su teoría de los modos permite entender mejor la transmisión doctrinal en términos de memoria, cognición y contexto social del ritual. Por otro lado considera que sus modos imagísticos son capaces de dar cuenta de la innovación religiosa, permitiendo establecer una relación entre ésta y las prácticas de trance, revelación y otros estados alterados de conciencia (Whitehouse, 2008). Para McCauley & Lawson (2002) los modos de religiosidad son incapaces de distinguir los distintos roles dentro de un ritual –e.g. rol de agente o de paciente- o incluir rituales como el *Agnicayana*, que no involucran estimulación intensa y sin embargo son muy poco frecuentes.

El debate entre ambas propuestas desencadenará posteriormente distintas críticas, correcciones y teorías alternativas en el campo de la CCR. Por ejemplo, Jesper Sørensen (2003) pondrá el foco no en la frecuencia o en los APC, sino en la contraintuitividad. Para el autor, el ritual es una instancia en la que presupuestos intuitivos y expectativas sobre las propiedades y relaciones causales de las entidades del mundo se muestran alteradas, produciendo no solamente una mayor capacidad de memorización y transmisión -tal y como señala Boyer-, sino además la búsqueda de nuevos sentidos –tal y como señala Sperber-. La acción ritual puede distinguirse de la acción ordinaria en tanto mientras la segunda se basa en expectativas intuitivas ontológicas

acerca del mundo y sus estados, en el ritual dichas expectativas se ven suspendidas, de modo que los participantes deben establecer nuevas estrategias para conectar la acción ritual con su efecto. Dichas interpretaciones pueden apelar a relaciones del tipo icónico o indexical, o bien a interpretaciones simbólicas, que requieren el uso más complejo de modelos culturales. La propuesta de Sørensen permite entender al ritual tanto en su función social conservadora (cohesión a través de una acción pública común que confirma una adhesión social), como en su función innovadora (producción de nuevos sentidos e interpretaciones).

István Czachesz (2010) señala ciertas características no contempladas en ninguno de los dos modelos sobre los tipos de estimulación sensorial y emocional, proponiendo tres modos ritualísticos de estimulación: i. aquellos que contienen detalles temáticos "estimulantes" (sacrificios, obras de teatro, recitaciones, música), favoreciendo tanto el recuerdo de los detalles del ritual, como de las narrativas, la doctrina y los mensajes morales de los relatos (algo que contradice la predicción de la teoría de los modos, donde es la repetición y no la carga emocional lo que favorece la transmisión doctrinal); ii. rituales donde prevalecen los estímulos visuales de "shock", que focalizan la atención sobre si mismos en detrimento del recuerdo de otros detalles y circunstancias del ritual; iii. rituales donde los participantes son expuestos a situaciones de estrés físico (e.g. dolor, frío, calor), o psicológico (aislamiento, amenazas, situaciones nuevas), en detrimento del recuerdo de las circunstancias rituales y doctrinales, pero favoreciendo la memorización de imágenes emocionalmente cargadas.

El antropólogo Dimitris Xygalatas (2013) investiga las tradiciones de "caminantes de fuego" de Anastenaria en Grecia, describiendo las mismas como modos "imagísticos" de ritualidad, en contraposición a los modos "doctrinales", formales y repetitivos de la Iglesia Ortodoxa Griega. Xygalatas describe como los participantes de las caminatas de fuego suelen evocar memorias vívidas de sus experiencias, incluso luego de años de las mismas. También señala como si bien estos rituales juegan un papel importante en la evocación y transmisión de conocimiento religioso, también los sentidos asociados a ellos pueden ser oscuros y vagos, disparando interpretaciones personales, así como efectos de cohesión social.

Schjoedt et al. (2013) proponen un "modelo de recursos de la cognición ritual" como teoría alternativa a las dos hipótesis clásicas en CCR. El modelo considera que cada ritual explota a su manera distintos elementos y técnicas de estimulación, como ser la estimulación intensa, el uso de metas vagas, la ejecución de acciones opacas, o la presencia de autoridades "carismáticas". Dichas técnicas producen un agotamiento cognitivo, llevando a un desajuste en la capacidad individual de codificar predictivamente la información sensorial. Esto genera una brecha para la sugestión, y una consecuente permeabilidad a las narrativas colectivas y las ideas religiosas, facilitando tanto

la transmisión de ideas religiosas como la adhesión y compromiso a las mismas. La cantidad de recursos cognitivos volcados en el ritual dependerá a su vez no sólo de la estimulación provocada por el ritual en sí mismo, sino también por la motivación individual de sus participantes, de acuerdo a cuánto invierte cada individuo en el procesamiento de creencias y deseos dirigidos a agentes sobrehumanos. El modelo contempla la variabilidad no solo entre rituales sino también entre participantes dentro de un ritual, siendo esperable que los recursos volcados en el mismo varíen individualmente, desde un mínimo de procesamientos mentales automatizados, a un máximo de metarepresentaciones sobre creencias e intenciones de otras personas o agentes sobrenaturales.

Conclusiones

Los estudios clásicos de la religión han privilegiado una perspectiva histórica, sociológica y/o cultural, la mayor parte de las veces con cierta sospecha hacia cualquier perspectiva psicológica o naturalista, entendiéndolas como modos etnocéntricos, positivistas o reduccionistas de entender lo religioso. En el caso particular de la psicología de la religión, el enfoque ha sido por lo general más sociológico que cognitivo, y si bien existe una extensa e interesante literatura sobre temas como la conversión religiosa, lo cognitivo se encuentra poco presente en la agenda, eludiendo explicaciones sobre cómo operan dichos mecanismos a un nivel mental más profundo. Por el contrario, en el campo de la CCR se vienen desarrollando hace ya más de dos décadas distintas teorías, que permiten poner en diálogo distintas disciplinas y niveles de análisis tradicionalmente excluidos del estudio de las religiones. A su vez, y como hemos mencionado anteriormente, la CCR permite situar a las religiones en una profundidad histórica mucho mayor que la clásica "historia universal" de las humanidades, trazando una historia natural de la religión en relación con los mecanismos cognitivos involucrados.

Actualmente existe un amplio consenso en que el estudio de la religión no puede ser reducido a una sola y simple teoría, enfoque o nivel. En ciencias sociales, las grandes teorías clásicas -durkheimianas, marxistas, freudianas- resultaron demasiado reduccionistas, provocando que estudiosos en el tema rechazaran posteriormente cualquier modelo general, y se dedicaran a un estudio más descriptivo, interpretativo, o hermenéutico. Quizás la respuesta más adecuada a las dificultades presentadas hubiera sido, no la renuncia a la generalización y comparación, sino la renuncia a la "omnipotencia disciplinaria", y la apertura al diálogo interdisciplinario, principalmente entre las disciplinas de corte social o humanístico, y las disciplinas provenientes de las ciencias naturales. En este sentido, la CCR es un terreno fértil para dicho diálogo, ofreciendo un programa interdisciplinario y multitécnico que busca profundizar en explicaciones generales, conectando distintos niveles de análisis neurológico, psicológico, social y cultural.

La importancia de la CCR quizás no esté solamente en los contenidos y líneas de

investigación que ha desarrollado, sino más que nada en configurar un campo de investigación donde la religión es estudiada interdisciplinariamente en el sentido real de la palabra, involucrando investigadores de distintas disciplinas y países del mundo, así como utilizando distintos métodos de investigación, que van desde investigaciones cualitativas hasta diseños experimentales. La CCR ofrece a su vez modelos explicativos consistentes y operacionalizables, formulando hipótesis que pueden ser puestas a prueba, tanto en un contexto de laboratorio, como en estudios históricos y etnográficos. Esto último no es de menor relevancia, si tomamos en cuenta que en el estudio de la religión la tendencia ha sido demasiado particularista, así como desconectada de las ciencias naturales.

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Psicología y Neurociencia de la Experiencia Religiosa. Una revisión crítica.

(Psychology, Neuroscience, and Religious Experience. A Critical Review).

Resumen: En el presente artículo realizaremos una revisión crítica del estudio neuropsicológico de la experiencia religiosa. Comenzaremos analizando las raíces filosóficas y teológicas del concepto, y su caracterización en tanto fenómeno Sui Generis. Proseguiremos describiendo el traslado de dicha concepción Sui Generis a la psicología, así como el surgimiento de una concepción crítica al modelo Sui Generis, a través de enfoques alternativos provenientes de la psicología social. Veremos cómo ambas concepciones son trasladadas al estudio neurocognitivo de la experiencia religiosa, produciendo distintos modelos y controversias. Algunos de estos modelos serán descriptos, así como las investigaciones relacionadas a los mismos.
Palabras Clave: experiencia religiosa; neurociencias; psicología; atribución; cognición.
Abstract: In the current article we offer a critical review of the neuropsychological studies of religious experience. First, we analyze the philosophical and theological roots of the term, and its characterization as a Sui Generis Phenomenon. Next, we describe the adoption of the concept in psychology, as well as the emergence of some critical approaches in social psychology. We will see how both approaches influenced the neurocognitive study of the religious experience, resulting in different models and debates. Some of these models will be described, as well as the investigations related to them.
Keywords: religious experience; neuroscience; psychology; attribution; cognition.

Introducción

El estudio de las relaciones entre cerebro, mente y religión ha cobrado fuerza en las últimas dos décadas, consecuencia del desarrollo que han tenido las neurociencias y las técnicas de neuroimagen por un lado, y las ciencias cognitivas por otro. Los avances y nuevos desarrollos en dichos campos han generado una creciente curiosidad de las ciencias sociales y humanísticas, bajo posturas tanto de diálogo como de confrontación. En el caso particular del estudio de la religión, vemos como desde los años 1990s comienzan a conformarse distintos campos de investigación interdisciplinaria que intentan dar cuenta de los fenómenos religiosos a nivel neurológico y cognitivo. Tenemos por ejemplo el nacimiento de la Ciencia Cognitiva de la Religión, campo de investigación donde distintas disciplinas confluyen en el esfuerzo de entender los mecanismos mentales subyacentes a la complejidad de las creencias y prácticas religiosas (para una revisión, Pyysiäinen, 2012).

En el caso particular de la experiencia religiosa, vemos como empiezan a surgir a partir de dicha década nuevos modelos y estudios neurocientíficos que intentan correlacionar actividad neuronal con el comportamiento religioso asociado a las mismas. Estos estudios retoman en clave neurocientífica el modelo Sui Generis de la experiencia religiosa formulado desde la clásica fenomenología de la religión, donde la experiencia de lo divino tiene un carácter único, irreductible e inefable. En contraposición con este modelo, y bajo la influencia de disciplinas como la historia de las religiones o la psicología social, surgen a su vez otros modelos y estudios, que enfatizan en la experiencia religiosa como un fenómeno plural y sensible a las categorías culturales.

El presente artículo es una revisión crítica de los estudios neurocognitivos de las

experiencias religiosas. Comenzaremos en primer lugar realizando una introducción a las raíces filosóficas del concepto y su definición Sui Generis desde una teología liberal protestante, en confrontación con el catolicismo y la ilustración. Describiremos a su vez el traslado del concepto al campo de la psicología, así como la contraposición entre un modelo Sui Generis de experiencia religiosa y el modelo atribucionista de la psicología social. Proseguiremos analizando el traslado de ambas perspectivas al estudio neurocognitivo de la experiencia religiosa. Por un lado, la concepción Sui Generis trasladada al campo neurocientífico; por otro, modelos críticos a estas perspectivas que, influenciados por concepciones provenientes de las ciencias sociales, las humanidades y la historia de las religiones, enfatizan en la pluralidad de las experiencias religiosas y en la influencia de las prácticas sociales y categorizaciones culturales. Cabe destacar que la descripción de cada modelo es sintética y breve, omitiendo detalles que pueden ser consultados por el lector en los artículos originales. La idea de nuestra propuesta es ofrecer una revisión histórica de las distintas concepciones sobre la experiencia religiosa, trazando continuidades y discontinuidades en un recorrido que comienza en la filosofía y la teología, y que se actualiza en los estudios neurocognitivos más recientes. De este modo, intentaremos describir la pluralidad de visiones sobre el tema y problematizar las tensiones centrales en el campo de investigación correspondiente.

Filosofía, teología y el modelo Sui Generis

Si bien la experiencia individual es sumamente valorada por las sociedades occidentales actuales, esto no fue así en la Edad Media. En el pensamiento aristotélico de la escolástica, la experiencia individual no era fuente confiable de conocimiento en comparación con las verdades eternas de la Biblia. El caso particular de la experiencia religiosa no es la excepción, más allá del rol de las conversiones súbitas en la historia del cristianismo. Santo Tomás de Aquino expresa la posición de la Iglesia en su Suma Teológica, advirtiendo sobre la primacía de las escrituras y la autoridad de la Iglesia por sobre cualquier experiencia de gracia. Un panorama distinto comienza a surgir con el protestantismo, que valoriza el vínculo directo del practicante con el Espíritu Santo, en clara confrontación con la Iglesia Católica, sentando las bases para un desarrollo filosófico de la noción de experiencia religiosa (Taves, 2005).

Al mismo tiempo, y principalmente con la Ilustración, se inicia un proceso de racionalización y secularización de lo religioso, en confrontación tanto con el dogmatismo de la Iglesia como con el liberalismo protestante. Uno de los filósofos más importantes dentro de esta visión fue Immanuel Kant, quien postula su idea de fe racional o fe moral: aquella que el individuo, en tanto sujeto libre, es capaz de abstraer de los contenidos morales particulares de la religión, para de esa manera revelar los principios prácticos de la razón pura (Kant, 1969

[1793]). En este sentido, si bien la religión cristiana ha sido útil al ofrecer a los pueblos "esquematismos por analogía" que reflejan las leyes universales de la razón, de todas maneras no deja de ser en sí misma una fe histórica, fundamentada en un conjunto de ritos y supersticiones que deben ser abandonados por la fe racional (Tapia, 2012). Dentro de este marco, el concepto de revelación se muestra demasiado contingente y alejado de la razón, por lo que no puede ser fundamento para la validez objetiva de la fe moral. Pero, más allá de esta fuerte impronta racionalista, Kant no expulsa de su filosofía a la experiencia en tanto camino hacia las verdades de la razón. Como ejemplo tenemos la experiencia estética de lo sublime, sentimiento de "admiración" y "terror" despertado frente a la contemplación de una noche profunda, de sombrías soledades, o de vastos desiertos (Kant, 1919 [1764]). La experiencia de lo sublime se ofrece como vía de acceso a un conocimiento profundo, al evocar la condición humana frente a lo abrumador de lo "eterno" o "absoluto". Pero este conocimiento profundo reside en el sujeto mismo, siendo el objeto contemplado tan solo una analogía de la idea racional de la "absoluta totalidad", para la cual no hay representación sensible alguna. Se podría decir que Kant deja una puerta abierta a la experiencia, que será tomada en cuenta por las concepciones románticas del neo-kantismo y la teología liberal protestante.

En diálogo crítico con la filosofía kantiana, Friedrich Schleiermacher se distanciará de la noción de religión como reflejo arcaico de las verdades de la moral, así como cuestionará la autoridad de la Iglesia en tanto garante de las verdades espirituales. Para ello postula al sentimiento de absoluta dependencia ante a Dios como la fuente verdadera de la religión (Czachesz, 2017; Taves, 2005). En el marco de la teología liberal protestante, la reivindicación de la experiencia religiosa individual juega un papel sumamente importante, en tanto implica la idea de la relación personal entre el practicante y las escrituras como lo auténticamente religioso, eliminando la intermediación de la Iglesia Católica. El sentimiento de dependencia se muestra entonces como un vínculo personal e irracional del practicante en su relación con Dios, una experiencia Sui Generis única e irreductible a cualquier otro tipo de experiencia ordinaria.

Dentro de la teología liberal, Rudolf Otto (2008 [1917]) profundizará en esta concepción Sui Generis, a través de su noción de lo numinoso. Otto lo caracteriza como un *Mysterium Tremendum* que puede manifestarse tanto en serenidad como en estremecimiento, embriaguez o éxtasis. *Mysterium* hace alusión a su carácter oculto y no conceptualizable; *Tremendum* a un temor distinto al natural u ordinario. La experiencia numinosa puede a su vez llevar a distintas experiencias, como el momento de *majestas*, caracterizado por un "sentimiento de criatura" frente a una fuerza superior, o las experiencias del mirum, donde representaciones de almas o espectros emergen como intentos de capturar el sentimiento de estupor frente al

encuentro con un "otro absoluto". Para Otto, la experiencia de lo numinoso es anterior a toda razón y moral, así como el origen de lo religioso, por lo que no puede derivar, evolucionar, ni compararse con otro tipo de sentimiento o experiencia. Esto no quiere decir que lo numinoso no pueda ser expresado y despertado mediante distintos medios, como por ejemplo ideogramas, figuras de divinidades, expresiones sublimes, lenguajes sagrados, reflexiones morales, mitos, milagros, leyendas, arte, música.

La psicología de la experiencia religiosa

A principios de siglo XX, William James (1994 [1902]) propone el estudio psicológico de los sentimientos e impulsos religiosos, entendidos como una relación personal con lo divino, más allá de su inscripción dentro de una institución religiosa. La experiencia religiosa sería para James un estado de ánimo particular de fascinación o gracia, donde el mundo interior nos redime y vivifica de la batalla con el mundo exterior; una reacción total del ser humano ante la vida, sea bajo una forma terrible, fascinante o amable. La religión no sería entonces una mera supervivencia o superstición, sino que cumpliría una función espiritual relacionada con el "amor a la vida" en todos sus niveles, y la capacidad de integrar el "destino personal" de cada individuo. La experiencia religiosa se relaciona con la capacidad psicológica de unificación o regeneración del yo, partiendo del hecho de que nacemos con cierta dispersión e incoherencia interior que puede ser resuelta a través de un proceso de conversión religiosa. Por último, para James la experiencia religiosa sería la base de toda creencia religiosa, e involucra la manifestación de un mundo espiritual del que el ser humano extrae su sentido esencial.

En el caso del Psicoanálisis, Sigmund Freud centró su idea de religión en los aspectos doctrinales, caracterizando la misma como una especie de trastorno obsesivo colectivo, donde el sentimiento de culpa y las fantasías de castigo divino por deseos inconscientes sexuales o anti-sociales conlleva a acciones ritualistas repetitivas y pensamientos irracionales (Freud, 1992a [1907]). Freud pasó por alto a la religión en tanto experiencia, con la única excepción de un breve análisis en El Malestar en la Cultura, luego de que un "venerable amigo" y "hombre eminente" –el escritor y premio nobel de literatura Romain Rolland- le señalara la importancia para el practicante religioso de la experiencia de un "sentimiento oceánico", caracterizado por una "pérdida de límites" y una "sensación de eternidad" (Freud, 1992b, p. 65 [1930]). Freud conjetura brevemente como dichas experiencias podrían ser reminiscencias de la temprana relación simbiótica madre- hijo, donde aún no existe la separación entre el mundo psíquico interior y mundo exterior. La reflexión es breve y concisa, para luego volver nuevamente a un modelo neurótico de la religión. No sucederá lo mismo con su ex-discípulo Carl G. Jung, quien retomará la idea de lo numinoso de Otto, concibiendo la religión

como el acto de observancia y cuidado de dicha experiencia (Jung, 2008 [1938]), y reformulando ciertas ideas místicas proveniente de tradiciones como el gnosticismo antiguo o la alquimia en clave psicológica (Schlamm, 2010; Segal, 1987). La psicología analítica jungiana, junto con la psicología humanística de Abraham Maslow, serán dos antecedentes importantes para el surgimiento de distintas nuevas corrientes psicológicas en la segunda mitad de siglo XX, preocupadas por la dimensión espiritual de la experiencia humana: la escuela bioenergética de Alexander Lowen, la psicoterapia gestáltica de Fritz Perls, y la psicología transpersonal de Stanislav Grof.

Paralelamente al desarrollo de éstas nuevas perspectivas, tenemos el creciente interés por las aplicaciones psicoterapéuticas de las denominadas sustancias psicotomiméticas en el campo de la psiquiatría. Si bien las mismas fueron utilizadas en sus inicios bajo un enfoque psicoanalítico de acceso rápido al inconsciente, con el correr de los años muchos pacientes comenzaron a dar testimonio de experiencias de conversión religiosa, dando punto de inicio a la terapia psicodélica (Hoffer & Osmond, 1967). La psicología transpersonal, de la mano de la terapia psicodélica, comenzará a interesarse en las experiencias místicas, bajo una perspectiva a medio camino entre ciencia y religión, donde la espiritualidad es entendida como una dimensión ontológica real y accesible (Apud, 2017). Bajo este enfoque los psicodélicos serán entendidos como herramientas útiles para el acceso a experiencias místicas, impulsoras de cambios psicológicos positivos.

Todas estas perspectivas psicológicas mencionadas anteriormente consideran a la experiencia religiosa como un fenómeno Sui Generis, diferente al resto de las experiencias ordinarias de la conciencia. Por el contrario, las ciencias sociales pondrán el acento en las categorías culturales, en tanto son éstas las que permiten adjudicar a una experiencia una cualidad religiosa o sagrada. La idea puede ser rastreada a Emile Durkheim, quien define la religión como un sistema de creencias y prácticas consideradas como sagradas por un grupo o sociedad (Durkheim, 1968 [1912]). Desde este punto de vista no existe lo religioso como categoría psicológica o experiencia fenomenológica pura, sino que ésta dependería de un sistema simbólico socialmente consensuado que determina que es y que no es religioso.

La psicología social retoma esta concepción a través de la teoría de la atribución, ofreciendo un marco crítico al modelo Sui Generis de la experiencia religiosa. La teoría de la atribución estudia la manera en que las personas asignan significados a sus comportamientos. La construcción de atribuciones es particularmente disparada por el individuo cuando existe un desafío a su visión de mundo, que le hace buscar nuevas explicaciones que le brinden sentido, control y seguridad (Hood, Hill, & Spilka, 2009). Las atribuciones pueden ser naturales

o sobrenaturales –religiosas-, dependiendo de las características personales del sujeto y de otros factores contextuales relativos al grupo social y la cultura. Cabe destacar que no toda teoría de la atribución implica un determinismo del sentido sobre el conjunto de la experiencia. Por ejemplo, mientras para Proudfoot & Shaver (1975) son las categorías las que determinan las experiencias en tanto sagradas, para Spilka y colaboradores (1985) la experiencia se compondría de un sistema de relaciones causa- efecto, donde las interacciones irían en ambos sentidos de la polaridad creencias- experiencia sensorial.

Tanto el enfoque Sui Generis como los aportes de la teoría de la atribución serán grandes influencias en el estudio neurocognitivo de las experiencias religiosas. El modelo Sui Generis resultará de gran importancia en los comienzos de dicho programa de investigación, en tanto la gran experiencia religiosa ha sido más fácil de identificar, modelizar y estudiar desde un punto de vista neurocientífico. A su vez, y bajo distintas perspectivas críticas, surgen enfoques que apuntan a la inclusión de experiencias religiosas moderadas, así como problematizan el rol de atribuciones, creencias, y otros factores socio- culturales en la determinación de la experiencia en tanto religiosa.

El modelo Sui Generis de las neurociencias

En los inicios de la psicología de la experiencia religiosa, William James advierte sobre la importancia de distinguir entre aquellas experiencias místicas, cultivadas por "genios religiosos" como San Pablo o San Francisco de Asís, y aquellas vinculadas a enfermedades mentales como la epilepsia o la esquizofrenia. De esta manera intentaba proteger a la futura psicología de la religión de un reduccionismo médico-materialista que pudiera desacreditar a lo religioso, al homologarlo y reducirlo a distintas patologías mentales. Sin embargo el giro fue otro. En primer lugar, la evidencia de cierta asociación entre determinados tipos de patologías mentales y la manifestación sintomática de experiencias subjetivas del tipo religioso -caso de la epilepsia- fue cada vez más difícil de ignorar. En segundo lugar, y en contradicción con los temores de James, esta asociación dio lugar no a un descrédito de lo religioso, sino a la formulación de nuevos modelos neurocientíficos Sui Generis de la experiencia religiosa, en consonancia con el modelo teológico clásico, y reivindicando el impacto positivo de dichas experiencias en la salud del individuo.

Un posible correlato entre religión y neuroanatomía comienza a sugerirse cuando en los años 1970s distintas investigaciones clínicas describen la manifestación de ciertas experiencias místicas en pacientes con epilepsia del lóbulo temporal (e.g. Dewhurst y Beard, 1970; Waxman y Geschwind, 1975). En la misma década comienzan a popularizarse ciertos modelos neurofisiológicos que intentan dar cuenta de los estados místicos, extáticos y meditativos asociados a las prácticas religiosas, pensando los mismos en tanto técnicas de estimulación

tropotrópica/parasimpática (activación del sistema nervioso autónomo para la relajación y autocuración), y ergotrópica/simpática (activación del sistema nervioso autónomo para la acción frente a situaciones estresantes). En un artículo para la revista Science, Roland Fischer (1971) propone trazar un continuo entre un polo ergotrópico -experiencias extáticas, alucinaciones- y un polo tropotrópico –estados de meditación y relajación- (Figura 1), donde sitúa distintos estados de conciencia, tanto religiosos (meditación budista zen, éxtasis), normales (relajación, creatividad), como patológicos (esquizofrenia aguda). En la misma década, Herbert Benson (1976) propone su teoría de la "respuesta de relajación", intentando dar cuenta de los efectos positivos de la meditación en la salud de sus practicantes, relacionando los mismos con un decrecimiento de la respuesta corporal simpática al estrés, y el incremento de la actividad parasimpática relativa a la relajación y las propiedades de autocuración. Bajo una concepción similar, distintos autores como Gellhorn & Kiely (1972) y Julian Davidson (1976) describen los estados místicos y meditativos como modos de integración autonómico-somático que causan efectos positivos en la salud de los practicantes.

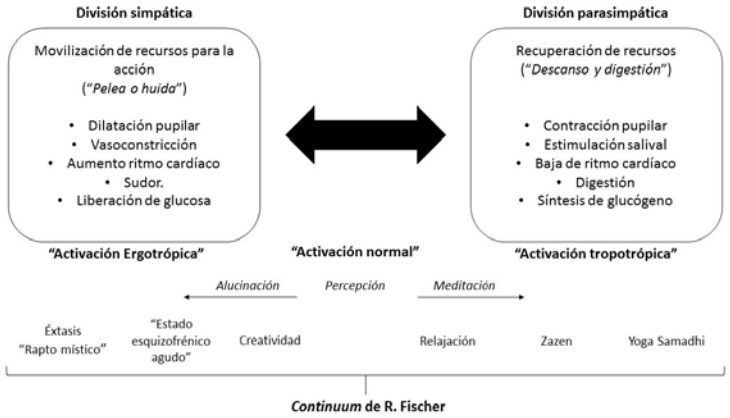

Figura 1. Estimulación del Sistema Nervioso Autónomo según práctica espiritual.

En los años 1980s, el psicólogo canadiense Michael Persinger inventa lo que se populariza como el Casco de Dios, una especie de artefacto que, mediante estimulación magnética transcranial en el lóbulo temporal del cerebro, parecía inducir la experiencia de "sentir una presencia" (Persinger, 1983, 1987). Dicha experiencia parecía estar conectada con el origen de la creencia en espíritus, seres sobrenaturales, y Dios. El Casco de Dios atrajo la atención tanto de la comunidad científica como de los medios de comunicación en general, pero la falta de una teoría explicativa fuerte sobre cómo funcionaba el casco, sumado a experimentos de otros investigadores con resultados negativos, hicieron que su popularidad no tuviera larga vida.

En los años 1990s comienzan a formularse nuevos modelos neurocientíficos de la experiencia religiosa, que luego serán puestos a prueba a través de la utilización de técnicas de neuroimagen como el SPECT, el PET, o la fMRI (ver Figura 2). Anteriormente los estudios

neurológicos se limitaban a la utilización del EEG, principalmente en el estudio de la actividad cerebral durante la práctica de meditación (e.g. Anand, China, & Singh, 1961; Benson, Malhotra, Goldman, & Jacobs, 1990; Corby, 1978; Hirai, 1974). Incluso hoy en día, dado el costo que suponen las técnicas de neuroimagen, existen tan solo una pequeña cantidad de estudios que relacionan actividad neuronal con experiencias religiosas.

Tabla 1. Tecnologías utilizadas en el estudio de la experiencia religiosa.

Tecnología utilizada	Respuesta que mide en el cerebro
Electroencefalograma (EEG)	Medición de potenciales eléctricos relacionados con acontecimientos discretos.
Resonancia Magnética Funcional (fMRI)	Medición del efecto magnético producido en áreas cerebrales por los niveles de oxígeno en la sangre.
Tomografía Computarizada de Emisión Monofotónica (SPECT)	Medición de actividad hemodinámica mediante inyección de isótopos.
Tomógrafo de Emisión de Positrones (PET)	Medición de actividad hemodinámica mediante inyección de isótopos.

Uno de los modelos más importantes es el de Eugene d'Aquili & Andrew Newberg, que posteriormente será puesto a prueba a través de distintas investigaciones. D´Aquili & Newberg (1993) plantean un circuito común a las distintas experiencias religiosas, señalando la relevancia del hemisferio cerebral derecho, vinculado a la conciencia no verbal del medio circundante y a la expresividad emocional. El modelo propuesto involucra cuatro áreas corticales de suma importancia: el lóbulo parietal posterior superior (LPPS), el lóbulo parietal inferior (LPI), el lóbulo temporal inferior (LTI), y la corteza prefrontal (CPF). El LPPS se encarga de la integración y procesamiento de la información visual, auditiva y somática, así como la creación y posición de la imagen corporal en el medio circundante. En el caso particular del LPPS derecho, éste juega un papel importante en la localización y coordinación del sentido del espacio, mientras que el izquierdo se vincula a la manipulación directa de objetos. El LPI se encarga de la generación y comparación de conceptos abstractos, así como funciones superiores relacionadas a operaciones gramaticales y lógicas en general. El LTI se encarga de la búsqueda de objetos de interés a partir de la exploración del campo visual coordinado con el LPPS; el componente motivacional de dicha acción supone una fuerte conexión con el sistema límbico, encargado de las emociones. Dentro del sistema límbico, el hipotálamo es la principal vía hacia los sistemas simpático y parasimpático, que, como ya hemos visto, adquieren especial relevancia en los estados místico/meditativos. La coordinación y modulación de las emociones del sistema límbico involucra a su vez a la CPF que, en coordinación con el hipocampo, la amígdala y distintas áreas de asociación, generan respuestas adecuadas a la información del medio. La CPF es de suma importancia en la integración cognitiva y emocional.

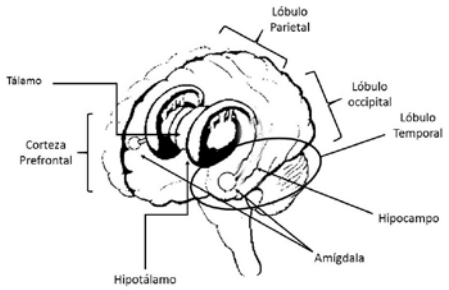

Figura 2. El cerebro.

Los autores distinguen dos tipos de vías espirituales: una vía negativa o "estado de meditación pasivo", y una vía positiva o "estado de meditación activo". Ambos métodos permitirían de distintas maneras llegar a lo que denominan un estado de "absoluta unidad del ser". En el caso de la vía negativa, esta incluye los tipos de meditación que buscan anular conscientemente todo pensamiento. A nivel neurológico esto involucra lo que los autores denominan deaferenciación, proceso mediante el cual una ruta neuronal es "cortada" en su ruta hacia una estructura determinada, sea en forma permanente (una lesión) o en forma transitoria (un proceso consciente de inhibición). Esto produce que la estructura o bien dispare en forma aleatoria, o bien lo haga de acuerdo a una lógica interna. En la vía negativa la CPF inhibe la transmisión de información conceptual del LPI al LPPS en el hemisferio derecho, produciendo una deaferenciación de éste último. El circuito continúa con la estimulación del hipocampo (Hip) derecho, la amígdala (Amg), y finalmente la porción ventromedial del hipotálamo, con la consecuente estimulación parasimpática (ver Figura 3).

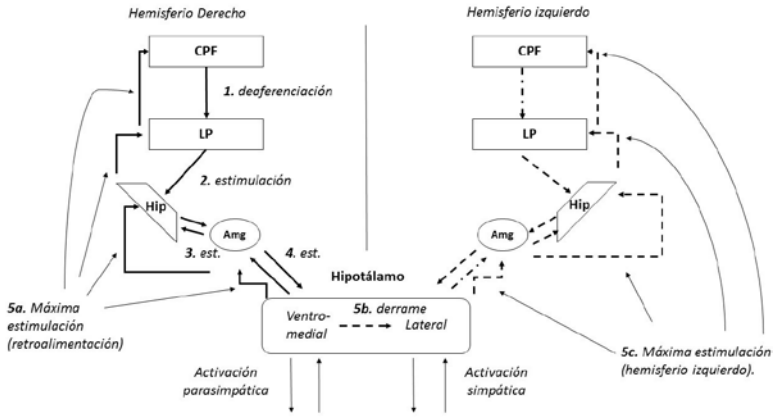

Figura 3. Via negativa de d´Aquili & Newberg (modelo simplificado).

El circuito no termina allí, sino que vuelve en la misma dirección, retroalimentándose, y produciendo una estimulación cada vez mayor. Esto produce un sentido de relajación que, con la práctica de años, lleva a un estado de beatitud y éxtasis cada vez más profundo. La retroalimentación también se produce finalmente en ambos hemisferios. La deaferenciación total del LPPS derecho (encargado del sentido del espacio) genera una sensación subjetiva de

"puro espacio", que puede entenderse como una experiencia de unidad con la totalidad. La posterior deaferenciación del LPPS izquierdo (encargado del sentido de sí mismo en relación a los otros y al mundo circundante) genera a su vez un sentido de trascendencia unitaria. Por último, el LPPS sigue disparando hacia el hipocampo y las estructuras límbicas, pudiendo reforzar la descarga ergotópica hipotalámica lateral (estado extático), o bien la descarga tropotrópica hipotalámica ventromedial (estado de profunda quietud). El primer caso los autores sugieren se encuentra relacionado a la experiencia personal de unión con Dios; el segundo a la experiencia impersonal de vacuidad o absoluta unidad. Por lo general es la vía negativa la que genera en los meditadores experimentados el estado de quietud, mientras que la vía positiva se relaciona con el estado extático. En este sentido, quizás sean los sistemas de creencias socioculturales los que determinen hacia donde apunte la experiencia final.

La meditación activa o vía positiva consiste en la focalización en imágenes mentales o un objeto físico externo, por ejemplo un símbolo religioso que posea un sentido emocional, con la consecuente estimulación del sistema límbico. En el caso de este tipo de meditación, los impulsos irán de la CPF al LPPS, aunque esta vez no inhibiendo, sino estimulando la misma. El LPPS derecho se fijara en la imagen presentada por el LTI derecho (proveniente o bien del campo visual a través de la corteza visual occipital, o bien por acción directa de la CPF sobre el LTI al usarse una imagen mental). La continua fijación en la imagen presentada al LTI derecho estimula el hipocampo derecho, que a su vez estimula la amígdala derecha, que estimula la porción lateral del hipotálamo con el consecuente efecto placentero. Nuevamente, el circuito no es unidireccional, sino que existe a su vez una retroalimentación al volver el impulso sobre amígdala e hipocampo, intensificándose el efecto. Cuando la estimulación ergotrópica llega a su máximo, se genera un derrame que afecta la estimulación tropotrópica del hipotálamo en su porción ventromedial, así como la participación de ambos hemisferios de la CPF. Esto lleva a una máxima estimulación de la CPF izquierda con la deaferenciación del LPPS, lo cual sería distinto de lo que ocurre en el otro hemisferio, donde como vimos no hay deaferenciación. Esto genera un período de conflicto entre los mecanismos de estimulación del hemisferio derecho y los de inhibición del izquierdo, generando un sentimiento de absorción donde el participante se siente "uno con el objeto". Esta experiencia puede ser más o menos larga de acuerdo al practicante, y puede llevar a que se produzca una deaferenciación final total, con la subsecuente experiencia de "absoluta unidad del ser".

En estados religiosos más tenues, la máxima estimulación ergotrópica y/o tropotrópica no se presenta, y por lo tanto no encontraremos el estado de "absoluta unidad del ser" asociado a las mismas. Estos estados de conciencia serían más moderados, estimulando la porción lateral

del hipotálamo, y generando sensaciones más leves de temor o exaltación. Todas estas experiencias pueden darse no solo a través de la meditación u oración, sino también espontáneamente en la vida cotidiana de las personas, o a través del uso de sustancias psicoactivas.

Luego de formulado el modelo, comienza la tarea de poner a prueba la hipótesis. Para ello, Newberg y colaboradores (2001) realizan un estudio de ocho budistas tibetanos, escaneados mediante el SPECT durante la práctica de meditación. En dicha meditación, los practicantes se focalizan en una imagen visual de tal modo que en el momento cumbre de la experiencia alcanzan un estado de absorción descripto como de claridad en el pensamiento y pérdida del sentido de espacio y tiempo. Los resultados de la investigación son presentados como evidencia positiva en torno a la hipótesis de la meditación: un incremento en la actividad de la CPF -principalmente la corteza orbital frontal-, un descenso de la actividad en el LPPS y una posible activación simpática/parasimpática a través de una mayor actividad en el cerebro medio (aunque no hubo mediciones específicas para el sistema nervioso autónomo). Un segundo estudio incluye tres monjas franciscanas escaneadas a través del SPECT durante la práctica de oración (Newberg, Pourdehnad, Alavi, & D´Aquili, 2003). En este caso el tipo de meditación es verbal, donde las practicantes se focalizan en una frase de la Biblia, abriéndose a la "presencia de Dios", y perdiendo el sentido usual del espacio. Los resultados son un incremento de la actividad en la CPF y los lóbulos inferiores parietales y frontales. En el hemisferio derecho se registra una fuerte correlación positiva entre la actividad de la CPF y el tálamo, y una correlación negativa entre CPF y LPPS. Estos aspectos encajarían con el modelo propuesto por d´Aquili & Newberg, aunque por otro lado no se detectan cambios en cerebro medio y lóbulos temporales, áreas de importancia para el modelo. Un tercer estudio es realizado también a través del SPECT, esta vez con cinco practicantes pentecostales durante la práctica de la glosolalia, trance que involucra un hablar en lenguas desconocidas (Newberg, Wintering, Morgan, & Waldman, 2006). La pérdida de control característica de esta práctica es reflejada por el decrecimiento en la actividad de la CPF; por otro lado se registra un incremento en el LPPS, mostrando un panorama inverso al de los monjes tibetanos. Esto supone para algunos autores un desafío al modelo, en tanto refleja la diversidad de las prácticas y experiencias religiosas, y la dificultades de proponer un modelo neurofisiológico único (e.g. Schjoedt, 2009).

De todas maneras, la propuesta de d´Aquili & Newberg resulta un gran paso en el estudio científico de las experiencias religiosas. Por un lado, en tanto implica un modelo teórico formulado en clave neurocientífica, donde se sintetizan distintas propuestas formuladas anteriormente sobre los posibles mecanismos neurológicos intervinientes en las experiencias religiosas: la predominancia del hemisferio "emocional" derecho, las interacciones entre actividad

simpática y parasimpática, el papel de la CPF y el LTI. Como hemos visto, muchas de estas ideas ya habían sido formuladas anteriormente, siendo sintetizadas por los autores en un modelo único y más robusto. Por otro lado el modelo ha funcionado como hipótesis contrastable empíricamente, a través de las distintas investigaciones con técnicas de neuroimagen.

Como mencionábamos anteriormente, si bien los costos en el uso de este tipo de tecnología han hecho que los estudios sobre el tema sean escasos, la propuesta de los autores no ha sido un esfuerzo aislado. Al mismo tiempo que d´Aquili & Newberg postulan su modelo, surgen distintos estudios en neuroimagen de prácticas como el Yoga (Herzog et al., 1990; Lazar et al., 2000) o de experiencias religiosas en monjas carmelitas (Beauregard & Paquette, 2006). Por otro lado tenemos el surgimiento de nuevos modelos, como la propuesta de Fred Previc (2006) sobre la conexión entre experiencia religiosa y los sistemas responsables del espacio extrapersonal; el modelo de Livingston (2005), que asocia tipos de experiencia religiosa a patrones específicos en los lóbulos cerebrales; el modelo de Patrick McNamara (2009) -que veremos a continuación-, donde la característica central de la experiencia religiosa se encuentra en el descentramiento.

Patrick McNamara (2009) propone entender las experiencias religiosas como reguladoras y transformadoras del self, a través de un proceso que denomina descentramiento. El autor parte de una noción del self en tanto conjunto de esquemas que permiten la emergencia de una conciencia unificada, así como una mayor capacidad de agencia y volición. Se trata de una capacidad cognitiva evolutivamente adaptada para la consecución de metas, el comportamiento cooperativo, y la coordinación de distintos dominios psicológicos como ser la memoria autobiográfica, las emociones, los sistemas de evaluación, el auto-monitoreo, y el sentido corporal. La neuroanatomía del self se vincula a la CPF y la corteza anterior temporal (CAT) del hemisferio derecho, en su compleja interacción con las distintas regiones cerebrales. La región CPF/CATder difiere de la región izquierda en tanto recibe una mayor densidad de aferencias del sistema límbico y de los circuitos serotoninérgicos y dopaminérgicos provenientes del tallo cerebral. También envía eferencias inhibitorias a una gran cantidad de estructuras corticales y subcorticales, indicando su función regulatoria.

Según McNamara el self oscila entre un estado de unidad y uno de conciencia dividida. Este último es su estado "por defecto", un modo de conciencia automático que no involucra esfuerzo. Para lograr un sentido de unidad, el self debe organizarse bajo una estructura narrativa autobiográfica, una serie de eventos ordenados temporalmente que alinean al self con sus objetivos. Para McNamara la religión es un conjunto de prácticas bioculturales que asisten al self en este proceso, cuando el mismo se encuentra "atascado". Para ello, las prácticas religiosas

producen un descentramiento transitorio de la conciencia, caracterizado por una reducción de la intencionalidad y el control racional. El correlato neurológico del descentramiento involucraría regiones relacionadas de distintas maneras al self, como la CPF/CATder, el sistema límbico, la amígdala, el hipocampo, y principalmente las interacciones entre el sistema dopaminérgico y el sistema serotoninérgico. Durante la experiencia religiosa, el decrecimiento de la producción de serotonina en el Núcleo de Raphe reduciría la capacidad de procesamiento de información perceptual, llevando a distorsiones perceptuales, cambios en el sentido del self, y un conjunto de experiencias místicas relacionadas. El decrecimiento de los niveles de serotonina lleva a su vez a un incremento de la dopamina, también crucial en las experiencias religiosas, principalmente en las sensaciones placenteras y el humor positivo. Las funciones cognitivas relacionadas con la agencia e intencionalidad entran entonces en un estado "fuera de línea", desencadenando un proceso de navegación imaginativa que asiste en la búsqueda de alternativas para un nuevo sentido del self. El retorno progresivo de dichas funciones a un estado on-line produce una mayor capacidad de insight, que permitiría la evaluación de una nueva configuración narrativa.

Rompiendo con las grandes experiencias

Mientras que los modelos anteriores retoman una concepción Sui Generis de la gran experiencia religiosa, otros modelos problematizan dicha categoría, a su vez que enfatizan en el estudio de las experiencias religiosas más moderadas, capaz de ser experimentadas en la vida cotidiana. Dichos modelos darán mayor importancia a factores sociales y culturales, y cómo los mismos inciden no solo en la experiencia religiosa, sino en la categorización de la misma en tanto tal. Como mencionábamos anteriormente, dentro de éstas nuevas perspectivas juega un papel importante la influencia de las ciencias sociales, la historia, y la psicología social (principalmente la teoría de la atribución para ésta última).

En el campo de las neurociencias, la psicóloga Nina Azari y colaboradores proponen entender la experiencia religiosa como un estado de conciencia determinado por el pensamiento, la atribución de sentido y la interpretación. Se trataría no de una experiencia emocional pura, sino de un "pensar que se siente como algo" -thinking that feels like something-, sin un orden temporal o causal entre sentimiento y pensamiento (Azari & Birnbacher, 2004). La idea es que en la experiencia religiosa es central la intervención de funciones cognitivas mediadoras, contradiciendo la concepción clásica de la experiencia religiosa como un tipo de fenómeno emocional y automático. Azari & Birnbacher (2004) señalan que es necesario entender la experiencia religiosa dentro del estudio general de las emociones en ciencias cognitivas hoy en día. Desde una perspectiva actualizada, las emociones no son entendidas como puros

sentimientos o estados de excitación corporal, sino como un fenómeno complejo que involucra aprendizaje, memoria, representaciones mentales y sentimientos corporalizados. Serían un estado de conciencia complejo en el que sentimientos y creencias interactúan, generando lo que los autores denominan una "actitud emocional". Esta idea, trasladada al estudio de la experiencia religiosa, implica entender la misma dentro de un marco de creencias, pensamientos, interpretaciones y condicionamientos socioculturales, que guían al creyente hacia una experiencia determinada.

Dentro de las investigaciones con tecnología de neuroimagen, Azari y colaboradores (2001) utilizan el PET para el estudio de la recitación de pasajes de la Biblia en seis practicantes religiosos de la Comunidad Evangélica Fundamentalista Libre de Alemania (así como seis participantes no religiosos como grupo de control). En sus resultados reportan una mayor activación de la CPF dorsolateral derecha y la corteza frontal dorsomedial en el grupo de practicantes religiosos, así como un descenso en la actividad del sistema límbico. Según los autores, esto sugeriría que la experiencia religiosa es un proceso mediado, donde la CPF sería la encargada de la generación de atribuciones religiosas. Azari y colaboradores (2005) mencionan también lo que denominan "cognición relacional" en tanto posible característica transcultural de la experiencia religiosa, sea en sus aspectos sociales (e.g. relación con Dios en los evangélicos), o individuales (relación entre el sí mismo, el cuerpo y el espacio en los budistas).

Uffe Schjoedt (2009) critica la idea de la existencia de un correlato neurofisiológico común y único a las experiencias religiosas, y propone que las prácticas religiosas utilizan los mismos mecanismos neurocognitivos que otras acciones culturales complejas. El objetivo del estudio neurocientífico de la religión no es entonces encontrar un correlato neuronal Sui Generis o distintivo de la experiencia religiosa, sino describir los procesos básicos empleados por los sujetos en distintas prácticas religiosas, y cómo éstas últimas modulan la cognición normal para lograr determinados tipos de experiencia. Para ello, Schjoedt y colaboradores (2009) estudian la respuesta neuronal a distintas formas de oración a través de la fMRI. Utilizan por un lado un grupo experimental de practicantes luteranos de una iglesia danesa y un grupo de control de personas no creyentes; por otro, un tipo de oración formalizada (el Padre Nuestro en el grupo de creyentes, y una canción de cuna para el de no creyentes) y otro improvisado (oración personal a Dios para el grupo de creyentes, y deseos a Papá Noel para el grupo de no creyentes). El estudio registra como la oración personal a Dios en el grupo de creyentes recluta zonas cerebrales involucradas a la cognición social (CPF medial izquierda, el área temporopolar o la unión temporo- parietal). Esto sugerirá que un creyente habla con Dios en tanto sujeto "real" -a diferencia por ejemplo de Papá Noel-, por lo que el acto de habla durante la oración

sería similar a las interacciones sociales cotidianas desde un punto de vista neurocognitivo.

Por último, en la investigación realizada también se estudia cómo la oración en tanto comportamiento repetitivo tiene un componente motivacional que afecta a los mecanismos cerebrales de procesamiento de la recompensa. Como describen Schjoedt y colaboradores (2008), el estudio revela un efecto significante de la oración religiosa en el núcleo caudado derecho, sugiriendo que dicha práctica sería capaz de estimular el sistema dopaminérgico en el striatum. La idea central es entonces demostrar como en la práctica religiosa se reclutan distintas funciones normales de procesamiento cognitivo, siendo la oración personal a Dios una experiencia intersubjetiva comparable a otras interacciones interpersonales, y en la que se ve involucrado el mismo tipo de mecanismo de recompensa. Esto no quiere decir que dichos mecanismos se encuentren presentes en toda práctica religiosa; por el contrario, deben ser acotados al grupo estudiado y, dada la amplia variabilidad de prácticas religiosas, deben ser comparados con otras modalidades de oración provenientes de distintas tradiciones culturales (Schjoedt, 2009).

Bajo la influencia de la teoría de la atribución, la historiadora de la religión Ann Taves (2009) cuestiona el modelo Sui Generis, proponiendo hablar de "experiencias consideradas religiosas" –experiences deemed religious-. "Experiencias" en plural, ya que no habría un solo tipo de experiencias sino muchos, de acuerdo a sus características en los distintos niveles neurobiológico, cognitivo, histórico y cultural. "Consideradas religiosas", en tanto dichas experiencias no son inherentemente religiosas, sino clasificadas por las personas como tales. Taves retoma la idea de Durkheim de la religión como un sistema de creencias y prácticas donde cosas, eventos y/o fenómenos son apartados del tránsito de la vida cotidiana, para ser clasificados como sagrados. El carácter religioso de una experiencia no es entonces intrínseco a la experiencia como tal, sino a la asignación de una cualidad especial -en este caso religiosa- que una persona a grupo realiza. Esto no excluye que determinadas experiencias cognitivas y afectivas inusuales sean más proclives a formar parte de sistemas religiosos complejos. La autora denomina como "adscripción simple" a la asignación de un carácter especial a una experiencia individual (no necesariamente reconocidas como religiosas); y "adscripciones compuestas" a la sistematización de las mismas dentro de un camino espiritual o sistema de creencias (figura 5). Dicha clasificación permite la comparación de adscripciones simples entre sí (sean de un mismo o de diferentes contextos), de adscripciones compuestas entre sí (sean de un mismo contexto o de distintas tradiciones culturales), y de adscripciones simples y compuestas (incluyendo la comparación entre experiencias individuales y aquellas que son normativamente esperadas).

Tabla 2. Tipos de adscripciones de Ann Taves.

Adscripciones simples	Adscripciones compuestas
➢ Objetos, eventos y experiencias apartadas en tanto son consideradas especiales. ➢ Importancia de la experiencia individual. ➢ Ejemplos: Sentimiento de paz, pérdida de límites del yo, contacto con seres invisibles, experiencias oníricas, alucinaciones, experiencias fuera del cuerpo, experiencias cercanas a la muerte.	➢ Sistemas de creencias y prácticas asociadas a objetos, eventos y experiencias especiales. ➢ Formaciones complejas donde las metas comunitarias juegan el rol más importante. ➢ Ejemplos: Caminos especiales/espirituales, religiones en el sentido clásico del término.

Por último, y también desde la historia de las religiones, István Czachesz propone el estudio de las experiencias religiosas subjetivas en los textos antiguos del judaísmo y cristianismo temprano, utilizando modelos teóricos e investigaciones provenientes de las neurociencias y de la Ciencia Cognitiva de la Religión. Czachesz (2013) critica la idea de tomar un solo tipo de experiencia –el de la gran experiencia religiosa- y utilizarla para explicar el resto de las experiencias religiosas. El autor distingue entre el modelo de la gran experiencia religiosa -caracterizada por visiones extraordinarias, viajes cósmicos y revelaciones-, y el de las experiencias moderadas, que abarcan una amplia variedad de experiencias. Czachesz las clasifica en un continuo que se extiende desde un polo de mayor volición (caso por ejemplo de la meditación budista o la lectura bíblica) a uno de menor control y mayor sincronía (caso de la glosolalia o ciertos tipos de meditación guiada). La mayoría de los practicantes religiosos experimentarían a lo largo de su vida algún tipo de experiencia religiosa dentro de este gradiente; no la gran experiencia religiosa, sino otras más moderadas, basadas en la práctica regular de la oración, el ritual, la meditación, o la simple percepción del mundo circundante (Czachesz, 2017).

A su vez, Czachesz (2015) propone un modelo donde se integran distintos elementos en la conformación de la experiencia religiosa, incluyendo las técnicas de estimulación ritual, las creencias, los textos sagrados, la memoria de la experiencia, y el correlato neuronal de la experiencia (Figura 6). La estimulación sería un elemento central en el modelo, en tanto determina en gran medida el tipo de experiencia producido. La estimulación puede involucrar distintos tipos de técnicas, que van desde la meditación hasta el uso de sustancias psicoactivas. Las creencias son también de gran importancia, en tanto determinan la cualidad religiosa del estado de conciencia resultante, que no son necesariamente religiosos en sí mismos. Los textos religiosos interactúan con las creencias de los individuos, incidiendo también sobre la experiencia subjetiva del practicante.

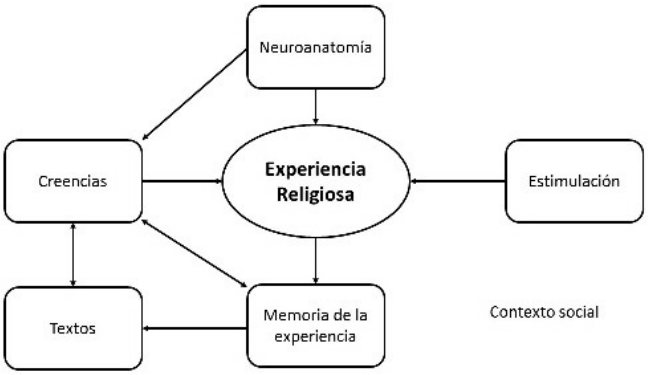

Figura 4. Modelo de Czachesz de la experiencia religiosa en su contexto.

El modelo considera a su vez la imposibilidad de acceder a la experiencia en tanto tal, sin pasar por el filtro de la memoria que implica el auto reporte. Todo registro de una experiencia supone una reconstrucción de lo sucedido, donde factores psicológicos, sociales y culturales inciden en el testimonio final. Este punto no es de menor importancia, principalmente en el estudio de los testimonios registrados en textos antiguos, donde el género literario y otros patrones culturales pueden producir transformaciones narrativas importantes. Por último, y con respecto al correlato neuroanatómico de la experiencia religiosa, Czachesz señala como los distintos tipos de experiencias tendrán un correlato cerebral característico, que a su vez constriñe los tipos de experiencias posibles. En suma, cada tradición religiosa manipula los distintos elementos mencionados para lograr ciertos tipos de experiencias: los budistas buscan por lo general el balance interno y la iluminación, los protestantes leen la Biblia buscando la esperanza y el confort, los pentecostales valoran la glosolalia y otras manifestaciones del Espíritu Santo. No existiría entonces una experiencia única, sino una gran variedad, donde factores neurológicos, cognitivos, históricos, sociales, y culturales interactúan.

Conclusiones

Comenzando por la filosofía y la teología, y continuando con la psicología, vimos como dos concepciones confluyen en el estudio neurocognitivo de la experiencia religiosa. Por un lado una concepción Sui Generis, que hunde sus raíces en la teología liberal protestante, y que trasladada a las neurociencias ha dado lugar a los modelos de la gran experiencia religiosa. Dicha concepción ha presentado dificultades a la hora de dar cuenta de la diversidad de prácticas y experiencias místico-espirituales, así como tampoco ha explicado en forma clara el rol de la atribución, siendo que una misma experiencia puede ser interpretada como religiosa o no de acuerdo al individuo, las circunstancias, y/o la tradición cultural de la que se trate. Por otro lado, y como señalan Wildman & McNamara (2010), si bien enfoques como el la teoría de la atribución han permitido problematizar el rol de la experiencia en su contexto social y cultural, corren sin

embargo el riesgo de estancarse en una tendencia excesivamente particularista, bajo la renuncia a encontrar una matriz común de las distintas experiencias religiosas.

Paralelamente a esta tensión entre particularismo-universalismo, el concepto de experiencia religiosa parece seguir reflejando viejas tensiones entre secularidad y religión. Estas tensiones son expresadas de distintas maneras, no solo en el campo de las neurociencias, sino también en campos adyacentes como el de la Ciencia Cognitiva de la Religión, y en el campo científico y académico en general. Como hemos visto en el presente artículo, la concepción neurocientífica de la gran experiencia religiosa retoma una concepción Sui Generis proveniente de la teología, heredando en muchos casos no solo un conjunto de nociones teóricas, sino también una visión particular y apologética del impacto de lo religioso sobre el individuo y la sociedad. De todas maneras la lectura que hagamos no debe ser lineal, pudiéndose encontrar en el campo científico distintas posturas de compromiso y de confrontación, tanto en el polo universalista Sui Generis, como en los modelos más particularistas. También es importante tomar en cuenta que si bien la modernidad ha establecido al campo científico-académico como una arena de legitimación de distintas prácticas y saberes, para muchos practicantes y científicos creyentes Dios continuará más allá de la ciencia, en tanto ésta se ocupa de dominios racionales específicos, mientras que la fe es del orden de una racionalidad general (Nogués, 2011).

El campo de investigación descripto en este artículo se encuentra aún en nacimiento, y parece quedar mucho por delante, si consideramos las escasas investigaciones existentes mediante el uso de técnicas de neuroimagen. A su vez, y como señala Schjoedt (2009), debemos considerar ciertas limitaciones metodológicas en las investigaciones ya realizadas: las dificultades que enfrenta el estudio de éstas prácticas en el contexto artificial de un laboratorio u hospital, el uso de escáneres que generan en mayor o menor medida ansiedad y/o claustrofobia, los efectos generados por el uso de inyecciones en los casos del PET y el SPECT, el ruido producido por la fMRI, el uso de muestras pequeñas dados los costos y la complejidad de las técnicas utilizadas. Es por ello que el aporte de otras disciplinas con métodos de investigación más sensibles al contexto y menos intrusivos (e.g. la historia y los métodos historiográficos, o la antropología y el método etnográfico), resulta de enorme importancia en el debate actual.

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LA ENCRUCIJADA DE LA ADICCIÓN. DISTINTOS MODELOS EN EL ESTUDIO DE LA DROGODEPENDENCIA

THE CROSSROAD OF ADDICTION. DIFFERENT MODELS IN THE STUDY OF DRUG DEPENDENCE

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Abstract

The idea of addiction as a "disease of the brain" arises as an attempt to explain in neurobiological and scientific terms the compulsive use of certain drugs. But the problems of a model constrained to the boundaries of the nervous system, as well as the critics from disciplines focused on psychological, social, and cultural phenomena, resulted in the emergence of new theoretical models, questioning the idea of addiction as a disease confined to the limits of the brain. This article presents, under three main models, different scientific approaches to the study of addictions. Firstly, the biomedical model will be described, with its main features and difficulties, after confining addiction under a brainbound model. Secondly, the bio-psycho-social model and its interest for psychological and environmental variables. This new model triggers certain adjustments within the biomedical perspective, but also new critical perspectives to its neurobiological approach. Thirdly, the socio-cultural model, mostly under the guidance of qualitative research in social sciences, and focusing on culture and social context. Finally, the article will address some reflections on the definition of addiction, considering the crossroads between the levels mentioned by the different models.

Key words: addictions, biomedical model, bio-psycho-social model, socio-cultural model.

Resumen

La idea de adicción como una "enfermedad del cerebro" surge como categoría que busca explicar el consumo compulsivo de determinadas sustancias en términos neurobiológicos y científicos. Pero los problemas de un modelo constreñido a los límites del sistema nervioso, sumado a las críticas desde disciplinas preocupadas por fenómenos psicológicos, sociales y culturales, ha producido la emergencia de nuevas concepciones, que rompen con la idea de adicción como enfermedad confinada a los límites del cerebro. El presente artículo expone, bajo tres principales modelos, los distintos enfoques en el estudio científico de las adicciones. En primer lugar se describirá el modelo biomédico, con sus características y los problemas que enfrenta al constreñir la adicción bajo un modelo neurobiológico. En segundo lugar el modelo biopsicosocial, donde se integran variables psicológicas y de contexto. Este modelo provoca un reacomodamiento del modelo biomédico, pero también genera perspectivas críticas a su enfoque neurobiológico. En tercer lugar el modelo sociocultural, donde, desde la investigación cualitativa en ciencias sociales, se focaliza en la importancia de la cultura y el contexto social. Finalmente se realizarán algunas reflexiones sobre el concepto de adicción, tomando en cuenta las encrucijadas entre los niveles mencionados por los distintos modelos.

Palabras clave: adicciones, modelo biomédico, modelo biopsicosocial, modelo sociocultural. Palabras clave: adolescencia, autoconcepto, autoestima, consumo de alcohol.

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En términos prehistóricos podemos rastrear la utilización de sustancias psicoactivas desde hace miles de años: el uso del opio hace 7.000 años por los antiguos Sumerios (Lindesmith, 1968), el del peyote hace 6.000 años en México (Adovasio & Fry, 1976; Bruhn, De Smet, El-Seedi, & Beck, 2002; Terry, Steelman, Guilderson, Dering, & Rowe, 2006), o de las semillas de anadenanthera hace más de 4.000 años en Argentina (Torres & Repke, 2006). Pero si bien el uso de drogas es antiguo, la noción de que determinadas drogas provocan un tipo de enfermedad llamada "adicción" no tendría más de 200 años (Levine, 1978). Esto plantea distintas preguntas: ¿Existe la adicción como enfermedad del cerebro? ¿Es una enfermedad neurobiológica –y por lo tanto un fenómeno transcultural- o está ligada culturalmente al mundo occidental moderno? ¿Existe una relación directa entre adicción y drogas? ¿De qué modo y en qué medida inciden en ella distintos factores como la herencia, los mecanismos neurobiológicos del cerebro, el comportamiento, la personalidad, el contexto social o la cultura?

El presente artículo tiene como objetivo realizar una breve reseña sobre las distintas perspectivas científicas que han intentado dar cuenta del problema. Para ello, se subdividirán las mismas en tres grandes modelos. En primer lugar el modelo biomédico, que parte de una concepción neurobiológica de la adicción, entendiéndola como una "enfermedad del cerebro". Se verán a grandes rasgos sus características, seleccionando ciertos conceptos clave desarrollados por referentes internacionales e investigadores españoles vinculados al campo de la neuropsicología de las adicciones. Luego se plantearán las dificultades que enfrenta este modelo al constreñir sus teorías a los límites del cerebro, y el rol que ha jugado el concepto de "dependencia psicológica" para intentar resolver dichos problemas. Posteriormente describiremos la reformulación de dicho modelo a través de la inclusión de otros procesos psicológicos como la motivación, la memoria y aprendizaje.

Esto nos llevará al modelo biopsicosocial, donde se integran variables psicológicas y de contexto. Autores clásicos como Norman Zinberg, Bruce Alexander, y Stanton Peele, nos permitirán ilustrar como este modelo no sólo ha provocado un reacomodamiento del modelo biomédico, sino que también ha generado nuevas concepciones críticas al modelo de adicción como "enfermedad del cerebro".

En tercer lugar describiremos el modelo sociocultural, donde, desde la investigación cualitativa en ciencias sociales, se propone la importancia de la cultura y el contexto social, y se problematiza la relación universal drogas (ilegales)-adicciones. Para ello realizaremos un breve recorrido por dos trayectorias académicas dentro de la investigación cualitativa en el campo de las drogas. Por un lado el de la sociología cualitativa y los estudios urbanos de las "subculturas de las drogas", iniciados en la primera mitad de siglo XX por la Escuela de Chicago. Por otro lado el de la antropología, y el estudio etnográfico del uso de sustancias psicoactivas en sociedades no occidentales. Ambas disciplinas confluirán en la construcción de lo que posteriormente se denominara "etnografías de la droga", a la que autores españoles también han realizado una importante contribución.

Finalmente se realizarán algunas breves reflexiones sobre el rol de éstos modelos en el campo de la intervención clínica, así como las encrucijadas vinculadas a la relación entre biología, cognición y cultura en el concepto de adicción.

Desde el punto de vista metodológico, la descripción de los tres modelos ha supuesto la selección de la literatura más relevante a nivel internacional, destacando a su vez las contribuciones de investigadores españoles en tema, principalmente en los campos de la neuropsicología y la antropología cultural.

EL MODELO BIOMÉDICO

Una enfermedad del cerebro

En un trabajo ya clásico, Harry Levine (1978) propuso el concepto médico de adicción como un producto posterior a la Ilustración, que supuso el abandono de la noción de ebriedad como una práctica "demoníaca" o "moralmente reprobable", para la creación del concepto de "adicción" bajo un modelo científico, en términos de "enfermedad del cerebro". De acuerdo con Levine, el modelo de alcoholismo fue la matriz desde donde se pensó luego la adicción en términos generales. El primero en describir el problema fue Benjamin Rush a fines de siglo XVIII con su obra Inquiry into the Effects of Ardent Spirits upon the Human Body and Mind. Para Rush el alcoholismo sería una "enfermedad de la

voluntad", cuya causa son las bebidas espirituosas, y cuya única cura es la abstinencia total (Levine, 1978).

En el siglo XIX surgen una gran cantidad de descripciones y términos médicos para las enfermedades relacionadas con el alcoholismo y la adicción: Thomas Trotter y su modelo médico del alcoholismo como enfermedad, Carl von Bruhl-Cramer y la "dipsomanía", Esquirol y su inclusión dentro de las "monomanías", Magnus Huss y el "alcoholismus chronicus", Edward Levinstein y la adicción a la morfina, Norman Kerr y la "narcomanía", Legrain & Morel y el alcoholismo como una enfermedad hereditaria degenerativa, Emil Kraepelin y la progresiva inclusión en sus manuales de nuevas entidades nosológicas como "alcoholismo", "morfinismo", "cocainismo", e "intoxicación crónica" (Berridge, 1990; Pascual, 2007; Room, Hellman, & Stenius, 2015; Szasz, 1974). Es durante este siglo que se consolidan las ideas centrales sobre las que girará posteriormente el concepto de alcoholismo y adicción: la predisposición biológica, la toxicidad, el "apetito mórbido" o craving, la tolerancia, la progresividad de la enfermedad, la pérdida de control para frenar el consumo, la idea general de la adicción como una enfermedad del cerebro (White, 2000).

Neuroplasticidad y recompensa

El concepto de adicción en sus inicios era especulativamente "neurobiológico", escasamente "científico" en lo metodológico, y arraigado profundamente a intuiciones "psicológicas". Es con el avance del siglo XX que comienzan a gestarse modelos neurobiológicos que intentan explicar, en términos causales, la adicción como enfermedad del cerebro. En un principio a través de modelos experimentales con animales de laboratorio, donde variables vinculadas al ambiente, la dieta y el tratamiento podían ser controladas (Planeta, 2013). Pero la consolidación de este modelo comenzará en las décadas de 1970s y 1980s, con el descubrimiento de los receptores opioides (Koob & Simon, 2009), la aparición de las técnicas de neuroimagen (Guardia, 2000; Llanero & Pedrero, 2014), y el predominio del paradigma neo-kraepeliano, que sustituye al enfoque psicoanalítico de las décadas anteriores (de Leon, 2013; Luhrmann, 2007; Martínez-Hernáez, 2000). Esto trae consigo una fuerte concepción biologicista en psiquiatría, que supuso el menosprecio de metodologías "blandas" –como la interpretación clínica psicoanalítica-, y un progresivo interés por una medicina basada en la evidencia (Bobes et al., 2007; Oken, 2009). Las nuevos descubrimientos y tecnologías en neurociencias permitieron la elaboración de un modelo construido a partir del estudio in vivo del cerebro, tanto del efecto de distintas drogas, como de fenómenos específicos, como el craving, la abstinencia, o distintas alteraciones en los procesos cognitivos (Guardia, Segura, & Gonzalbo, 2000).

Desde un punto de vista teórico surge la necesidad de explicar el fenómeno en términos evolutivos, a través de conceptos clave como los de adaptación, neuroplasticidad, y los mecanismos de recompensa. La idea de neuroplasticidad supone la capacidad única que tiene el sistema nervioso de adaptarse ante nuevas condiciones ambientales, permitiendo cambios en el comportamiento y las estrategias de supervivencia a una velocidad mucho mayor que los tiempos manejados por la genética (Moizeszowicz, 2000). Involucra distintos mecanismos, como la capacidad de alterar el número de sinapsis, los neurotransmisores disponibles, el número de receptores postsinápticos, entre otros (Kuhar, 2012). El paradigma biomédico intentará explicar en términos evolutivos por qué el cerebro humano queda aferrado a comportamientos que van en detrimento de su capacidad adaptativa, y cómo la neuroplasticidad puede volverse una desventaja bajo los efectos de las drogas.

Aquí entran en juego los "mecanismos de recompensa", vinculados a la manera que tiene el cerebro de promover y valorar aquellas conductas adaptativas útiles -como la alimentación o la reproducción-, a través de mecanismos vinculados al placer. El efecto hedónico de recompensa se realiza principalmente a través del sistema dopaminérgico, involucrando las vías mesolímbicocorticales: área tegmental ventral del mesencéfalo, sus proyecciones hacia el sistema límbico -principalmente nucleus accumbens-, y finalmente otras áreas, entre ellas la corteza prefrontal, explicando la "pérdida de control" y la impulsividad (de Sola, Rubio, & Rodríguez, 2013; Rodríguez, del Arco, & Ferrer, 2003). Las drogas actuarían entonces sobre la neuroplasticidad de los circuitos de recompensa dopaminérgicos, "hackeando" (Platt, Watson, Hayden, Shepherd, & Klein, 2010), "pirateando" (Becoña & Cortés, 2010) éstos mecanismos de ponderación; interponiéndose entre la recompensa y el comportamiento adaptativo, y sustituyendo al segundo por el "placer mismo" del consumo.

En su esencia, el craving de la droga sería un fenómeno similar al de la sed y el agua, pero ante una sustancia que produce una necesidad "artificial" (Friedman & Rusche, 1999). A su vez, para que una droga sea adictiva su potencia debe ser mayor a la de los neurotransmisores naturales, produciendo no solamente placer sino también tolerancia, síndrome de abstinencia, y finalmente "dependencia física" (Stoehr, 2006). Durante la exposición prolongada a la presencia de la droga el cerebro se habitúa a funcionar bajo elevados niveles de dopamina que el sistema nervioso compensa produciendo una menor cantidad de receptores dopaminérgicos. Es entonces que el adicto, para lograr el efecto deseado, debe recurrir a dosis cada vez mayores, llevando al consumo compulsivo (Koob, Sanna, & Bloom, 1998), y a un ciclo autodestructivo en los mecanismos homeostáticos del cerebro (Becoña & Cortés, 2010).

La encrucijada de la dependencia psicológica

El modelo neurobiológico de la adicción (presentado aquí en forma muy breve), permitió dar cuenta de los fenómenos que se agrupan bajo la noción de "dependencia física", más no de los vinculados a la "dependencia psicológica". La distinción de ambos tipos de dependencia surge en los años 1960s a través de la Organización Mundial de la Salud (WHO, 1964), en respuesta a los distintos problemas que suscitaba el concepto clásico de adicción. Según distintos autores (Escohotado, 1992; Peele, 1990; Room, 1998) la iniciativa fue producto de la incapacidad de clasificar como adictivas a un conjunto de sustancias relacionadas con los tratados internacionales. Entre ellas estaban la marihuana y los alucinógenos, que comenzaban a ser usados ampliamente por la población más joven, y que bajo la nueva terminología podían ser entendidas como sustancias que causaban dependencia psíquica.

Pero las encrucijadas que intenta resolver esta distinción son más complejas aún. Por un lado, la distinción refleja el problema general de la psiquiatría de no poder prescindir de las descripciones psicológicas. En el caso particular de las adicciones, esto es fácilmente constatable si consideramos la predominancia de los criterios psicológicos en los manuales DSM sobre criterios vinculados a la "dependencia física" (Becoña et al., 2008). Por otro lado, el problema no ha sido solo intentar abarcar la extensión de drogas ilícitas incluidas en los tratados internacionales, sino también cómo explicar la aparición de diversas adicciones comportamentales sin la presencia de una sustancia (aunque el DSM actualmente sólo reconoce el juego compulsivo la lista podría abarcar un sinfín de actividades), o la presencia de dependencia física sin el desarrollo de una adicción, por ejemplo en el caso de gran cantidad de pacientes medicados para el dolor.

En términos diagnósticos, la encrucijada se resuelve de modo pragmático, a través de cantidades de ítems a identificar. Pero desde un punto de vista científico, donde la explicación debe ir más allá de las descripciones consensuadas, se plantea un problema de fondo sobre la adicción como "enfermedad del cerebro", al no poder establecerse un correlato neurobiológico necesario y suficiente para explicar las adicciones. Friedman & Rusche (1999) deciden resolver ésta encrucijada bajo la noción de "definición de trabajo". Definen adicción como la suma de dependencia psicológica y física, siendo la primera un artificio provisorio que permite continuar trabajando las lagunas de conocimiento sobre el tema, bajo la promesa de, en un futuro, poder explicar estos mecanismos psicológicos en términos neurocientíficos, y así abandonar el concepto de "dependencia psicológica" definitivamente. De esta manera ambos tipos de dependencia serían biológicas al final del recorrido. Desde la perspectiva epistemológica de Imre Lakatos (1989), podríamos decir que el planteamiento realizado por Fieidman & Rusche deja al descubierto el uso en el modelo biomédico de una "hipótesis auxiliar" -que no es otra cosa que una falacia ad hoc-; un recurso heurístico que permite "salvar las apariencias" y tapar las lagunas del modelo, independientemente de si en un futuro se descubra o no el correlato neuronal restante.

Motivación, memoria y aprendizaje

El modelo neurobiológico de adicción ha debido extenderse con el paso del tiempo más allá de los límites del sistema dopaminérgico. Por un lado, porque no todas las drogas actúan directamente sobre el mismo. Los circuitos involucrados actualmente han sido extendidos hacia otros neurotransmisores (e. g. opioides peptídicos, GABA, serotonina) que actuarían de forma indirecta sobre los mecanismos de recompensa. Concomitantemente, esta ampliación se da también hacia otros sistemas, como la modulación del estrés a través del eje hipotálamo-pituitaria-adrenal (Koob & Simon, 2009), o bien otras estructuras cerebrales, como

la corteza orbitofrontal, vinculada a la recompensa olfatoria y gustativa (Platt et al., 2010). Estas sucesivas extensiones del modelo incluyen también ir más allá de la idea de recompensa, abarcando otros procesos cognitivos como la memoria, la motivación y el aprendizaje. Se suman entonces regiones como el hipocampo (memoria espacial y declarativa), amígdala (estados emocionales negativos), y regiones corticales implicadas en funciones ejecutivas, de control y de integración (Barrondo & Callado, 2006). El interés por éstas áreas se relaciona a su vez con el estudio del comportamiento condicionado de ansia de la sustancia en respuesta a señales como objetos, individuos y lugares (Kilts, 2006). Un ejemplo sería la teoría motivacional de Robinson & Berridge (1993), donde, mediante estudios de modelo animal, el sistema de recompensa es entendido como productor de atribución sobre representaciones y estímulos –incentive salience–, permitiendo dirigir la atención del individuo. En este modelo es tan central la experiencia interna de placer como el aprendizaje asociativo y el contexto, vinculado a interacciones con el medioambiente.

En suma, el conjunto de estas nuevas investigaciones apunta a que, para que la dependencia física culmine en adicción, ésta debe asociarse a ciertos mecanismos básicos de aprendizaje: de condicionamiento operante (reforzamientos positivos y negativos), de condicionamiento clásico (estímulos neutros que se asocian al craving provocándolo), y de aprendizaje explícito (memoria). Se trata de un aprendizaje del ser adicto que involucra tanto conocimientos implícitos como explícitos, siendo que muchas de las secuencias conductuales que median el abuso de drogas se automatizan y terminan realizándose sin esfuerzo cognitivo, quedando almacenadas a través del aprendizaje implícito, mucho más difícil de inhibir. De esta manera el modelo biomédico adquiere mayor complejidad y poder explicativo, integrando recompensa, condicionamiento, motivación, aprendizaje, memoria y estímulos externos. Todos estos aspectos son integrados en la definición oficial de adicción propuesta por el NIDA (2012), describiéndola como una enfermedad crónica del cerebro, que involucra los sistemas de recompensa, motivación, aprendizaje y decisión. Al integrar aprendizaje y señales del contexto, el paradigma biomédico busca adaptarse al nuevo modelo biopsicosocial.

EL MODELO BIOPSICOSOCIAL

Como se mencionaba con anterioridad, la imposibilidad de constreñir la adicción a los límites del "cerebro" lleva a la necesidad de incluir categorías psicológicas en el diagnóstico y definición de la adicción/dependencia, a una ampliación de los mecanismos neuronales, y al estudio de los distintos tipos de estímulos y condicionamientos involucrados. Esto ha llevado a un corrimiento progresivo desde un modelo biomédico exclusivamente centrado en la idea de una "enfermedad del cerebro", a uno biopsicosocial:

> ...continua controversia entre dos modelos: el modelo médico de enfermedad, que ha sido el dominante durante las décadas precedentes, y el modelo biopsicosocial, que entiende la adicción como una conducta habituada, y que ha ido ganando terreno al haber demostrado su mayor capacidad para explicar los hallazgos empíricos a la luz de las neurociencias. Parece que nos encontramos en uno de esos momentos históricos que Kuhn denominó 'cambio de paradigma'; momentos en los que los científicos encuentran anomalías que no pueden ser explicadas por el paradigma vigente, dentro del cual la ciencia ha progresado hasta ese momento [...] No obstante, el viejo paradigma de la adicción como enfermedad mental está reformulándose para no morir, intentando asumir los nuevos hallazgos neurocientíficos y proponiendo la vaga e imprecisa idea de enfermedad cerebral. (Pedrero & Ruiz, 2014, p. 13).

Estas tensiones descriptas por Pedrero & Ruiz se ven expresadas en las agendas de investigación, donde pocas veces se da una verdadera integración transdisciplinaria entre perspectivas biológicas, psicológicas y sociales. De todas maneras, a partir de este nuevo "paradigma", la idea de que existe una complejidad de factores de riesgo, vulnerabilidad y protección, vinculados no solo a un nivel neurobiológico, sino también psicológico y social, es ampliamente aceptada por los diversos especialistas en adicciones, siguiendo una tendencia general en el campo de la salud (García, 2015). En el ámbito psicoterapéutico existe una diversificación progresiva de los tratamientos, que abarcan la mayor parte del espectro biopsicosocial: terapias cognitivo-conductuales, estrategias motivacionales, abordajes centrados en la familia,

modelos sistémicos, terapias psicodinámicas y psicoanalíticas, entre otras (Becoña et al., 2008; Pedrero & Ruiz, 2014). En el caso de la definición del NIDA, si bien sostiene formalmente la idea de "enfermedad cerebral", también incluye diversos factores de vulnerabilidad, bajo la encrucijada de la multifactorialidad: predisposición genética –de un 40 a un 60 % (Ibáñez, 2008; Robison & Nestler, 2012)-, edad de exposición a las drogas, y factores contextuales en distintas áreas sociales, como la familia o el trabajo (NIDA, 2012).

Los factores psicológicos y sociales serán estudiados con gran interés a partir de los años 1970, a través de distintos estudios clásicos que muestran la personalidad y el contexto social no solo como telón de fondo, sino como parte central del proceso de adicción, confrontando en muchos casos con la noción de adicción en tanto "enfermedad del cerebro". Norman Zinberg por ejemplo, estudia el uso de heroína por soldados estadounidenses durante y posteriormente a la Guerra de Vietnam, demostrando cómo el uso y abuso de heroína está condicionado por el contexto, siendo que, al volver los soldados a su país, el uso de la misma se reduce drásticamente (Zinberg, 1972, 1984). Es a partir de allí que Zinberg expone su famoso triángulo, en donde los efectos del consumo de cualquier droga no dependen solamente de las propiedades farmacológicas de la misma, sino también de su interacción con lo que el autor denominó Set & Setting (sujeto y contexto respectivamente). En la misma década, Bruce Alexander y su equipo llegan a conclusiones similares, pero a través de la experimentación con modelos animales (Alexander, Coambs, & Hadaway, 1978). Bajo la hipótesis de que el consumo excesivo de una sustancia es consecuencia de las condiciones experimentales displacenteras creadas en el laboratorio dentro de la "jaula de Skinner", Alexander y colaboradores deciden diseñar un "Parque de Ratas". En este parque los roedores pueden desarrollar diversas actividades placenteras, similares a las realizadas en su ambiente natural. Las ratas del Rat Park mostraron un consumo significativamente menor a aquellas encerradas en la Skinner Box, dejando en evidencia la importancia del contexto adverso en el abuso de sustancias. El psicólogo Stanton Peele realiza una crítica similar a la adicción como enfermedad neurológica, concibiéndola como consecuencia de la excesiva utilización de mecanismos normales de evasión, gratificación y alivio, usados cotidianamente para la supresión de ansiedades (Peele, 1990). Se produciría en casos excepcionales, y no se limitaría solamente a las drogas sino a una multiplicidad de actividades, como el sexo, el juego, la televisión y la comida. El uso y abuso de dichos mecanismos no puede ser entendido si no se remite a una experiencia subjetiva de compulsión, vinculada a un sujeto inmerso en determinados contextos sociales y culturales. Para Peele no existiría entonces la adicción en un sentido biológico "puro". Los aspectos relacionados con la dependencia física, serían simplemente un desajuste homeostático del organismo, y no pueden explicar por sí mismos la esencia de la adicción (Peele, 1985).

EL MODELO SOCIOCULTURAL

Por último tenemos aquellas perspectivas que desde la antropología y la sociología, y a través de metodologías cualitativas de investigación, han construido lo que denominaremos modelo sociocultural. En sociología, el tema se ha abordado desde distintos enfoques: el estudio de la relación entre las adicciones y los procesos de anomia y desviación, el estudio de la "subcultura" de la droga y sus "nichos" de desorganización social, las teorías del "etiquetado social" y estigmatización del adicto, entre otros (Comas, 1993). La antropología por su parte ha abordado el problema definiendo al objeto "droga" no como un ente normativo (modelo penal) o patológico (modelo médico) sino como un campo de relaciones entre sustancias, sujetos y contextos (Romaní, 2007). El uso de metodologías cualitativas ha sido fundamental en ambas disciplinas, a la hora de abordar el problema desde la propia perspectiva de los sujetos, sus universos de sentidos, sus prácticas culturales y sus modos de interacción social. Por ejemplo, en el caso del método etnográfico, el uso de las técnicas de observación-participación ha permitido observar in situ las interacciones cotidianas y profundizar en las experiencias subjetivas y sentidos que ellas suponen. Este abordaje permite estudiar a los sujetos en la complejidad de sus contextos "naturales" o "espontáneos", abriendo visibilidad sobre problemas difícilmente observables dentro del contexto "artificial" de un laboratorio (Apud, 2013). La agenda de investigación cualitativa ha utilizado también la noción de "trayectorias de enfermedad/malestar" -illness trajectories- en términos de "trayectorias de adicción", entendiendo las mismas como experiencias y narrativas

de aflicción, donde se ponen en juego trayectorias de personas, sustancias, creencias, categorías, técnicas e instituciones, que demuestran la gran variabilidad de situaciones que existen detrás de la etiqueta de "adicción" (E. Raikhel & Garriot, 2013).

Las distintas perspectivas englobadas bajo este modelo sociocultural han ayudado a comprender las distintas prácticas sociales y culturales relacionadas con las drogas, desde el uso de psicoactivos en sociedades tribales o tradicionales (en sus usos religiosos, médicos, y recreativos), hasta las distintas "subculturas de la droga" y sus usos más generalizados en nuestras sociedades contemporáneas. A partir del estudio de las sociedades tradicionales, la etnografía ha mostrado cómo los efectos positivos o negativos de las distintas sustancias psicoactivas no pueden separarse de sus contextos culturales. Uno de los estudios pioneros es el de Weston La Barre (2012) en los años 1930s, sobre la función ritual y medicinal del peyote en los nativos americanos. El estudio del peyote en tanto medicina tradicional y sacramento cultural llevará posteriormente a la defensa de los derechos de los indígenas a su transporte y uso ritual, realizada por reconocidos antropólogos como Franz Boas, Sol Tax, Omar Stewart, y el mismo La Barre en la primera mitad de siglo XX (Page & Singer, 2010). A mediados de siglo XX comienza un interés por la relación entre alucinógenos y cultura, que da lugar a diversos estudios sobre el uso psicoactivos en sociedades tradicionales y su papel en las prácticas médicas y religiosas, principalmente en el denominado "complejo chamánico" (Eliade, 2009; Lévi-Strauss, 1997). En los años 1970s surgirán estudios etnográficos sobre el uso ritual y medicinal de "psicodélicos" en América (Dobkin de Rios, 1973; Dolmatoff, 1969; Harner, 1972), que posteriormente derivarán en una extensa literatura antropológica sobre el uso tradicional de sustancias como el peyote (Calabrese, 2014), los hongos alucinógenos (Fericgla, 1985), la ayahuasca (Apud, 2015; Labate, 2012; Luna, 1986; Taussig, 1992), o la marihuana (Carter, 1980; Rubin & Comitas, 1975).

En el caso de los estudios en sociedades contemporáneas, la sociología cualitativa de la Escuela de Chicago será pionera en los estudios etnográficos urbanos del uso de drogas en los años 1930s. Uno de las primeras investigaciones es realizada por Bingham Dai (1937) sobre el consumo de opio en Chicago, bajo la idea general que el contexto urbano genera un medio social de condiciones adversas que incide directamente en el abuso de sustancias. Años más tarde, Alfred Lindesmith (1947, 1968) propondrá estudiar las adicciones desde la visión de los propios actores, basándose no en las descripciones "objetivas" de la literatura científica sino en la experiencia "subjetiva" de los consumidores de heroína. Para Lindesmith lo central en la adicción será el estilo de vida generado por una sociedad que segrega y estigmatiza las conductas "desviadas" hacia determinados espacios urbanos alienantes. Howard Becker estudia cómo los consumidores de marihuana aprenden a interpretar las experiencias como placenteras a través de su grupo de pares, proponiendo una influencia directa de la interacción social y simbólica sobre la sensación de placer (Becker, 1953). Su trabajo será también fundamental en el desarrollo de una teoría del "etiquetamiento", donde la desviación no sería un producto de características individuales psicológicas o hereditarias, sino de la propia clasificación de lo desviado por parte de la sociedad, creándose una subcultura de la desviación (Becker, 1963). En el caso particular de España, será en los años 1980s que comienzan a realizarse las primeras etnografías urbanas de las drogas, a través de estudios sobre grifotas, heroinómanos y otros grupos de consumidores (Funes & Romaní, 1985; Gamella, 1990; Romaní, 1983).

A través de estos distintos estudios, el modelo sociocultural ha cuestionado la noción clásica de "drogodependencia" en términos exclusivamente biológicos, exponiendo su relación con las formas de organización de la vida cotidiana, así como los procesos de identificación y construcción de identidad (Romaní, 2000). Las metodologías cualitativas han tenido la capacidad de un mayor acercamiento a poblaciones "ocultas" o de difícil accesibilidad, a través de técnicas que permiten comprender la perspectiva de los actores. En el caso de las adicciones, tanto la ilegalidad como la estigmatización que sufren los consumidores hacen que la investigación in situ exija un juego de negociaciones y confianza que supone compartir espacios cotidianos y lenguajes comunes, por lo que resulta esencial este tipo de metodologías para investigar sus prácticas en toda su profundidad. Por otro lado, el estudio del consumo de drogas en sus "contextos naturales" ha permitido distinguir en forma más realista muy distintos usos, desde aquellos más integrados en sus medios hasta aquellos más problemáticos, a través del estudio de la variabilidad tanto en los modos de consumo como en la

consideración del mismo. Por último, el modelo sociocultural también ha hecho significativas contribuciones en el área de la intervención y las políticas de drogas, permitiendo detectar emergencias y necesidades sobre el terreno, y establecer mejores estrategias de salud para las adicciones y sus problemas sanitarios asociados, tales como el VIH o la hepatitis C (Page & Singer, 2010; Romaní, 1999).

CONCLUSIONES

El problema inicial del modelo biomédico ha sido intentar encapsular el comportamiento adictivo dentro de los límites del cerebro, buscando la enfermedad en los recovecos de sus tejidos. Ésta ha sido una estrategia generalizada en el campo de la psiquiatría, bajo una noción de "enfermedad" que incluso actualmente no es aplicable en medicina general. Por ejemplo la infructuosa búsqueda de una etiología única a través de la correlación entre adicción y neurobiología, cuando actualmente enfermedades como la tuberculosis no dependen solamente de la presencia del bacilo de Koch, sino también de factores como la hiponutrición y un medio social adverso; o bien la discontinuidad entre normalidad y anormalidad (en nuestro caso uso y dependencia), cuando en problemas como la hipertensión arterial es difícil fijar límites objetivos precisos (Moizeszowicz, 2000).

En el transcurso de su recorrido, la neurobiología de las adicciones ha tenido que abrirse cada vez más a un modelo biopsicosocial, pero siempre obstinada en no abandonar el núcleo duro de su programa de investigación, que es la idea de la adicción como una "enfermedad del cerebro". El sostener tal núcleo duro como supuesto irrefutable ha acarreado no pocas contradicciones. Para Marilyn Clark (2011) el problema de fondo es que la adicción, como cualquier comportamiento, involucra un correlato biológico, lo cual no implica que dicho correlato sea la causa del comportamiento por sí mismo. Aun existiendo un correlato preciso del comportamiento adictivo, las características del trastorno continuarán en sus encrucijadas multifactoriales. Por otro lado, y cómo vimos en el presente artículo, mientras el modelo biomédico explica la adicción en términos biológicos, la diagnostica en términos psicosociales, y mientras intenta explicar el comportamiento humano en términos clínicos objetivos, el tratamiento sigue dependiendo en gran medida de la voluntad y la motivación del paciente. El paradigma biomédico termina siendo incapaz de completar su modelo neurobiológico de adicción, y termina apelando a la categoría de "dependencia psicológica", hipótesis ad hoc que permite agregar un "epiciclo más" al modelo, para que la enfermedad continúe girando alrededor del cerebro.

Parte del problema ha sido entonces no poder cuestionar el concepto mismo de adicción, y problematizar hasta qué punto se puede hablar de la adicción como una enfermedad "biológica", y hasta qué punto se trata de un "síndrome culturalmente construido", producido dentro del contexto histórico de nuestras sociedades (Room, 1985). En este aspecto, el modelo sociocultural ha podido dar cuenta no sólo de la perspectiva del "sujeto adicto", sino también de los vaivenes históricos del propio concepto de adicción. De esta manera el concepto de adicción deja de ser una categoría exclusivamente "natural" o "biológica", y pasa también a la arena de la cultura, la política, los intereses sociales y económicos.

La inclusión en la práctica clínica de los distintos modelos descritos, supondría la posibilidad de integrar las distintas dimensiones mencionadas, abarcando todo el espectro biológico, psicológico, social y cultural. Si bien los mecanismos básicos de recompensa estudiados por el modelo biomédico juegan un papel relevante, vimos cómo éstos no pueden ser disociados de otros procesos cognitivos vinculados a la memoria, la motivación, el aprendizaje, así como los diversos reforzamientos y condicionamientos implicados. Todos estos factores "incrustan" la experiencia de la "adicción" en un contexto, imposibilitando un abordaje del problema en términos exclusivamente "intracranealistas". Como hemos señalado, la progresiva diversificación de psicoterapias ha respondido a estas inquietudes, a través de un progresivo eclecticismo en el campo de intervención clínica, donde se ha hecho un uso cada vez mayor de nuevas técnicas y métodos sensibles al contexto: estrategias psicoeducativas, de prevención de recaídas, de técnicas de relajación, role-playing, desarrollo de habilidades sociales, reestructuración ambiental, terapia familiar, terapias grupales, reforzamiento comunitario, entrenamiento en el manejo del estrés, habilidades de afrontamiento, organización de valores y metas,

mindfullness, terapias motivacionales, o terapias psicodinámicas, entre otras.

Sin embargo, todas éstas alternativas todavía no han integrado –por lo menos en forma satisfactoria- un enfoque sociocultural, que incluya en la clínica problemas como los del "etiquetado social", el trabajo de las "trayectorias de adicción" en tanto narrativas, o la comprensión profunda de las prácticas de consumo enmarcadas dentro de ciertas culturas de las drogas, entendidas muchas veces como "subculturas de la droga". Desde el campo de la intervención clínica, queda profundizar entonces en estrategias que tomen en cuenta las relaciones entre sustancias, sujetos y contextos, situación un poco distinta en otros campos de intervención, donde los programas de reducción de daños han sido vitales para establecer mejores estrategias de sanitarias.

Según Robin Room (1989) el concepto de adicción debe ser entendido en sus raíces culturales profundas, y no solamente como un concepto surgido en la psiquiatría y los investigadores. Una perspectiva que intente verdaderamente plantearse la integración de todos éstos modelos y niveles -neurobiológico, psicológico, social, cultural- debe cuestionarse la pertinencia de conceptos como "adicción" o "dependencia" entendidos como enfermedad del cerebro, "núcleo duro" del programa de investigación biomédico. En primer lugar porque la definición científica del concepto ha sido extremadamente permeable a prejuicios sociales, concepciones religiosas, e intereses económicos y políticos, como ya se ha señalado en distintas ocasiones desde la historia, la psicología, y las ciencias sociales (Escohotado, 1992; Peele, 1990; Raikhel & Garriot, 2013; Romaní, 1999; Room et al., 2015; Szasz, 1974). Esta permeabilidad ha generado un conjunto de encrucijadas, donde resulta extremadamente complejo establecer la distinción marcada por Maurice Bloch (2012) entre lo que es consecuencia de mecanismos neuromodulares (producto de la selección natural), y lo qué es consecuencia de la cultura (producto de una historia social). Por si no fuera suficiente, el estudio de la complejidad de los mecanismos involucrados en la "adicción" como trastorno no sólo involucra diversos niveles –biológicos, psicológicos, sociales y culturales-, sino también, dentro del mismo nivel neurobiológico, la participación de diversos módulos, como se constata por la progresiva inclusión de nuevos circuitos neuronales y procesos cognitivos al trastorno adictivo. Siendo que, como vimos al principio de este artículo, las drogas han estado presentes desde hace miles de años, tal vez podamos plantearnos que no sean ellas las principales responsables del "hackeo" de esas modularidades cognitivas heredadas desde nuestros antepasados del pleistoceno (Kappeler, Silk, Burkart, & van Schaik, 2010), sino nuestras propias formas sociales y culturales de organización, tan distintas al estilo de vida de éstos pequeños grupos de cazadores-recolectores.

Reconocimientos

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Ritual healing: a final synthesis

The various SARs discussed provide different explanations and different theories about occurs during a religious ritual. Psychedelic studies describe how hallucinogens cause certain ASCs that in their mild – psycholytic – manifestations help to break down resistance, express repressed emotions and access forgotten memories, and in their extreme – psychedelic – manifestations can cause considerable changes in the subject, similar to religious conversions. The interdisciplinary placebo agenda has developed several top-down models, which explain how categorization and other psychological processes can act on mental and physical health, triggering both placebo and nocebo responses. Studies on ASCs, trance and possession have described how ritualistic practices are used in various societies to deal with cultural, social, psychological and even physical difficulties. The CSR has constructed a variety of theories and although most of them do not directly address the possible healing effects of rituals, they do explain how ritual interacts with memory, the search of meaning, the fixation of beliefs, social cognition, prosocial behavior and other cognitive processes strongly related to mental health. Religious experience studies have developed various theories that explain how religious practices can produce neuropsychological changes through interactions between meanings, emotions, experience and body. Studies on religion and health have described a significant statistical relationship between both. Finally, studies on conversion have shown how religious healing is involved in constructing new narratives of the self, which helps the individual to find new meanings for coping and managing existential crisis.

One of the main aims of all these perspectives is to determine whether there is a general abstract model that explains how ritual works, or whether there is a heterogeneity of practices that produce different states. Psychedelic SARs often mention these varieties of the experience as being caused by variations in the "set & setting" (the individual´s mindset and the ritual context, respectively). In the placebo agenda although some authors describe a general "structure" of how healing could work, it is difficult to find one single mechanism that triggers the placebo response. Both CSR and religious experience studies also have this tension of one, two or a wide variety of ritual settings, which produce distinctive cognitive changes and experiences. The anthropology of ASCs expresses the same idea through ethnographic examples that show that both context and participants´ variations are determinant in the final experience. My perspective in this research is that there are a wide variety of ritual designs and experiences. In previous studies, I analyzed these variations in ritual by integrating both cultural and cognitive perspectives (Apud, 2013b, 2015b). This model allowed me to understand variations in ritual through the disaggregation of various elements that influence the final subjective experience of the participants: the ritual design (ensemble of rules, spatial order and the technologies used), community (formal and informal

relationships between the members of the group), the participant as an individual (personal history, spiritual/religious trajectory, psychological character, personal symbolic systems of interpretation), roles (assigned in the specific ritual being held), cognitive artefacts (set of instruments and techniques used to stimulate and manipulate the states of consciousness of the participants). The model proposed in this research not only disaggregates the ritual and its variables, but also the cognitive functions that are usually manipulated in it. The framework proposed describes how the cultural techniques of the ritual manipulate cognitive variables to produce a medical outcome in the patient or participant.

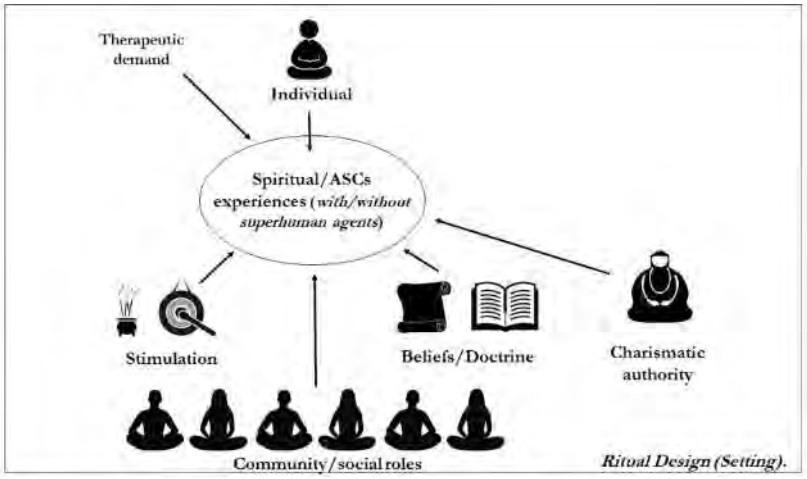

Figure 11. Ritual setting.

The model is in some way a dramatic performance, in Victor Turner's sense (1977), or a placebo drama as described by Ted Kaptchuk (2002), in which patient, practitioner and illness interact in a therapeutic setting. The practitioner can be a therapist or a charismatic authority, who manipulates mythological healing symbols and beliefs (Dow, 1986), and is usually connected in different ways to a supernatural agency that guarantees a particular effect (Lawson & McCauley, 1990). The practitioner can also be in charge of the stimulation procedures, whose variations determine what effect the ritual has on cognitive functions and emotional states. Using Whitehouse's distinction, this is more common in "imagistic" shamanic procedures, while in "doctrinal" modes the stimulation is set up by more formal regulations related to the social religious institution. The community is always present, but not necessarily as mere spectators; they can fulfill a variety of roles. But even when the ritual consists of only the patient and the healer, the community is present in some other indirect or imaginary way (e.g. social expectations about the treatment, the cultural function of the ritual in the community, the illness as it is embedded in a social collective life and cultural interpretations). In summary, and as the various articles in this section have shown, the role of these elements is crucial in the overall effect on the experience of the participant. They all produce certain effects in the individual and his or her experience. They

act on memory, attention, perception, emotions, thoughts, reward and social cognition, and generate an experience that can make immediate or subsequent changes in people in terms of social commitment, the memorization of doctrinal messages or placebo and/or nocebo responses.

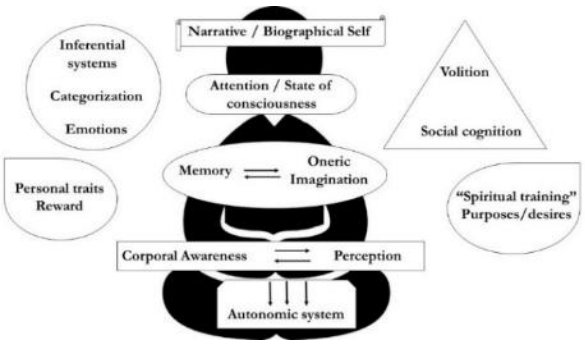

Figure 12. Ritual mind set.

The ritual design is embedded in a particular social and cultural background that stimulates or inhibits certain kinds of experience. In this regard, and as Tanya Luhrmann (2011) has already pointed out, the local practices of mental cultivation promote certain recurrent types of ASC experiences. For example, according to Luhrmann, Protestants emphasize hearing, Catholics seeing and Hinduism visions. Islam rejects images and Africans cultivate kinesthesis. There are different cultural styles of "spiritual training", which she describes for the cases studied in her ethnographic fieldwork on a Chicago Christian Church (Luhrmann, Nusbaum & Thisted, 2010), and other American spiritual groups such as Catholics, Jews and New Agers (Luhrmann, 2004). Luhrmann considers the symbolic healing effect of these practices as an effect of the manipulation of imagination;

> These are techniques which help to make what must be imagined more real. They are important because the emotional transformation of symbolic healing can only take place if the symbol is experienced as having external agency; if it seems authentically real to the person experiencing the pain. The problem is not one of belief, but of experience (Tanya M. Luhrmann, 2013, p. 710).

The author calls this "absorption", the capacity to narrow and alter attention, to focus on an imaginary object and make it more "real". Absorption can lead to spiritual healing, a "nonbiogenic healing" in which the mind is used to heal the body. The process involves a learning process, in which patients learn to experience what they imagine as if it is real and good.

Spiritual healing involves cultural styles of religious practice and individual psychological predispositions to these techniques, which explains why individual experiences in the same ritual can vary. For example, in the case of neoshamanic rituals, the degree of expertise of the participant can influence the contents and volitional aspects of the experience, in what Richard Noll (1985) called the learning of "controlledness" and "vividness" in the cultivation of mental imagery. As well as individual variations, there is also a ritual style that affects general cognitive functions in a variety of ways. For example, in the case of ayahuasca traditions, the ritual of Santo Daime is more

structured, repetitive, and doctrinal (in the Whitehouse sense). There is a of weekly sessions for the whole year, so there is a high frequency of ritual activities, which are always accompanied by the recitation of the hymnbook´s songs, which record and transmit the spiritual and moral wisdom of the *mestres*. The ritual aims to introduce the participant within a community, with its own sense of morality, worldview, history, charismatic figures, spiritual beings and religious goals. In contrast, Peruvian ceremonies are usually more imagistic, strongly focused on a personal spiritual demand, unscheduled, and much less frequent than in Brazilian churches. The experiences of the participants are described as highly emotional, and as meaningful episodes with a more personal sense (a low degree of uniformity, in the Whitehouse model). Stimulation techniques are also used by the *curandero* to guide and intensify the effects of the brew.

The final experience is the result of an ASC that is produced by changes in cognitive functions. But it is not possible to identify one core model –a Sui Generis experience, a universal diachronic chain of stages or a general "placebo mechanism" – underlying those changes. The model I present here is, therefore, analytical and descriptive. It only disaggregates the ritual´s set and setting into the variables that were considered important in the SRPs presented (figures 11 and 12). We must also consider that what happens in the ritual does not remain in the ritual, but is remembered and re-signified later, using elements from the cultural background, which could lead to significant changes in the "memory of the experience" (Czachesz, 2015). From an attributional perspective, the ritual´s out-of-ordinary experience could trigger the search for meaning both during the session and after. In this regard, although ASC experiences are important turning points for the potential healing effect of rituals, subsequent narratives and biographical resignifications also need to be taken into account. The reflexive processes occurring before, during and after the intervention play a major role in both religious rituals and folkloric medical practices, which is usually underrated by modern biomedical practices. A few decades ago Kleinman & Sungsaid the following:

> There seems to be a radical discontinuity between contemporary clinical care and traditional forms of healing. Cross-cultural and historical studies of medicine disclose two separate, but interrelated healing functions: control of the sickness and provision of meaning for the individual's experience of it. Modern professional health care attends solely to the former. In fact, the biomedical education of physicians and other modern health professionals, while providing them with knowledge to control sickness, systematically blinds them to the second of these core clinical functions, which they learn neither to recognize nor treat (Kleinman & Sung, 1979, pp. 7–8).

As we have seen above in the article *Medicine, Religion, and Ayahuasca*, in the particular case of the traditional uses of psychedelics, religion is an important factor in this "provision of meaning" mentioned by Kleinman & Sung. So when we talk about religious ritual, both the spiritual experiences triggered during the ritual and the cultural narratives related to them are important factors for understanding ritual healing. For example, Joseph Calabrese describes the structure of

the peyote ceremony in the Native American Church (NAC) as highly symbolic and gives the experience strong cultural meanings:

> The peyote meeting takes place in a circular enclosure, usually a tipi, that opens to the east. Inside the enclosure, a crescent-shaped mound of earth is constructed and a line drawn along the top to represent the "Peyote Road." This represents the path of one's life as well as the ethical code of the religion: the path one must walk to be an NAC member. The participants enter the tipi at sundown. The Road Man places an especially fine peyote cactus, most often called "Mother Peyote" or "Father Peyote," on top of the moon altar. Peyotists are taught to maintain focus on this peyote, sending their prayers through it. After an opening prayer, which states the purpose of the meeting, peyote is passed around and drumming and singing of peyote songs begins. The ritual continues until dawn of the following day, when there is a ceremonial breakfast of corn, meat, fruit, and water and the participants go outside to "greet the sun." (Calabrese, 2014, pp. 61–62).

Calabrese considers the peyote ritual in its symbolic structure of death and rebirth. The peyote is regarded as a guardian and omniscient spirit. The moon on the altar symbolizes the life course. The mescaline, together with the rhythmic beating of the drums and focusing on the central altar, produces a state of suggestion that makes the participants cognitively open to cultural therapeutic messages that facilitate an inner experience of self-awareness. The peyote ritual is designed to produce a self-referential experience, in which memories, decisions, social commitments, and emotions all play a part. Calabrese describes the ceremony as a "therapeutic emplotment", extremely important in the native population of North America, which has high rates of alcoholism, suicides and deaths:

> Therapeutic emplotment, as defined here, refers to interpretive activity or application of a preformed cultural narrative placing events into a story that is therapeutic, either in that it supports expectations of a positive outcome, makes illness or treatment comprehensible, discourages unhealthy behaviors, or otherwise supports health (Calabrese, 2014, p. 63).

These cultural messages can be more or less ambiguous, but they are specifically directed in the sense that they trigger inferential symbolic processing – in Sperber´s sense – which can result not only in a new "healing narrative", but also in other placebo responses (in Moerman´s sense). When the ritual is over, inferential symbolic activity does not necessarily finish, but it is more or less activated for everyday biographic narrative construction. According to Jerome Bruner (1986), narrative mode of thought is a way of thinking, commonly used by people in their everyday life. Unlike the logic-formal mode, it is always open to new interpretations and allows multiple perspectives, "…an utterance or a text whose intention is to initiate and guide a search for meanings among a spectrum of possible meanings" (Bruner, 1986, p. 25). So the quest for new versions of the self´s narrative is a process that belongs not only to the ASC experience, but also to everyday life. Besides, the memory of experience is a signature of the self that has effects on the autobiography of the self as an individual and as a social and cultural dialogical constructed identity:

> If religious narratives are performative, they offer consequential opportunities for transformation. Just as the individual who says "I do" in the course of a marriage ceremony emerges as, in some

> sense, a different person, the religious individual can be changed by the process of assenting to a new narrative (Weiss Ozorak, 2005, p. 226).

In this regard, the narratives associated to the ritual are not only individual but also a social interaction in which the participant/patient evokes, negotiates, legitimates, and gives factuality to his/her experiences and autobiography in general. They involve a literary genre or style and a mediation of cultural symbols, which the practitioner/patient uses to dive through the cultural past, and to project him/herself from the present to the future (Cole & Engeström, 1993). The biographical mental projection through past, present and future is central to human "extended consciousness" (Damasio, 1999), which includes a variety of cognitive functions and properties, such as self-relevant knowledge stored in the memory (procedural information, episodic memories, semantic representations, meta-cognition, social identity), executive functions (valuation, learning, and cognitive homeostasis), reflexivity (interaction between executive functions and representational knowledge), mental time travel (the capacity to reconstruct specific events of the past, or engage in alternative mental simulations of the future events), amongst others (Skoweonski & Sedikides, 2007).

As is mentioned in the article "Medical Anthropology and Symbolic Cure", the construction of narrative and meaning does not necessarily involve a shared and cogent myth or doctrine between the participant and the healer. The only pre-requisite are the conditions that cause a patient to construct some kind of personal meaning. The Peruvian *vegetalistas* are a good example of this. According to Marlene Dobkin de Ríos, Peruvian *curanderos* have developed advanced psychological techniques, which do not necessarily involve a shared meaning between patient and healer (Dobkin de Rios, 1992). Suggestion, trust and performance are key factors in the cure:

> Most of the patients did not intellectualize the healing process; they simply had faith in the healer and his abilities to help them access other nonhuman realms through his rituals and his knowledge of which plants and drugs and herbs they needed (Dobkin de Rios, 2009, p. 124).

According to Stephan Beyer (2009), even when the meaning is obscure, fragmented and ambiguous, the performance always gives a sense that something meaningful is happening. Besides, although there is no verbalized act of speech, there is generally a dramatic scene:

> The healing ceremony is staged as a battle; the episodes of cure develop a plot with the same revelatory structure as myth. The shaman struggles with and through the patient's body in order to find disease and cast it out. The drama is to go into the patient's body and carry away the disease (Beyer, 2009, pp. 25–26).

Beyer describes the ceremonies of *vegetalistas* as a synaesthetic cacophony of perfumes, tobacco smoke, whistling, songs and other elements from various sensorial channels. These channels trigger the placebo response, with no need for a common verbalized narrative, only a minimal action-representation system involving supernatural agency:

> Healers are fully aware of the link between chants and visions, and they do acknowledge a connection between the metaphoric construction of the words of the chants and visualization. However, their interpretation goes beyond a mere synaesthetic effect. According to them, the words of chants are 'twisted' because they originate from and address powerful spirits. They were given by the spirits and are used to call upon them and to activate their strength. Whether the patients and the attendants to healing rituals do understand the words of the chants or not, it does not matter (Demange, 2002, p. 74).

The healer is doing something to the patient, guided by the spirits on how to heal. The superhuman agency in *vegetalismo* does not involve solely ayahuasca as an entity but also a folkloric pantheon of different spirits: the spirits of deceased healers, water and earth beings, spiritual snakes such as the *sachamama* (a big boa constrictor that is the mother of the jungle) or the *yacumama* (a big anaconda that is the mother of water), *tunchis* (lost souls), dolphins and sirens (Beyer, 2009; Luna, 1986).

Ritual healing, addictions, and ayahuasca

In *The Crossroad of Addiction*, we have described three main theoretical models in the study of addiction: the biomedical model, the bio-psycho-social model, and the socio-cultural model. They all reflect to some extent what I regard as a SRP. But the differences between them are not totally clear. For example, the bio-psycho-social model is connected to both other models, because it corrects the core of the biomedical model and is an important influence on the socio-cultural one. Despite this, connections between biological and socio-cultural models are unusual. One novel interdisciplinary approach which tries to bridge the gap between brain and culture, is neuroanthropology (Lende & Downey, 2012). In the case of the study of addictions, Daniel Lende (2005) studies the topic from a biocultural perspective, using the discoveries of the neurobiology of addiction, its relation with cognitive human evolution, and how this level interacts with social learning and the cultural context. For this, Lende uses Robinson & Berridge's idea of "incentive salience" (1993) to connect the neurocognitive and socio-cultural levels. Robinson & Berridge propose a motivational theory of addiction using animal models, in which the reward system is understood to produce attribution to the environmental stimuli, making them salient. In this model the inner experience of pleasure is as important as associative learning and contextual clues. Lende proposes extending the theory from animal models to ethnographic research, thus connecting biology ("how" one became an addict) and culture ("why" one became an addict). Although Lende's model is useful and interesting, in the specific model I present here I do not consider only one mechanism to be an explanation for any therapeutic demand, including addiction. My idea is to analyze various cases on the assumption that there is not necessarily just one mechanism, but a variety of interacting ones (see figure 14 and 15). This may be the reason why therapeutic approaches to mental health should consider a variety of strategies, the effectiveness of which depend on the particularity of each case.

Addictions are treated by a set of activities that aim to reduce or eliminate the abuse of a drug. Classical treatments usually involve an initial detoxification, and a subsequent therapeutic strategy, which includes approaches ranging from pharmacological to psychological and communal ones. Pharmacological treatments include medication such as methadone for heroin and opioid addicts, nicotine patches for smokers and naltrexone for alcoholics. The psychological approaches include cognitive-behavioral, motivational, family-centered and psychodynamic therapies, amongst others (for a review, see Becoña Iglesias et al., 2008). The approaches based on therapeutic communities are usually combined with pharmacological and psychological procedures.

Therapeutic communities became popular with Alcoholics Anonymous (AA), funded in 1935 by Bill Wilson and Bob Smith. As Eduardo L. Menéndez (1990) points out, the AA demonstrated that organizing patients into communities can result in effective treatments, which, in turn, means that these organizations are recognized by and integrated into health care networks. Besides, what is particularly important for this investigation is that AA is not only a communal approach but also a spiritual one, because it contains the idea of a superior being directing the recovery process. For example, in his ethnography of AA, Jaume Esteve Blanch (2014) describes their sessions as religious rituals with strong symbolic features. The ritual is considered by the author to be symbolically effective and a liminal space, with a profound sense of *communitas*. For example, all AA groups must follow a schedule, which determines which passages of AA literature must be read by certain dates. All participants must be fully committed to the 12 steps of the program and to a superior spiritual force, who is credited with any improvement caused by the treatment.

Ayahuasca is used in a variety of therapeutic approaches that implicitly or explicitly combine pharmacological, psychological, communal and/or spiritual/religious elements. As has already been described in Section I and II, the varieties of religious, spiritual and therapeutic practices related to ayahuasca make difficult to generalize a single model because both set and setting are important to ritual healing. As I have mentioned in section II and will mention again in the next section, there is a growing body of studies on the effects of ayahuasca on human health, its potential positive effects on addiction, depression and anxiety, and its possible contraindications and negative side effects. As Bouso points out (2012), there are very few studies on the long-term effects of ayahuasca on health and cognitive functions and the samples are small, but the evidence suggests that the use of the brew in ritual settings has no deleterious effects on mental health, personality or cognitive functions, and it may even help to treat problems like addictions. In this regard, the positive outcome of the treatment may not be exclusively due to the use of ayahuasca;

other factors may be involved (for example, participants are often affiliated to religious institutions such as UDV and Santo Daime, which discourage taking drugs or drinking alcohol).

Much of the neuroscientific literature on ayahuasca aims to study the pharmacological effect of the brew, an important factor if we are to understand how ayahuasca and other psychedelic substances work. The findings of these studies, however, should be complemented with other research designs that are more sensitive to the context and "unspecific factors". Tófoli & de Araujo (2016) divide the psychedelics into three categories: delirants (commonly involving acetylcholine antagonism, e.g. scopolamine), dissociative hallucinogens (NMDA receptor antagonists, e.g. *Salvia divinorum*), and classic psychedelics. This last group includes substances such as mescaline, LSD, and the DMT of ayahuasca, which act as serotonin receptor 5-HT_2 agonists, although some reports have discussed the interaction between other 5-HT receptors, and found more complex interactions (Glennon, 1994). In the specific case of ayahuasca, Riba et al. (2006) used SPECT to study the neurological activation of the brain during an intake of freeze-dried ayahuasca, in a randomized double-blind clinical trial, with a sample of 15 experienced volunteers. The results showed a bilateral activation of the anterior insula and inferior frontal gyrus – more intense in the right hemisphere –, the activation of anterior cingulate and medial frontal gyrus, and the left amygdala and parahippocampal gyrus. The areas activated are related to emotional and introspective processing. The right anterior insula is associated with the representations of bodily states and their relation to subjective feelings; medial prefrontal and anterior cingulate gyrus are related to motivational aspects of emotions and their processing; the left amygdala and parahippocampal gyrus are usually related to negative emotional valence, and the processing of memories. The authors conclude that "…the present findings indicate that acute ayahuasca administration is associated with the activation of brain regions recently postulated to play prominent roles in the neurobiology of interoception and emotional processing" (Riba et al., 2006, p. 97). In a later paper, Bouso & Riba conclude, "It might be speculated that ayahuasca helps to bring to consciousness memories from the past, to re-experience associated emotions, and to reprocess them in order to make plans for the future" (Bouso & Riba, 2014, p. 101).

Using different data from neuroscientific studies on ayahuasca, McKenna & Riba (2016) propose a model for understanding ayahuasca and other serotoninergic psychedelic drug effects on the human brain. Current neuroscientific studies have shown that the normal brain processes the incoming information in two different ways: from the primary to the associative areas (bottom-up classical model), and from the association cortex to primary areas (top-down model). The second way implies that interpretation, knowledge and expectations play an important role in perception (which is an important issue for the theories of attribution and meaning that we mentioned earlier).

Interactions from both directions are considered as recursive feed-forward and feed-backwards projections in which the incoming information interacts with pre-established constraints, under the control of the executive functions in the frontal cortex. Serotoninergic psychedelic substances alter this normal processing of sensory modalities:

> We propose that the interaction of a psychedelic with this network will reduce top-down constraints and increase excitability in various levels of the hierarchy. In the modified state of awareness induced by ayahuasca, weak endogenous activity, be it sensory or mnestic, will be able to reach higher levels in the hierarchy and become consciously perceptible. This would explain the endogenous visual and auditory phenomena reported for psychedelics and the distortion of external stimuli. Even in the absence of strong external sensory input (eyes closed), visions will emerge due to increased activity in brain areas processing visual information (McKenna & Riba, 2016, p. 22).

Various multimodal areas of the brain (posterior association cortex, cingulate cortex, medial temporal lobe) become highly excited, which generates novel associations and modifies thoughts. The information traveling upwards does not fit with top-down predictions, producing a mismatch signal or discrepancy that the brain tries to update in an attempt to make sense of the psychedelic experience:

> Individual differences such as personality, mood, and prior experience with psychedelics will be part of each person's pre-established constraints and will consequently modulate the experience. The degree to which each person lets go of the cognitive grip exerted by frontal executive control will also influence the experience and could explain the common lack of effects reported by users when ayahuasca is taken for the first time. Directing attention to external cues such as the ritual and other participants or the desire to remain "in control" frequently leads to experiencing very weak effects or none at all. Typically, in subsequent sessions, the participant lets go and prominent effects are finally experienced (McKenna & Riba, 2016, p. 22).

The psychedelic experience breaks down constancies, which causes unusual associations and meanings, and novel and sometimes overwhelming experiences. To some extent, McKenna & Riba's model is similar to McNamara's religious experience model they since they both involve the reduction of executive functions – "top-down constraints"–, the bottom-up "invasion" of visual and emotional contents, the modification of thought content, and the production of novel associations. All these generate an introspective state suitable for reflecting on personal issues, in a kind of free association between thoughts, memories and emotions.

For the particular case of treating addictions, Pricket & Liester (2014) propose a neurological model to explain how ayahuasca could work. As we have seen in *The Crossroad of Addiction*, dependence is strongly related to the mesolimbic dopamine reward pathway, as drugs of abuse act directly in the circuit and more strongly than other pleasant stimuli. This circuit involves the axonal projections of the ventral tegmental area of the midbrain to areas such as the amygdala, hippocampus and prefrontal cortex, passing through the nucleus accumbens. This mechanism is the main model in what Pricket & Liester call the "hedonia hypothesis" or "dopamine depletion hypothesis" (that is, that dopamine acts as a pleasure neurotransmitter). When released it causes pleasure; when depleted, anhedonia. Although the immediate effect of drugs cause pleasure, their

chronic administration leads to dopaminergic depletion, resulting in anhedonia and craving. But, as this circuit is also connected with areas related to the response to environmental clues, explanations for addictive behavior must include a bio-psycho-social perspective (as we have described above). The authors mention two of these models: the "learning hypothesis" (about the reinforcing reward-related learning), and "incentive salience", mentioned above.

But the authors´ main interest is to relate the dopaminergic reward system with another circuit, the serotoninergic system, which originates in the midbrain raphe nuclei, sending axons to the ventral tegmental area, the nucleus accumbens, and prefrontal cortex. Drugs can also release serotonin in the mesolimbic pathway, which interacts with the dopamine system, and, depending on the receptors involved, the 5-HT agonist can either increase or decrease dopamine release. Two neurochemical models for treating addiction in the mesolimbic dopaminergic pathway are the "antagonist model" (which blocks dopamine release with neuroleptics), and the agonist model or "neurochemical normalization therapy" (which uses less potent drugs to increase dopaminergic release). In this regard, ayahuasca is considered by the authors as an ideal biochemical treatment since it normalizes the reward pathway. According to the authors, ayahuasca acts through opposing mechanisms: one that raises dopamine levels and the other that decreases them, a "… therapeutic window between withdrawal and reinforcement" (Prickett & Liester, 2014, p. 118). The authors call this model the "biochemical hypothesis". But they also consider and describe other models such as the "physiological hypothesis" (the idea that the physiological effects of ayahuasca help in "rewiring" the "hijacked" reward pathway by the "pathological learning" of the addiction behavior), the "psychological hypothesis" (ayahuasca facilitates access to unconscious memories, repressed emotions and unresolved traumas, and it also helps to provide increased insight and biographical understanding), and the "transcendent hypothesis" (ayahuasca facilitates transcendent or peak experiences that change beliefs, values and worldviews). All these biochemical, physiological, psychological and transcendent theories, usually stress the psychotherapeutic effect of the mechanisms involved. But I would like to add that the mechanisms involved in the cure are general cognitive dispositions, which are not directly and necessarily related to a psychotherapeutic effect. In fact they may have a negative effect or cure as long as the patients pay the price of full commitment to an inappropriate social group or system of beliefs. Processes such as discrepancies, decentering, the search for new meanings, attribution and suggestion are not necessarily good or bad, healthy or harmful, but depend on the ritual design, the individual's mindset, and the cultural, social and institutional context.

To understand this, we need to consider other levels of analysis that a purely "biochemical hypothesis" cannot consider. For example, according to Charles Grob (1999) there are recurrent

experiences during ayahuasca rituals: alteration of thought, alteration of sense of time, fear of loss of control, changes in emotional expression, changes in corporal image, perceptual alterations, changes in meanings, sense of the ineffable, hypersuggestionability, etc. All these features match the model presented by McKenna & Riba but, taking the experience as a whole, Grob remarks how experiences are extremely sensitive to the extrapharmacological factors of set and setting,

> Reports of specific ayahuasca effects vary greatly depending upon the cultural context, which may range from traditional native Amazonian ritual, to mestizo healing ceremony, to syncretic religious structure, to inquisitive Euro-American psychonautic exploration […] Depending upon the belief system of participants, both collective and individual, ayahuasca visionary experiences are shaped (Grob, 1999, pp. 76, 78)

Grob mentions the visionary experiences common to various native groups of South America: for example, the perception of the separation of the soul from the body, visions of animals of the rainforest, visions of distant persons and places, seeing recent unsolved crimes. These experiences cannot be divorced from certain folkloric uses of the brew, such as acquiring powers or knowledge transmitted by the spirits of plants and animals, the practice of clairvoyance, curing someone who has been bewitched by another shaman, solving crimes, among others. All these uses could also be considered as medical ones, but not in the therapeutic Western sense. They probably involve discrepancies, mismatches, interoception, memories of the past, emotional processing and the search for meaning, but they are not particularly configured in a psychotherapeutic plot. In my fieldwork in Latin America, I have interviewed both *curanderos* and Western participants of ceremonies, and I have recorded a variety of experiences (Apud, 2013b, 2015b). Looking back at my research on the theories discussed in this section, it seems that the bottom-up effect, and the breakdown of top-down constraints could be the same in Westerners and *curanderos*, but the content and the direction of the experience take a diversity of forms, depending on cultural, personal and medical factors. So ayahuasca rituals can be regarded as a non-specific way of solving various problems, in both the traditional context (e.g. witchcraft, cultural syndromes) and the Western one (e.g. existential and personal problems, depression, addictions). As Sara Lewis points out, the outcome of the experience will depend on a cultural supportive context, which Westerners usually find in psychotherapy as a sanctioned institution:

> Quite unlike shamanic initiates, Western ayahuasca users have little cultural support and guidance within which to contextualize their powerful experiences. All of my Western informants feared they had become seriously mentally ill as a result of the acute and debilitating distress they struggled to understand. Indigenous shamanic initiates, on the other hand, have the support of the master *curandero* (as well as their family, community and culture at large), who helps the initiate to integrate and understand the distress that invariably results from ayahuasca. I argue that for Westerners who use ayahuasca in any number of various forums available, psychotherapy (a culturally sanctioned institution) has the potential to help individuals make meaning of their experiences and integrate them into culturally relevant methods of learning (Lewis, 2008, pp. 110–111).

According to Lewis, without a cultural framework to support these experiences, it is more possible for negative psychological effects to emerge, as well as fantasies of being mentally insane or sick. So to better understand the therapeutic outcome of the ritual, we need to focus on the cognitive experiences it triggers, and consider its possible positive, neutral or negative uses in different socio-cultural settings. I will use these ideas to analyse six cases of former addicts treated with ayahuasca.

Section IV

The ayahuasca ritual as an addiction treatment in Catalonia

Methodological considerations and qualitative research

The aim of this section is to use the theoretical model presented above to explain how the ayahuasca ritual healing works in the case of addictions. As has been mentioned, this study is not an assessment of the efficacy of the treatment, but a qualitative analysis that tries to uncover the mechanism that allows ritual healing to achieve its therapeutic goals. I analyze the biographical narratives of six cases of addicts who used ayahuasca to recover: four of these cases were treated by Fábregas, and two came from the psycho-spiritual networks of Catalonia. Explaining those cases with both cognitive and cultural approaches will help us to see ritual healing in all its complexity, and not necessarily always producing positive outcomes. As the Ancient Greeks knew, a *pharmakos* is a double-edged sword: depending on how it is used, it can heal or it can harm. I will try to show this tension in one of the cases in which healing takes place within a controversial institution.

The method in this part of the research is qualitative: it focuses on the case and uses a biographical approach. As is well-known, in qualitative research the selection of cases is different from that of quantitative research, since the main goal is not to detect certain cause-and-effect relationships in a sample and infer them to a whole population, but to describe and analyze the cases chosen, in terms of qualitative processes and meanings (Marradi, Archenti, & Piovani, 2007; Samaja, 1998; Valles, 1999), and in a feedback loop between theory and the empirical data emerging from the fieldwork (Glaser & Strauss, 1967; Hammersley, 1989). Although the theoretical framework of this research is presented in section of its own, separate from the qualitative description and analysis of the cases, it is important to mention that the theory and the empirical findings were not completely different temporal stages in this study. As in most qualitative research, theory and fieldwork were carried out in a feedback loop, and elements of the analytical model were considered as the cases were collected and analyzed. For example, spiritual experiences were defined as not necessarily including superhuman agents because of the empirical findings of spiritual experiences without spirits (for example, in the self-spiritual experiences of unity, joy, existential angst or remembrances).

The cases that influenced this model are not only the ones studied in this dissertation, but also others from previous studies during my fieldwork in Latin America. As I have mentioned, since the beginnings of my fieldwork into ayahauasca I have interviewed participants who have found ayahuasca to give them a positive outcome for their therapeutic demand. This demand includes addictions but also other problems such as depression or post-traumatic disorder. The effectiveness of the ritual varies from case to case, and some participants I met did not find a solution for their ailment. As is widely accepted, the result of one particular case does not validate or invalidate the medical efficacy of a treatment. But I should add that even if a treatment only

works for a few cases, we should consider that the treatment is necessary anyway, since sometimes these cases only find a solution in strategies that do not work for the rest of the population. More than half of the cases studied here could be resistant to conventional treatments, and they finally overcame their dependence through the unconventional practice of drinking ayahuasca in a ritual setting.

Description of the cases

The unit of analysis of this part of the research are former patients who recovered from an addiction disorder using the ayahuasca ritual as the main treatment, in the period of time between 2000 and 2016, and in the geographical region of Catalonia, Valencia and the Balearic Islands. The geographical zones were less important than the connection between the groups studied, since the idea was to start with the cases treated in IDEAA and then, in a snowball sampling procedure, access other cases from other centers created by former therapists and/or patients who later became therapists, and who are currently working in the treatment of addictions. In this way I contacted three more centers founded after IDEAA: one in Catalonia, one in Valencia and one in the Balearic Islands (I will not use any cases from the last center, only two who are members of the center but who were treated in IDEAA and recovered there). All these centers share a common style in their ritualistic and therapeutic strategy, a style that can be traced back to the ritual design of IDEAA, and which will be described in the article about the cases of four former addicts from the center. Finally, I decided to study another group from Catalonia that has no relation to IDEAA or the other groups. The objective is to analyze the similarities and differences between the ritualistic and doctrinal features of the group and the style of the IDEAA-type groups. In the second article of this section I compare this group with a post-IDEAA group currently working in Catalonia. I describe and analyze not only the groups but also one case treated by each center.

The criteria for selecting the cases involved a cluster of features that included being a former addict and having been cured of the addiction by ayahuasca. But these features are not so easy to define as it seems at first sight. Firstly, an addict and a non-addict drug user are not always easy to distinguish. At first glance, some characteristics seem easy to identify, but in practice are not easy at all. Addiction is usually characterized as seeking and taking drugs despite their harmful consequences. It is a repeated behavior, characterized by the inability to stop, the increasing frequency of dosage, the uncontrollable craving, and the avoidance of withdrawal, which results in distress or in a negative impact on daily life. However, like any definition, when grounded and operationalized, there are a variety of nuances. For example, the degree of seriousness of the problem usually separates use, abuse and addiction/dependence itself. Both ICD-10 and DSM IV-R use this distinction. Furthermore, there is a wide variety of cultural uses, lifestyles, and ways of

attaching meanings to the different drugs, so it is important not to assume that the regular use of any drug is directly related to an addictive or abuse behavior (Romaní, 2008).

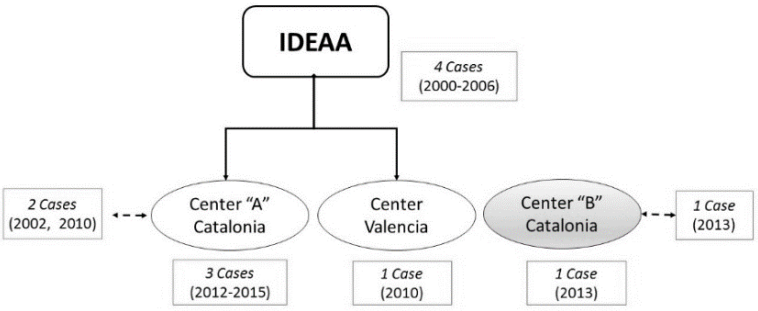

Figure 13. Network of the groups and cases studied.

Another problem is that dependence sometimes does not have physiological symptoms, only psychological ones. For the ICD-10 (WHO, 2007), drug dependence should include at least three symptoms from a list of six: craving, inability to control consumption, withdrawal, tolerance, increase of the time used in drug-related activities and in detriment to other sources of pleasure, and persistence of consumption despite its harmful effects. Of the six elements on this list, only two are directly associated with physical dependence. These symptoms must be manifested for at least one month, and should persist for a period of twelve months. Likewise, the DSM IV-R assumes the centrality of psychological dispositions, since only two of the seven elements on its list are related to physiological dependence. The DSM V (APA, 2013) tries to avoid stigmatization by using the concept of "substance-related disorder", instead of the classic concepts of addiction and drug dependence. For this latest version of the manual, the disorder is a cluster of cognitive, behavioral and physiological symptoms that persist beyond detoxification, and despite the clinical problems associated with the intake of the drug. The manual proposes eleven criteria grouped into various categories: impaired control over substance use (larger amounts or over a longer period, persistent and unsuccessful efforts to discontinue substance use, spending a significant time on drug-related activities, craving), social impairment (failure to fulfill major social daily obligations, continued use despite social problems caused by the substance, daily activities given up or reduced because of the substance), risky use (the use causes physically hazardous situations, the use causes physical or psychological problems), pharmacological criteria (tolerance, withdrawal). Again, the role of physiological dependence is not central to the diagnosis of the disorder. Besides, the severity of the disorder depends on how many symptoms are identified in a range that goes from mild (2 or 3 symptoms) and moderate (4-5 symptoms) to severe (six or more).

Another problem is the criteria for measuring whether a patient has recovered and is in remission from an addictive pattern of behavior. One of the difficulties is to determine how long patients need to be treated so that it can be said that they have recovered. Another difficulty is

evaluating relapses and the role they play in the recovery process (Becoña Iglesias et al., 2008). For example, in most of the cases studied, there is usually at least one consumption of the substance after the end of the treatment, mostly associated with a traumatic event (e.g. the death of a relative or an important friend), but which is controlled by the individual, who subsequently returns to complete abstinence again. Considering all these difficulties, the cases were selected for this research in accordance with the following inclusion criteria:

1. At least 12 months of problematic use of the substance. This is the criterion usually used by handbooks such as ICD and DSM. Most of the cases we selected had been taking drugs compulsively for years and even decades.
2. Significant social and psychological impairment caused by drug use. This is a controversial criterion, since some substances like tobacco cause addiction with no significant social or psychological impairment. But, as part of the operational definition for this research, the criterion is useful because it is a strong indicator of a severe pattern of dependence.
3. The inability to control the consumption and dosage administered. This loss of control can be associated both to physiological and/or psychological dependence, so this criterion does not necessarily consider physical dependence as a main feature, although tolerance and withdrawal were self-recognized by the subjects in most cases (11 and 8 out of 12, respectively).
4. The subject was considered to have recovered after at least 12 months without compulsively taking drugs. This does not include the occasional single consumption/relapse, when it has no significant consequences for the progression of the treatment.

On the basis of these criteria, three cases were excluded from the final analysis. Two cases did not fulfill criterion 2, and one case criterion 4. The final sample consisted of 12 subjects (10 males, 2 females), with a mean age of 41.8 (minimum 22, maximum 57), residing in Catalonia and the surrounding autonomous communities (Table 2).

Table 2. Birthplace and residence of the cases studied.

Community/country	Birth Place	Residence
Catalonia	6 (50%)	8 (66.7%)
Valencia	2 (16.7%)	1 (8.3%)
Balearic Islands	1 (8.3%)	3 (25%)
Madrid	1 (8.3%)	-
France	1 (8.3%)	-
Italy	1 (8.3%)	-
Total	12 (100%)	12 (100%)

Most cases were from a middle-class context, and had completed at least their secondary education (Figure 14). They had requested assistance after problems with cocaine, followed by heroin and alcohol (figure 15).

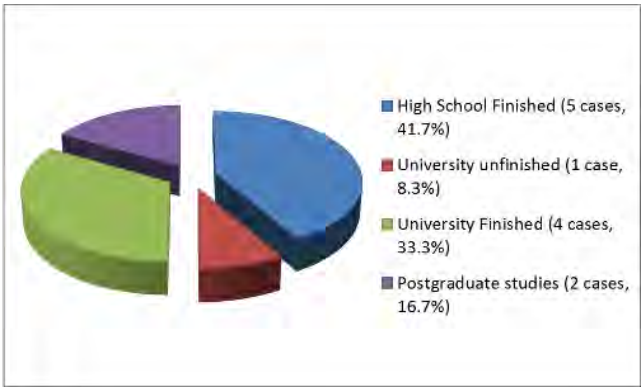

Figure 14. Educational level.

Four cases are former patients of IDEAA, and will be described and analyzed in the article "Ayahuasca in the treatment of addictions. Study of four cases treated in IDEAA, using an interdisciplinary model that combines cognitive and cultural perspectives". Three cases came from center "A" in Catalonia, and one case from a center in Valencia. Both of these centers were founded by therapists who were part of IDEAA. Another case came from center "B" in Catalonia (see Figure 13). Finally, three cases recovered on their own in ceremonies in Spain and/or Peru. Of these three cases, two were contacted during fieldwork in center A and one in center B, but they used ayahuasca to cope with their addiction problem before they had participated in those centers.

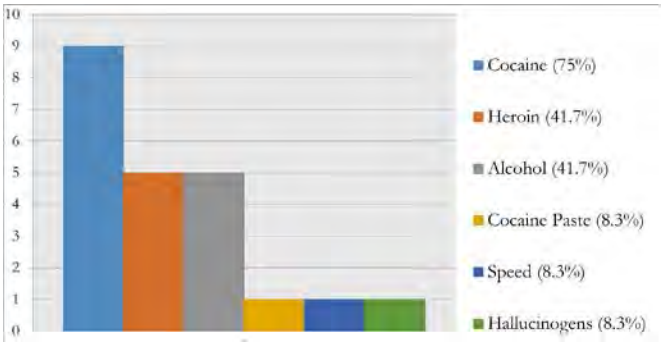

Figure 15. Therapeutic Demand.

Ayahuasca´s spiritual experiences in the 12 cases studied

After analyzing the 12 cases, it is difficult to assign a single model to all the experiences of the participants. Biographical reviews and psychological insights were the most common experiences, and the ones the patients considered to be of most therapeutic value. As both Fernández & Fábregas (2014) and Loizaga-Velder & Loizaga Pazzi (2014) describe, these categories include childhood remembrances, memories of negative events related to the drug, damage caused to relatives and friends, traumatic episodes, personal conflicts, insights into psychological patterns, a

sense of self-awareness and the recognition of positive personal resources. These experiences are not strictly spiritual, but mostly psychological in content. They are mostly associated with emotional states such as happiness, relief, sadness, grief, rage, shame, forgiveness and love. Emotional experiences can also be accompanied with embodied experiences, such as physical suffering, vomiting, the sense of being cleansed or released from a psychological burden, convulsions and the experience of remembrances as residing in particular areas within the body. Remembrances, insights, and emotions are usually connected to social dispositions, mainly through experiences of guilt, empathy, self-forgiveness and moral intuitions. These is not mere coincidental associations, since biographical memories and emotions are strongly connected to our relations with others. We are social beings, and we construct our identity in social interplay. Narratives of the self are always about agents with intentions, in a social scenery with rules and a sense of what is right and wrong (Bruner, 1986). In the case of being treated for drug dependence, patients have no option but to go through the social consequences of the pattern of behavior associated with the drug. Most of the individuals studied believed that an essential part of the process was to put themselves in the shoes of relatives and friends, to understand the damage they had done to them, to ask for forgiveness and to forgive themselves. So the boundaries between each category are not well defined in most of the cases. Memories come with emotions, and neither of these are related to an isolated psychological self. Ayahuasca rituals seem to intensify these processes and their interconnections.

Finally, a variety of spiritual experiences are also present: near-death experiences, traveling to other places, watching heavenly landscapes, enactment of fantasies, a feeling of union, out-of-body experiences, sexual spiritual experiences, clairvoyance, possession, death-and-rebirth experiences, feelings of connection with nature, communication with spirits, being possessed by entities, feeling an energy passing through the body. Although the literature about this kind of experience usually emphasizes the positive "bright" ones, negative "dark" experiences also occur, with strong visions of hell, dark landscapes, evil entities, and sinister situations,

[Case 1]

> My first work [with ayahuasca] was like… I cannot find the word… a catalogue? ... when it was shown to me… I saw a kind of hallway, a kind of hell, with catacombs and so on, and there were doors, and on each door there was a theme…

[Case 2]

> I started seeing a monster, a huge, huge demon […] At the beginning, my thoughts were 'this is something wicked, from outside, that wants to enter me' […] But in the middle of the session I saw an umbilical cord that came out of the monster and that was connected to me. So I said 'this is not from the outside' […] I fell onto my knees and said to myself 'I have to recognize my dark side' […] I came out of the ceremony totally unstructured […] and it took me a lot of work to come to terms with what happened in that session…

[Case 3]

> I lost consciousness and blacked out… they told me I fell to the floor. Everybody got scared, they thought I was dead. I have no idea where I was… I was in a place, like from another dimension. There were noises, chaos… creaks. And I was wondering, 'Where am I?!' There were metallic noises, creaks, and I was inside some kind of cube… I really do not know where I was. I was really scared… metallic noises, creaking, horrifying… very unpleasant. Like if you get stuck in a factory with blast furnaces, cutting saws… a kind of hell… […] Then a telephone rang. I took the call and that is when I came back…

These negative experiences are sometimes counterproductive for participants, because they cause strong fear and stop them from coming back to an ayahuasca ritual for a long time. But in some cases they have an important therapeutic value, since they provide some obscure meaning that gives them an important message when it is decoded.

In our 12 cases the moderate psychological (biographical and insightful) experiences are more common, but in some cases the great experiences – both positive and negative – are the main catalyst of the healing, as we will see in the case of Daniel, the last article in this section. However, spiritual experiences cannot be divorced from other experiences, since there is usually a plot or a theme connecting transpersonal/spiritual experiences with personal/psychological ones.

The spirit of the plant as a superhuman agent

As has been mentioned above, a spiritual experience does not necessarily involve a spiritual superhuman agent, but this sort of presence is by no means exceptional. The contact with spirits in the 12 cases analyzed includes dead or alive relatives or friends, animals, God and native people. But the most important, and most often mentioned is the contact with ayahuasca as a teacher plant, which has the strategic knowledge and ability to both heal and teach:

[Case 4]

> I experienced ayahuasca as a teacher plant, with its own consciousness. It is hard for me to say this but… That is how I experienced it…

[Case 5]

> It is a teacher plant, I believe that it gets into all your nooks and crannies, and it finally takes you where you have to go. And, in fact, from my own experience I believe that you must not control the situation, but let yourself go. Because when you let yourself go, it takes you where you have to go, and even if you do not believe at that moment that it is important, the plant is wise, and it took you there for a reason…

Not all participants believe the plant to be the same sort of superhuman agent. Some of them have a direct experience with the plant, communicating with it in a variety of ways, or experiencing it as an embodied manifestation:

[Case 4]

> I have the sensation that ayahuasca… when I was at the peak of the experience… I opened my eyes and it was like the consciousness of the plant had possessed me. As if it was opening my eyes, to see the world as I was seeing it. As it had fully possessed me, the ayahuasca opened my eyes to take a look, and it was like it was studying the world from my perspective. And after that […] the plant traveled inside my body […] trying to clean it.

Other participants describe the plant as the main agent of the experience, but they do not experience it as a singular entity or a real presence. In this sense, ayahuasca can be explained either as an entity or as an expression to refer to the experiences produced by the brew:

[Case 6]

> [Ayahuasca] is a gateway to the other world… a gateway that connects me with my spirituality, with my inner God, with nature. But it does not have a name, it is not a plant, it is not a vine that presents itself to me.

But, despite these different versions of what ayahuasca is and is not, there is a common belief in spiritual networks that ayahuasca is a special kind of superhuman agent, residing within the brew, and that it is the true healer and the one that connects the participants to a spiritual realm. This is an important element in the effectiveness of the ritual, as has been described in the model presented in this section and the sections above.

Experience, narrative and conversion

Finally, the theoretical model presented shows that it is not only the experience that plays a role in the cure, but also the memory of the experience. Ritual events are stored in the memory and are re-signified in daily social interactions, triggering a new search of meanings that produces a dynamic narrative of the self. As we have seen in the previous articles, there is an important connection and dialogue between the experience produced during the ritual, and how the memory of this experience is integrated into the biographic narrative of the self. This integration could be considered to be one of the most important elements in the recovery of patients, since it produces changes at different levels (neurobiological, psychological, social, cultural) and through different channels (psychosomatic, psychoneuroimmunologic, social cognitive dispositions). In the cases analyzed in this section, the integration of these experiences in the narrative of the self produced a variety of commitments and/or conversions, which are reflected in the belief in a spiritual realm in most of the 12 subjects studied (Table 3).

Table 3. Religious affiliation before and after ayahuasca.

Religious Affiliation	Before ayahuasca	After ayahuasca
Agnostic/atheist	6 (50%)	1 (8.3 %)
Catholic	3 (25%)	1 (8.3 %)
Spiritual/no affiliation	3 (25%)	6 (50%)
Spiritual/Santo Daime	-	3 (25%)
Spiritual/Reiki	-	1 (8.3%)
Total	12 (100%)	12 (100%)

As I proposed in section II, "spiritual ontology" is an intuitional kind of belief, which consists of the belief that consciousness is something beyond the extended world. It is the property that, when transferred to other beings, implies belief in spirits. So this belief can involve the experience of interacting with other superhuman or spiritual agents, but it is not a necessary condition. ASCs play a major role, since they give factuality to such beliefs. In these states, the participants have first-hand experience of this spiritual realm. In the specific cases studied in this research, the interpretation of the experiences is varied, and not necessarily codified in a system of beliefs or a specific doctrinal corpus:

[Case 7]

> This reality [the material world] is as spiritual as [the spiritual world]… for me, that is how I experienced it. I saw how we, as beings of light, project ourselves in this world to evolve in the best way we can, and this implies that this world is spiritual, sacred, a projection of what exists in the other reality.

[Case 4]

> I experienced it as a connection with myself and with everything. A connection with the whole universe and the whole of existence… with all life and life organisms… but a strong connection with myself too…

The reflections on spirituality can be more or less generic, and the interpretations are diverse, particularly in those centers where there is no canonical view or doctrine. This contrast is addressed in the last article of this section, which discusses two centers with different styles.

Articles in section IV

- Apud, Ismael. Ayahuasca in the treatment of addictions. Study of four cases treated in IDEAA, using an interdisciplinary model that combines cognitive and cultural perspectives (draft version; not published yet).

- Apud, Ismael. Ayahuasca, addictions, and ritual healing in Catalonia. A qualitative study of two cases using an interdisciplinary model that combines cognitive and cultural perspectives (draft version; not published yet).

Ayahuasca en el tratamiento de adicciones. Estudio de cuatro casos tratados en IDEAA, desde una perspectiva interdisciplinaria.

(*Ayahuasca in the treatment of addictions. Study of four cases treated in IDEAA, using an interdisciplinary perspective*).

Resumen: La ayahuasca es una sustancia psicoactiva de origen amazónico, usada tradicionalmente con fines espirituales, médicos y religiosos. En los años 1990s el compuesto adquiere gran popularidad, tanto a través de las redes internacionales de espiritualidad y religiosidad, como en el denominado "renacimiento de los estudios psicodélicos", donde se retoma la investigación y experimentación sobre los posibles usos clínicos de éstas sustancias. El presente artículo es un estudio de cuatro casos de adicciones tratados en IDEAA, un centro dedicado al tratamiento de adicciones, con pacientes españoles llevados al Amazonas de Brasil. Los cuatro casos serán estudiados a través de una metodología cualitativa del tipo biográfica. Desde un punto de vista teórico se analizará la cura ritual desde una perspectiva interdisciplinaria donde variables cognitivas y culturales son integradas bajo un enfoque interdisciplinario.
Palabras clave: tratamiento de adicciones, ayahuasca, IDEAA, cura ritual, cognición, cultura.
Abstract: Ayahuasca is an Amazon psychoactive compound traditionally used for spiritual, religious, and medical purposes. In the 1990s the brew gains popularity, both through the transnational networks of religiosity/spirituality and the renaissance of psychedelic studies, where these kind of substances are investigated for its possible clinical applications. The current article is a study of four cases from IDEAA, a center that was dedicated to the treatment of addictions, in patients from Spain, taken to the Brazilian Amazon forest. The four cases will be studied from a qualitative methodology, using a biographical approach. From a theoretical point of view, the ritual healing will be analyzed using an interdisciplinary perspective, where cognitive and cultural variables are integrated under an interdisciplinary approach.
Key words: addiction treatment, ayahuasca, IDEAA, ritual healing, cognition, culture.

Introducción

La *ayahuasca* –del quechua, *aya*, espíritu, alma; *waska*, enredadera, liana; comúnmente traducida como "liana de los espíritus"– es un compuesto psicoactivo proveniente del Amazonas, preparado usualmente mediante la combinación de dos plantas. Por un lado la *Banisteriopsis caapi*, liana selvática que contiene harmina, harmalina y tetrahidroharmina. Por otro la *Psychotria viridis*, arbusto que contiene N,N-dimetiltriptamina, más conocida como DMT. En el contexto indígena tradicional amazónico más de setenta grupos utilizan el compuesto, con fines religiosos, mágicos y médicos (Luna, 1986). A su vez a lo largo del siglo XX aparecen en Brasil nuevos usos religiosos del brebaje, a través de iglesias que combinan de distinta manera umbandismo, espiritismo kardeciano, catolicismo y chamanismo amazónico: en 1930 la Iglesia de *Santo Daime*, en 1945 la de *Barquinha*, y en 1961 *União do Vegetal* (UDV). En la década de 1990, una de las ramas del Santo Daime, el *Centro Eclético da Fluente Luz Universal Raimundo Irineu Serra* (CEFLURIS), así como también la UDV, comienzan un proceso de expansión internacional, en paralelo con la popularización del brebaje en las redes transnacionales de espiritualidad y terapias alternativas (Labate y Jungaberle, 2011). Por último y acompañando este proceso de transnacionalización, la ayahuasca comienza a adquirir protagonismo en el denominado "renacimiento de los estudios psicodélicos" (Sessa, 2012), a través de distintos estudios clínicos sobre sus potenciales aplicaciones psicoterapéuticas, y la emergencia de distintos centros terapéuticos.

Uno de estos centros fue el *Instituto de Etnopsicología Amazónica Aplicada* (IDEAA), fundado por el psiquiatra barcelonés Josep María Fábregas en el año 2000, en la selva amazónica de Brasil, bajo el objetivo de tratar aquellos pacientes españoles con problemas de dependencia que mostraban ser resistentes a los métodos convencionales. El presente artículo es un estudio de cuatro casos clínicos que fueron tratados en dicho centro hace ya casi una década. El estudio no pretende ser una evaluación de la efectividad del tratamiento sino un análisis cualitativo que intenta abrir visibilidad sobre los distintos factores que intervienen en la cura ritual, desde un modelo interdisciplinario que contempla la integración de variables cognitivas y culturales.

En la primera sección se mencionarán brevemente los estudios científicos sobre los efectos de la ayahuasca en la salud mental y en el campo de las adicciones. También se propondrá un modelo interdisciplinario para entender la cura ritual en general, que será aplicado al caso específico de la ayahuasca. La segunda sección describirá brevemente el método biográfico y etnográfico utilizado. También se mencionarán investigaciones anteriores que han utilizado técnicas biográficas para el análisis de las experiencias de adictos tratados con ayahuasca. Habiendo presentado el marco teórico y la metodología, en las siguientes secciones se estudiarán los casos propuestos, intentando no sólo realizar un análisis descriptivo, sino también ahondar en los factores culturales y cognitivos subyacentes a la cura ritual.

Adicciones y cura ritual desde una perspectiva interdisciplinaria

Si bien los estudios clínicos sobre la ayahuasca son escasos y con ciertas limitaciones metodológicas, la literatura científica existente parece indicar no solo la ausencia de efectos adversos, sino también efectos positivos, tanto a nivel general (Barbosa et al. 2009; Barbosa, Giglio y Dalgalarrondo, 2005; Bouso et al., 2012; Grob et al., 1996; Halpern et al. 2008; Riba et al., 2002) como en el tratamiento de pacientes con problemas de abuso de sustancias (Fábregas et al., 2010; Grob et al., 1996; Loizaga-Velder y Verres, 2014; Mabit y González, 2013; Thomas et al. 2013). En el presente artículo se presentará un modelo interdisciplinario para entender aquellos casos donde se produce la cura ritual a través de la ayahuasca. Se partirá de un enfoque que integra la perspectiva cultural y crítica de la antropología médica, con distintas vertientes de las ciencias cognitivas que han abordado de distinta manera el estudio de los rituales religiosos (e.g. neuropsicología de la religión, ciencia cognitiva de la religión). En el caso de la antropología médica, el estudio etnográfico del uso de psicoactivos en sociedades tradicionales ha demostrado que los mal o bien llamados "alucinógenos" son frecuentemente utilizados en las farmacopeas tradicionales en forma religiosa y/o medicinal. El uso de dichas sustancias suele encontrase dentro de un uso ritualístico que involucra distintas técnicas, símbolos y artefactos culturales, encargados de manipular la cognición y los estados de conciencia (Apud, 2013, 2015). En el modelo propuesto en el presente artículo se

desagregará el ritual en sus distintos componentes y técnicas culturales que involucra, así como las funciones cognitivas que usualmente son manipuladas durante el mismo (Figura 1).

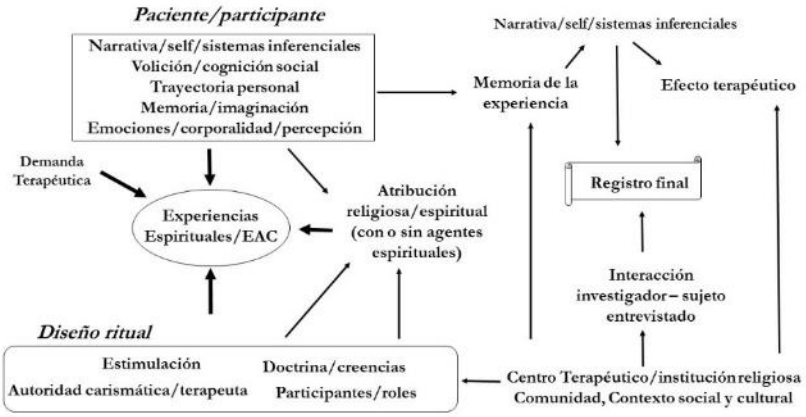

Figura 1. Modelo Ritual.

La cura ritual es una *performance* dramática, que involucra como mínimo la interacción entre un terapeuta o autoridad carismática, y un paciente o participante, bajo el objetivo de dar solución a una demanda terapéutica (Kaptchuk, 2002). Tanto el estilo de conducción ritual del terapeuta o autoridad carismática, como la trayectoria personal del paciente incidirán en el efecto y la experiencia ritual. A su vez, en la interacción social que supone todo ritual, paciente y terapeuta no se encuentran aislados, sino en el marco de una comunidad y contexto cultural que también incide en la experiencia, independientemente de la presencia directa o indirecta de otros miembros durante el transcurso del mismo. Por último, la presencia "directa" o simbólica de agentes sobrehumanos (e.g dioses, espíritus, ancestros) incrementa el componente de sugestión carismática, en tanto la agencia sobrenatural es un "otro" que posee un "acceso total a conocimiento estratégico" (Boyer, 2001).

La cura ritual es efectiva cuando esta *performance* activa mecanismos que desencadenan a corto o mediano plazo un efecto terapéutico positivo sobre la salud del paciente. Si bien desde la perspectiva biomédica clásica se han entendido dichos mecanismos bajo la etiqueta del efecto placebo y sus mecanismos inespecíficos, desde hace ya unas décadas han surgido distintas propuestas que buscan abrir la caja negra del placebo, e intentar comprender dicho efecto. Por ejemplo, desde la antropología médica, Daniel Moerman (2002) plantea el efecto como una "respuesta de sentido", donde la adjudicación de significados y creencias a una demanda terapéutica desencadena una serie de procesos neuropsicológicos de alivio y/o curación. Cabe destacar que la efectividad o respuesta simbólica no necesita de una estructura mítica o narrativa compartida entre terapeuta y paciente, sino solamente ciertas condiciones terapéuticas que desencadenen en el paciente la búsqueda de cierto sentido personal, y la construcción de nuevas narrativas autobiográficas que impacten sobre el estado físico, psicológico, el estilo de vida y el

comportamiento social del individuo. Desde la *Ciencia Cognitiva de la Religión* se han planteado distintos modelos para entender el ritual y sus efectos cognitivos, describiendo una amplia variabilidad de factores como la estimulación sensorial y emocional, la memoria semántica o episódica, el grado de sugestión/volición, la cognición social, entre otros (para una revisión del campo, ver Czachesz, 2017). Desde la neurociencia de la religión, Patrick McNamara (2009) concibe el ritual como espacio donde se utilizan técnicas de "descentramiento" del *self*, que producen una debilitación de los aspectos volitivos de las funciones ejecutivas, habilitando una navegación imaginativa por contenidos no conscientes relacionados con la memoria, las emociones y el *self*, y la potencial producción de nuevas configuraciones narrativas. A su vez, en los tres campos mencionados se ha planteado en mayor o menor medida cómo estos procedimientos de sugestión y alteración de la conciencia pueden desencadenar respuestas psicosomáticas y psiconeuroinmunológicas, relacionadas con las capacidades naturales del cuerpo humano para autocurarse –efecto placebo-, o autodañarse -efecto nocebo-. Sería importante agregar que, si bien la cura ritual puede ser algo positivo en sí misma, el contexto en el que se produce puede no serlo, siendo que la cura ritual puede actuar como evento legitimador dentro de una organización religiosa o un líder carismático negativo a largo plazo.

Método biográfico y narrativas de curación

En el presente artículo, analizaremos cuatro narrativas de curación, provenientes de ex pacientes que realizaron su tratamiento de recuperación de adicciones en IDEAA. Los materiales utilizados abarcan por un lado las narrativas biográficas directamente recolectadas en la interacción cara a cara con los sujetos, a través de entrevistas semidirigidas. Por otro lado, y para los casos 3 y 4, se utilizaron también diarios personales y otros documentos producidos por los entrevistados. Para la contextualización de la experiencia de IDEAA, se consultaron tanto artículos escritos por profesionales del centro, como entrevistas en profundidad realizadas al director del centro, pacientes y terapeutas que participaron en dicha experiencia. El uso de una metodología cualitativa del tipo biográfico resulta central, dada la importancia de la construcción de narrativas del *self* en el modelo de cura ritual propuesto. Partiendo de un análisis de las narrativas biográficas de estos cuatro casos, la propuesta es analizar en términos tanto cognitivos como culturales de qué modo puede entenderse el proceso de curación de la adicción por medio de la ayahuasca.

Como antecedentes académicos sobre investigaciones que han usado metodologías cualitativas del tipo biográfico en el estudio del tratamiento de adicciones por medio de la ayahuasca podemos mencionar el proyecto pionero de Grob et al. (1996), donde se aplicaron a miembros de la UDV de Manaos entrevistas de relatos de vida, acompañadas de distintos cuestionarios de evaluación psicológica. En los relatos recabados, surgió como temática frecuente una capacidad de

autoreconocimiento y transformación del camino destructivo de su comportamiento. Loizaga-Velder y Verres (2014) y Loizaga-Velder y Loizaga Pazzi (2014) registran testimonios similares a través de entrevistas cualitativas a adictos tratados con ayahuasca, destacando un mejor entendimiento de las causas psicológicas y personales que llevaban a la conducta de dependencia, una movilización de recursos positivos, la importancia de experiencias espirituales y trascendentales como reforzadoras del sentido y propósito de vida, y la conexión con una "energía espiritual" que trasciende al individuo. Otro artículo de importancia es el de Fernández y Fábregas (2014), donde se analizan los testimonios de pacientes tratados en IDEAA (ver más adelante). Un último estudio es el de Talin y Sanabria (2017), donde se realiza un estudio etnográfico de las trayectorias de siete sujetos de nacionalidad italiana, recuperados de un problema de adicción en su pasaje por la iglesia de Santo Daime. Los autores recogen las narrativas de los participantes, analizando como el efecto de cura no depende solamente de factores farmacológicos, sino principalmente de un universo semiótico y social en el que el participante es introducido.

Las descripciones cualitativas parecen coincidir con los datos obtenidos a nivel neurológico. Por ejemplo, en un estudio mediante SPECT, Riba y colaboradores (2006) describen patrones de activación cerebral relacionados con representaciones corporales y sus estados emocionales asociados (ínsula anterior derecha), aspectos motivacionales relacionados al procesamiento de emociones (circunvolución frontal medial, corteza cingular anterior), procesamiento de memoria y valoración de emociones negativas (giro parahipocampal y amígdala izquierda). McKenna y Riba (2015) proponen que la ayahuasca, al igual que otros psicodélicos clásicos, produciría una reducción de los constreñimientos cognitivos de las funciones ejecutivas, así como el incremento de la excitabilidad a varios niveles cerebrales en las áreas de asociación. Esto generaría por un lado la entrada a la conciencia de información a la que usualmente no se tiene acceso, y por otro la producción de nuevas asociaciones y modificaciones del pensamiento, en un intento de dar sentido a las discrepancias entre la información recibida y los modelos preestablecidos. Todo esto produciría, de acuerdo a los autores, un estado psicológico ideal para la introspección y la reflexión personal, así como para la formación de nuevas asociaciones entre recuerdos, ideas y emociones.

Contexto y ritual de IDEAA

Las primeras aplicaciones terapéuticas de psicodélicos por parte de la psiquiatría moderna pueden rastrearse a la década de 1950. Si bien con la llegada de los años 1970s y la "guerra a las drogas" de Nixon se produce una interrupción de la misma, en los años 1990s, y con el llamado "renacimiento de los estudios psicodélicos" (Sessa, 2012), se retoma el estudio de las posibles aplicaciones de estas sustancias, esta vez con la ayahuasca como uno de los protagonistas, dada su popularización internacional. En el caso del tratamiento de adicciones, la ayahuasca comienza ser utilizada en

centros terapéuticos interesados en nuevos enfoques que combinan métodos tradicionales amazónicos y modernos occidentales. Uno de los centros pioneros es *Takiwasi* –del quechua, "la casa que canta"- fundado por el psiquiatra francés Jacques Mabit a fines de los años 1980 en Tarapoto, Perú (Mabit y González, 2013). Otro centro de gran importancia surge posteriormente en lado del Amazonas brasileño, y es el que nos ocupa en el presente artículo.

El *Instituto de Etnopsicología Amazónica Aplicada*, o IDEAA, fue fundado por el psiquiatra barcelonés Josep Maria Fábregas, con el objetivo de tratar casos resistentes de adictos españoles, que eran trasladados al Amazonas brasileño. De acuerdo a Fernández y Fábregas (2013), el perfil de los usuarios era muy diverso, siendo la mayoría hombres, con una edad media de treinta años y acudiendo principalmente por problemas de cocaína. El centro comienza como proyecto piloto en el año 2000 en Belo Horizonte, y es establecido finalmente en Prato Raso en el año 2002, en las cercanías de *Céu do Mapia*, sede internacional de Santo Daime/CEFLURIS (Fernández y Fábregas, 2013, 2014). Actualmente IDEAA no sigue en funcionamiento, principalmente dadas las resistencias encontradas dentro de la comunidad médica, así como las ambigüedades de las interpretaciones legales en torno al uso terapéutico de la sustancia (Apud y Romaní, 2017).

El centro combinó en forma ecléctica y plural distintos procedimientos y herramientas terapéuticas provenientes de distintas tradiciones: elementos regionales provenientes del chamanismo amazónico y del Santo Daime, técnicas y conceptos provenientes de la psicología occidental moderna, así como diversas técnicas y prácticas orientales. A su vez, la coexistencia de pacientes y terapeutas dentro de un lugar aislado en medio de la selva fue en sí mismo un continuo trabajo colectivo psicoterapéutico. De acuerdo a Fernández y Fábregas (2014) las actividades diarias de la semana estaban pautadas desde temprano en la mañana: reuniones de reflexión, expresión y evaluación de los objetivos personales; clases de yoga y meditación zen; trabajos comunales en las tareas para el mantenimiento del centro; trabajos terapéuticos con técnicas de respiración, psicodrama, biblioterapia, terapia individual, naturopatía; clases de portugués; retiros individuales de introspección en las cabañas y elaboración de un diario personal. Finalmente, los sábados se realizaba el ceremonial de ayahuasca denominado "trabajo de *chapéu*", considerado por los autores como el eje sobre el que giraban el resto de las actividades de IDEAA.

El trabajo de *Chapéu* – del portugués, "sombrero", por la forma de la cabaña en la que se hacía- era realizado en la noche, con los participantes sentados o tumbados en círculo, alrededor de una ornamentación central sencilla, dado que el objetivo del ritual era el autoexamen, la meditación y la concentración. Se recomendaba al paciente cerrar los ojos, de modo de poder mirar hacia dentro de uno mismo. Detrás del círculo, los participantes disponían de hamacas, en caso que

necesitaran recostarse. Se realizaban tres tomas, cada una de ellas acompañada de música diferente, de modo de generar distintas emociones y estados,

> Era una especie de camino donde había una subida, una meseta, y una bajada, un aterrizaje. Entonces en cada una de las tomas teníamos una intención. En la primera había mantras, y había música que predisponía, abría y sugería. En el segundo había música disruptiva, que atendía a romper estructuras, a aflorar y a tal, todo eso iba alternándose de música que alteraba y música que conducía. Y la tercera era más de generar alegría y aterrizaje… (Fábregas, entrevista, 2 de diciembre de 2016).

De acuerdo a Fábregas la ruptura de "estructuras" implicaba "romper mecanismos de defensa", para hacer emerger recuerdos, traumas, emociones. La música era elegida en otros idiomas (principalmente músicas étnicas), dado el cuidado especial en no transmitir mensajes ni dogmas. Luego de cada sesión, se realizaba un trabajo de integración, donde cada uno explicaba su experiencia. Los participantes no debían juzgar, pero podían dar su impresión con el fin de ordenar lo sucedido. Fernández y Fabregas (2014) describen IDEAA como un centro pluralístico, con marcos terapéuticos flexibles y horizontales, donde el terapeuta actuaba como guía o facilitador, sosteniendo la experiencia pero sin dirigirla. A su vez, y más allá del uso de ciertas nociones de la filosofía perenne, la cosmología daimista, o la psicología transpersonal, el marco de análisis de IDEAA era considerado como en constante construcción y dinamismo, bajo el objetivo central de acompañar a la persona en su proceso personal. Si bien el trabajo de *chapéu* era el más importante, existían también otros tipos de rituales, como el "trabajo de cabaña" (trabajo individual de cada participante en su cabaña), "trabajo de amanecer" (tomando el brebaje en un horario de la noche para que el efecto de la ayahuasca coincidiera con el amanecer), "trabajo de mata" (caminata por la selva, en silencio y a distancia), "rituales de paso" (especie de graduación en solitario), rituales realizados por chamanes que esporádicamente concurrían al centro, y participación en los trabajos del Santo Daime en *Céu do Mapiá*.

En cuanto a los estudios realizados sobre la experiencia de IDEAA, desde un enfoque cualitativo, Fernández y Fábregas (2014) analizaron los testimonios de 20 personas (4 mujeres, 16 hombres), realizados durante las reuniones de integración en el período septiembre 2003 a enero 2004. Los autores señalan seis temas reiterativos, que mencionan en el siguiente orden de relevancia: i. revisiones del pasado (revisiones biográficas, recuerdos de la infancia, recuerdos de circunstancias relacionadas al consumo de drogas, daños causados a familiares y seres queridos, episodios traumáticos), ii. *insights* psicológicos (de conflictos personales, de patrones de funcionamiento psicológico, de patrones de abuso y dependencia), iii. experiencias de carácter emocional (duelo, tristeza, rabia, soledad, vergüenza, perdón, sentimientos de amor), iv. experiencias de muerte y renacimiento, v. experiencias con la naturaleza (conexión con la selva, sentimiento de belleza, sensación de que todo está vivo, proyección de cualidades humanas a

animales o plantas, conciencia de ser un animal más), vi. experiencias trascendentales (sentimientos de unión, conexión, trascendencia; experiencias espirituales, perinatales, transpersonales). De acuerdo a los autores, y más allá que el proceso no era lineal, era común que en los primeros meses dominaran las revisiones biográficas, en una fase de "limpieza", mientras que en los últimos meses dominaban las experiencias de reconciliación y serenidad. En otro trabajo, Fernández et al. (2014) realizaron un estudio observacional sobre cambios psicológicos en una muestra de 13 individuos tratados en IDEAA, 9 de ellos por problemas de dependencia. Si bien los autores advierten de las limitaciones metodológicas del estudio (tamaño muestral pequeño, sin grupo de control), los resultados sugieren efectos terapéuticos positivos en dimensiones relacionadas con la dependencia.

En las siguientes secciones expondremos cuatro casos de ex-pacientes de IDEAA, entrevistados en el correr del año 2015. Cabe señalar que los nombres de los pacientes han sido alterados, con excepción del caso 4, que es de pública notoriedad. También se eliminó o cambió toda referencia que pudiera indirectamente identificar a los entrevistados. Para cada caso se realizó una selección de los fragmentos de las entrevistas considerados más relevantes, sumado a otros materiales (diario personal para el caso 3; libro sobre la experiencia para caso 4). Se puso particular interés en aquellos momentos del relato que se muestran como *turning points* (Denzin, 2014), marcando un antes y un después en la narrativa de los entrevistados, y que por lo general involucran experiencias durante las ceremonias de ayahuasca.

Caso 1: mente y cuerpo

Leonardo tiene 52 años, y sus problemas comenzaron a los 17 años, con el consumo de heroína y cocaína. Padre empresario, madre ama de casa, dos hermanas, una mayor y otra menor.

> Yo, desde una edad muy temprana, que no te puedo decir exactamente cuál fue, entré como en un estado de… ansiedad… permanente. No me encontraba, no me podía concentrar, estaba inquieto todo el día por lo que había dejado de hacer. Porque tenía que hacer cosas pero al mismo tiempo estaba como bloqueado, paralizado. Tuve una infancia realmente… dura ¿no? Para mí, por lo que yo podía aguantar. Lo que… tanto es así que a los diez años u once, empecé a tener… no quería ir a clase de ninguna manera. Tenía mucho miedo, tenía encopresis, que es que me cagaba en los pantalones. Entonces lo único que sabía a la hora que me levantaba es que me iba a cagar. Lo único que no sabía era dónde y a qué hora me iba a cagar… salía de casa con esa mochila encima ¿no?
>
> Y bueno… supongo que la presión se fue acumulando, porque no era capaz de pedir ayuda tampoco, y empecé a tener esto de que no quería ir a clase, simplemente es que yo no quería ir al colegio, yo sé que me tumbé en la cama para no ir al colegio, no porque estuviese enfermo. Total que no se explicarte como, al cabo de unos meses, sí que tenía ahí unas hernias, del duodeno, una cosa muy extraña para un niño tan joven y que tampoco había hecho trabajo forzado. […] Ya sé que es una locura contarlo pero también sé que yo me metí en la cama por miedo, no porque estaba enfermo. Y a mí eso nadie me lo puede rebatir. Tampoco era que decía "voy a hacer que me salga", porque no sabía que era una hernia, no sabía que se podía hacer, entonces aquello salió de la rigidez, de la dureza supongo… si tienes diarrea, vives con la diarrea y sigues todo rígido para que no se mueva nada ahí…

En el relato de su infancia vemos como Leonardo describe una serie de problemas relacionados a una "ansiedad" y "estrés" permanente. Por un lado la encopresis, un síntoma que puede estar

relacionado a trastornos emocionales y/o conductuales (WHO, 2007), y puede tener como causa el estrés psicosocial (APA, 2013), por lo que no es raro que el niño tienda a evitar situaciones como ir a la escuela. Si bien el estrés como causa de ulceras digestivas es controvertido (Fink, 2011), cabe preguntarse hasta qué punto la psicosomatización visceral de Leonardo no podría haber resultado en tal patología. En su caso particular no resultaría nada extraño, dentro de un cuadro de ansiedad permanente, estrés psicosocial, encopresis, y probablemente problemas de atención e hiperactividad característicos del Trastorno por Déficit de Atención, del que Leonardo cuenta haber sido diagnosticado recién en la adultez, y que el DSM-V asocia como un posible factor en el posterior uso de sustancias, algo que finalmente sucedió en la adolescencia de Leonardo,

> Esto fue… a los 17-18 […] Empecé con mis amigos, por la vena, caballo, y luego ya entró la coca, y claro, como en aquella época, en los ochenta, yo tenía 18 años y España estaba justo en aquel momento de descorchar la botella de 40 años de dictadura, que hubo un boom. El estar 40 años reprimidos, que para ver una peli porno tenías que ir a Francia y, ¿me entiendes? […] Entonces al encontrar la heroína encontré la panacea… La heroína fue un ejemplo muy claro de automedicación digamos. "¡Es que esto sí que me va bien a mí!", si… me quitó el angustión, sin saber porque, esa atención producto de… producto de esto… de ese trastorno, que condiciona mucho. Es mi explicación ¿eh? No tengo… es como yo me lo cuento.
>
> [La dependencia] fue enseguida. Porque al ser por la vena, eso es lo bueno que tiene esa vía de uso, que no engaña. La aguja te da un perímetro de un metro. Tu postura es esta [hace la postura de cuando se inyecta] y tu gesto es este… es un metro. […] Tu estas allí, agachas el cuello […] lo primero que haces para pincharte, tienes que agachar la cabeza, te humillas ante el instrumento, y te vas a dejar, siendo un canto rodado hasta donde llegue la cosa ¿no?

Leonardo relata su experiencia con la heroína de una forma muy corporalizada. La postura durante la inyección es una metáfora simbólica actuada corporalmente con fuertes connotaciones sociales: el "agachar el cuello" de la "sumisión", el "humillarse ante el instrumento". Terminada la secundaria, y luego de años de estar "enganchado", Leonardo decide parar, por lo que se interna en un centro de rehabilitación, donde conoce a Fábregas. Se recupera, y termina su carrera en dirección de empresas para trabajar con su padre. En la década de 1990, el fracaso de la empresa familiar desencadena una recaída en Leonardo, así como diversas complicaciones físicas y accidentes,

> Tuve muchas enfermedades, graves… […] dos neumonías dobles, tuve… eh… me jodí una válvula del corazón… me fracturé la columna también… cinco lumbares. No me rompí la sexta lumbar porque solo tenemos cinco [risas]… ¿qué más? Bueno, hepatitis y… y… no sé qué más… Traumatismos los que quieras, ¡vamos! Los que quieras, si… También me salió el brazo… el brazo me salió por delante… [Accidentes] en sobredosis… en estados de sobredosis… estuve… eh… no sé, ya me he perdido los números, pero aquello de salir en una ambulancia, seis, siete veces… por milagros…

Nuevamente, el relato de Leonardo involucra situaciones donde es el cuerpo el que más sufre las consecuencias autodestructivas de su adicción. Luego de esta segunda recaída es cuando Fábregas decide llevar a Leonardo a Belo Horizonte, Brasil, en el año 2000, cuando IDEAA recién comenzaba a formarse,

> Estaba muy malito yo, estaba muy tocado… tardé cuatro sesiones [de ayahuasca] en... en… en enterarme de nada. Pensaba que no me daban nada, de la suciedad que llevaba encima, de la porquería, de todo, no había manera que aquello filtrase para adentro ¿no? […] A mí fue… fue terrorífico el primer año y medio… esto ya era un centrifugado cada sesión. Si es por lo bien que lo pasas, y tal y cual, lo hubiese dejado en un momento, porque era… era todo por donde habías pasado, lo que habías hecho, lo mal que te encontrabas, los flashes de los malos momentos, en decisiones que podrías haber ido a un lado y habías ido para otro, pam pam y viendo… ufff [...] muchos recuerdos de repaso biográfico, del tema que nos ocupa, ¿no? Cosas de la infancia también y… sobre todo del tema que me había llevado ahí. […] Al verlo… al recordarlo, al revivirlo, sacarlo afuera. Aquello que estaba adentro. No sé si me explico pero es como una descarga de ir viendo… claro, en el proceso pides perdón, y pides perdón y que te perdonen, para que pase algo distinto a lo que llevabas dentro. Y vas viendo cosas y vas soltando, en ese sentido de revivir, recordar, y soltar… […] Acompañar las vivencias pasando por momentos de un llanto muy fluido, de llorar tres horas seguidas, por ejemplo, y ahí es una descarga… uffff…. Se ha activado ese modo de poder descargar, y estás hecho una fuente, y vas sacando todo ese dolor que yo tenía, que llevaba adentro… […] y toda esa búsqueda de alguna manera por un camino equivocado, y claro, todas éstas cicatrices [muestra una gran cantidad que tiene en el brazo] te hacen dar un seguimiento, y te preguntas ¿por qué? ¿Por qué tienes este hombro así?, o ¿por qué te has roto la columna?, o ¿por qué tienes los brazos que tienes?… las marcas que tienes…

Los relatos de Leonardo sobre su experiencia con la ayahuasca tienen muchos puntos en común con los de otros participantes: la emergencia de recuerdos de repaso biográfico, la capacidad de *insight* sobre las decisiones tomadas, el perdonarse y pedir perdón. A su vez, y en su caso particular, el estilo corporalizado que vemos desde un principio se traslada a las experiencias de ayahuasca: "sacar afuera" lo vivido, "llevar a dentro" y "descargar", "soltar", el "seguimiento" de las cicatrices del brazo y el resto de las marcas corporales de los accidentes. Si bien, y como vimos anteriormente, las experiencias con ayahuasca suelen tener un fuerte componente corporal, en el relato de Leonardo adquieren un especial protagonismo, quizás relacionado a su estilo corporal y psicosomático de expresión que, así como ha sido la fuente de sus problemas, también parece ser uno de los modos en el que se expresa su curación.

Finalmente IDEAA se muda a Prato Raso, y Leonardo también, aunque ya en mejor estado, por lo que comienza a tomar funciones como encargado. Leonardo comienza a encontrarse en ese lugar de cuidador, un lugar que también es útil en el proceso de recuperación, en esa lógica del "curador curado" –*wounded healer*- tan reiterativa en las descripciones etnográficas. Leonardo será un referente en los posteriores pacientes de IDEAA, tal y como lo reflejan en sus relatos los restantes casos estudiados.

Caso 2: mentiras y jaguares.

Miguel tiene 51 años, tiene tres hermanas y una infancia "dentro de lo que cabe, feliz". El padre era constructor, la madre ama de casa. Ambos católicos, aunque él manifiesta no creer en nada, solo en un Dios interior sin pertenencia a religión o espiritualidad alguna.

> Entonces yo iba a un colegio del Opus […] Y ya desde muy pequeño los informes hacia mi eran que era inadaptado. […] Éramos inadaptados porque no entrábamos en la disciplina del Opus, un colegio muy rígido, pero no era que fuéramos… simplemente éramos los niños movidos… no hay

> mayor historia que esa. […] Bueno, total que entonces a los 13 años, de ese colegio del Opus les aconsejaron a mis padres llevarme a un internado. Y me llevaron a un internado, a un colegio interno, en el pirineo. […] Y ahí entre con 13 años. […] En ese período es en el que murió Franco aquí en España. Entonces aquí entraron todas las drogas, y entró todo. Los pirineos es frontera, absolutamente. Pero, ¿qué ocurrió? Yo cuando salí a los 15 años, había conocido el alcohol, había conocido el hachís, había conocido las anfetaminas, con lo cual llegué con 15 años otra vez a mi casa, a mi grupo de amigos, que ellos seguían siendo muy niños.
>
> Entonces yo cuando volví tenía 15 años, y mis padres me quisieron llevar a un colegio, que se abrió en aquella época, súper moderno, y entonces pues fui para allá. […] Y fue llegar ahí, y a los 15 años conocer la heroína [...] Esnifada primero. Luego pasé a fumada. Con 15 lo probé, con 16 me enganché. Y me duró, sin dejar de consumir heroína hasta los 25 años, hasta 1988. El consumo era diario. Y mi vida giraba en torno a conseguir heroína. No había más mundo. […] Pero bueno, como yo iba a mi trabajo, cumplía con mis cosas y siempre he tenido esa vertiente de hacer lo que tenía que hacer. Entonces ahí pasé esos ocho, nueve años, que solo heroína, heroína, heroína, heroína, hasta que ya el deterioro fue brutal […] Y… bueno ahí empezó un periplo de visitas a psiquiatras, psicólogos, desintoxicaciones milagrosas, curas de sueño, bueno… tocando todos los intentos. Hasta que decido ingresarme en una comunidad [terapéutica]. Eso fue en el año 1988, yo tenía 25 años. Y ahí conozco a José María Fábregas.

Miguel se interna en dicha comunidad durante año y medio, pero al salir de allí comienza una recaída de la que no se recupera, entrando y saliendo de distintas comunidades y tratamientos a lo largo de 14 años.

> Y entonces llego a ese punto de… de los 38 años, que ya entramos en la zona ayahuasquera. Me voy a ver al doctor Fábregas. […] Como último recurso, él me ofrece ir a probar la ayahuasca en Brasil, que él estaba montando allí una historia, un centro […] Y bueno, pues en el 2002 me voy para Brasil, al centro… […]
>
> Cuando yo empecé a experimentar con la ayahuasca yo estuve los dos primeros meses míos de tomar ayahuasca, cada trabajo tenía convulsiones. Y fuertes. Y muy serias. "No, esos son defensas", me decía, pues ¡joder! Yo no entendía, ¡porque yo iba entregado! ¡Pero la planta me daba unos revolcones! Yo no entendía. […] El día que hacia la despedida de los tres meses, ¿sabes? Cuando ya me volvía para España, tomo, y el viaje que tuve fue, ese primer trabajo, las convulsiones, entonces podía ver en algunas de mis convulsiones, en algunos de los movimientos que yo recordaba, y me pasaba otras escenas de mi vida. En relación a… putadas que había hecho a mi padre, cómo me había comportado en determinadas situaciones, como gestionaba… todo muy… muy mezquino, muy huraño, muy egoísta desde luego. Y me iba pasando esas convulsiones con esas imágenes. Me daba convulsiones y ves, por esto convulsionaba. Y yo ahí fui tonto… bueno, tonto no… no lo pillé, porque realmente me estaba dando todas las claves para mi proceso, y para mi curación. Yo no entendí en aquel momento qué era eso. Me estaba dando claves. […] Mi manera de relacionarme era muy manipulativa, de todo y hacia todos, también era con la sustancia. Entonces yo me la arreglaba a mi acomodo. A vale, ¿tú me quieres decir esto? No, tú me quieres decir esto. Todo me lo manipulaba. […]

Miguel vuelve a España y a los tres días comienza a consumir nuevamente. Luego de un par de idas y vueltas a Prato Raso bajo la misma lógica, finalmente decide quedarse por más de un año, profundizando en su recuperación,

> Básicamente, en mi caso, y en el de muchos toxicómanos, tu vida se convierte en una continua mentira. Es todo mentira ya. Y esto es lo que la planta me iba mostrando. Todo ese mundo de mentiras que era mi mundo. ¡Que cuando fui sacando resulta que todo era mentira! Y entonces eso es un momento crítico cuando uno hace procesos con la ayahuasca, es el momento en el que uno conecta con todo eso, y es difícil sentirse contento, lo más habitual es… eh… sentirse cagado de miedo, por ese vacío que de repente ves en tu vida, y hostia, si todo era mentira, yo soy mentira. Y realmente es así. Y ese momento es un momento delicado. Hay que tener mucha atención, y dar mucho acompañamiento al que está pasando en ese momento por ahí. […] Una persona que se

> llama Leonardo […] que también fue de los que más me ayudaron. Yo no me dejaba ayudar, ¿sabes? Ese es el tema. […]
>
> Y entonces cuando yo empecé a sentirme bien, me mostraba situaciones mías, que yo había hecho para montarme, o para engañar […] Cuando empecé a reírme… jajaja, ¡qué ridículo, jua! Me reía que... no puede ser, con lo listo que yo me creo… ¡que sea tan imbécil! Cuando yo empecé a curarme que empezaba a reírme, me pasaban todas esas cosas, y veía mis actitudes y decía, ¡madre mía! ¡Por donde vas así en la vida! ¡Había cosas que ni me reconocía! ¡Hostias hombre, no puede ser! Tú, lo hacías así, te comportabas así. ¡Y yo me creía el más listo del mundo y resulta que era un payaso! […] Yo pasé un par de meses riéndome en cada trabajo. […] Y ahí empecé ya a encontrarme muy bien, empecé a clarificar toda mi vida, a ordenar, a perdonar […] Lo mío sí que fue un trabajo de tomar, tomar, tomar, tomar [ayahuasca]. Y viendo muy de a poco. A mí no tuve una experiencia cumbre que me mostró todo y me cambió la vida. No, no, no. Yo tuve que tomar mucho, muchas veces, e ir digiriendo cada información que me daba, ir ordenándola…

Las experiencias de Miguel muestran este trabajo de abrir la conciencia a un proceso de revisión biográfica, de desmontar una vieja identidad construida en base de "mentiras" dirigidas por un estilo de vida relacionado a la dependencia, e intentar construir una nueva narrativa de sí mismo. Una visión reiterativa en este proceso de reconstrucción narrativa del *self* de Miguel es la presencia del Jaguar, figura mitológica recurrente en las visiones tradicionales y occidentales con ayahuasca. Miguel menciona dicho animal como como un elemento determinante en su proceso,

> […] porque a mí el que me daba los revolcones que te he contado siempre era una onza, un leopardo, venía… […] Y la acariciaba, y todo. […] yo lo tengo como mi animal de poder, además de mi animal de protección, sin lugar a dudas. Porque él era el que me daba el rapapolvo, el revolcón, pero también era el que luego me consolaba. […] Lo que interpretaba este jaguar, esta onza pintada, era esa lucha interna mía que tenía. De esa personalidad tan equivocada que llevaba. […] En mi vida ahora ese jaguar es el que llevo incorporado, y es el que me ha dado más calma, mirarme las cosas. Esa calma de la experiencia. Es como si yo me viera hace un tiempecito, como un pequeño forro, pero como que es insustancial comparado con una onza, que sabe por dónde camina, sabe lo que quiere, sabe cuándo tiene que ir cazar, sabe cuándo descansa, sabe cuándo cuida a sus crías. […] Ahora, ese jaguar, que al principio no sabía lo que me estaba diciendo… lo que me está diciendo es, esa fuerza interior que yo tenía adentro […] Ahora el jaguar lo he incorporado. Pues ahora estoy seguro de lo que hago.

Desde un punto de vista cognitivo, podríamos pensar al Jaguar como un símbolo en el clásico sentido dado por Dan Sperber (1975): una representación sin propiedades sistemáticas que, en su carácter abierto, dispara el sistema inferencial de interpretación simbólica, rastreando congruencias en la memoria, y generando una condensación de distintos sentidos e identificaciones. En el relato de Miguel el Jaguar es quien le causa los "revolcones" y le acompaña en sus rememoraciones; es la lucha interna de Miguel, pero también condensa las cualidades idealizadas de quien debería ser; es quien le dice, le señala y le despierta una fuerza interna que lleva dentro. El Jaguar no es solamente un símbolo en términos de representación de algo ausente; el Jaguar está ahí, es una presencia que llega por todos los sentidos, mostrando el carácter multimodal de la construcción simbólica. A su vez Miguel no es un mero espectador del jaguar, sino que es parte de la escena –lo que Benny Shanon (2013) denomina *enactment*-; hay una interacción entre ambos, con revolcón incluido.

El proceso de Miguel cierra definitivamente en una ceremonia donde hace un compromiso con la "planta" de ayudar a los demás si ella lo ayuda a salir de su adicción. A partir de allí, Miguel describe como su carácter comienza a "suavizarse", a ser más "tolerante", y "empático", a "contactar con ese lado más amoroso". Comienza a ayudar en el centro y, al llegar a España, se transforma en un referente para el resto de los pacientes, en esta lógica del *wounded healer*.

Caso 3: peleas y jaranas

Rafael tiene 49 años, y nace en el seno de una familia que define como "convencional", "normal", "catalanista" y de "izquierdas", por lo que la religión no se encontraba muy presente. Tiene un hermano. Todos se encargaban de llevar adelante la empresa familiar.

> Entonces… Yo por ejemplo en el colegio siempre bueno… […] Nunca he podido aceptar una autoridad que sea por cojones, por decirlo de alguna forma. Ya desde muy pequeño. […] Cuando entré en formación profesional fuimos a un colegio que era un… entonces los colegios de formación profesional eran un poco [para] los niños que no estudian […] Y enseguida empecé con los porros, el alcohol, hicimos un grupito de amigos, nos gustaba mucho la música, sobre todo tirábamos mucho de Lou Reed, David Bowie, Led Zeppelin, toda la historia esta. […] Esto yo tenía quince años… ochenta, ochenta y uno por ahí. Y bueno nos movíamos mucho por bares de *rock and roll* de Barcelona, que estaban todos por el barrio chino… […] Y a los 17- 18 más o menos conocí un grupo de gente que eran bastante peligrosos, ya metidos en bandas complicadas, donde había mucho rollo de violencia y tal. Y ahí probé primero… estuve un tiempo tomando mucha cocaína ya… […] Y ahí un día me metí un pico de heroína. Entre los 17 y 18 no recuerdo bien… Y recuerdo que cuando me subió dije: "¡Esto es lo que yo había estado buscando toda mi vida!". Mi vida… tenia 16, 17, 18 años y… pero… para mí fue el gran descubrimiento […] Y evidentemente con la misma obsesión de siempre, empecé a tomar heroína… convencidísimo que eso era controlable. […] El primer año, año y medio lo fui llevando muy bien […] y llegó un momento que se me fue desmadrando la cosa, empecé a tomar todos los días… […] A partir de ahí ya empecé con los otros a hacer algún trapicheo, eh… atracos e historias hicimos bastantes, sobre todo cajeros e historias de éstas. Y ya se fue disparando la cosa mucho […]
>
> A los 20 años estuve en la comunidad terapéutica de Mía [Fábregas]. Y sorprendentemente pues hice un tratamiento que decían que era un tratamiento ejemplar […] Y nada, estuve un año y medio, salí… […] Y fue cuando empecé a trabajar, me ofrecieron un trabajo en […] una discoteca de rock. Y ahí ya la cosa se desmadró. [...] ahí empecé con los grupos de los moto clubs, y empecé otra vez mucha fiesta. […] Ahí empecé a traficar… […] Hubo muchas historias, muchos momentos, muchas películas raras… muchas cenas, muchas fiestas, muchas putas, muchos malos rollos, historias, persecuciones, paranoias de punta pala, policía, detenciones, muertos, todo lo que lleva.
>
> Entonces hubo una operación muy grande de la policía, que ya resumo porque si no… detuvieron a todos los que estaban por encima mío, los metieron en la cárcel. Fue un momento en el que yo podía coger el control de toda la historia esta […] Uno de los colombianos con los que trabajaba me propuso irme a Colombia con él […] Y mientras estaba intentando montar este viaje, tenía miedo de liarme en eso, me llama un día mi hermano y me dice: "¡hostia tío, me han llamado para [trabajar] con Josep María Fábregas!" […] hacia quince años que me había ido de la clínica. […] Y me dijo "Tío acompáñame así ves al Mia". […] Total que hablé [con Fábregas], y me enseñó donde estaba Prato Raso. Está casi casi haciendo frontera con Colombia, y dije: "Ahora sí, esta es la mía". Como estaba muy vigilado, me digo, me voy un mes, un mes y medio a la clínica del doctor Josep María Fábregas, desde ahí llamo, a mi familia, verán que este tío se ha retirado de todo y tal. Busco a alguien que me pase a través de la selva de Colombia. Hago el trato, me vuelvo a meter en Brasil, vuelvo desde Brasil.
>
> Total llegué a Prato Raso… eh… y estuve el primer mes, que sí, que no, que sí, que no […] y cuando lo tenía todo más o menos cerrado se estropeó el teléfono […] Estuvo estropeado el

> teléfono dos meses y medio. Y esperando, y tomando y tomando [ayahuasca], cuando recuperaron el teléfono me acuerdo que fui a un trabajo de ayahuasca y al día siguiente de la integración me puse a llorar y le decía al Mia "es que ya no puedo hacer lo que hacía. Ni puedo, ni quiero. Es que ya no sirvo. Con todo lo que me ha abierto esta historia… ya no puedo dedicarme a esto". Imposible. Yo empecé a hacer cosas de estas con 16 años. Y entonces me dijo Mia: "¿qué vas a hacer?". "Ahora no me queda otra cosa. Quedarme aquí hasta que acabe".

Las experiencias que relata Rafael durante las ceremonias son también de repaso biográfico, pero en su caso adquiere particular relevancia el tema de la violencia: "peleas", "jaranas", "dolor", "sufrimiento", "daño", "escenas violentas y muy agresivas", "atrocidades",

> Cerraba los ojos, veía de todo, monstruosidades… cuchillos, todo muy macabro. Pero tenía una comprensión muy grande. […] Yo cuando hacíamos las integraciones… entendía muchas cosas […] lo que había hecho, porque me había portado así, de mis complejos, de mis miedos […] lo que más pagué fue el tema de violencia y el tema de entender porque me había dedicado a vender y todas estas cosas.

Rafael describe que sentía la "conciencia sucia", así como una "repugnancia" hacia lo que había hecho, y una "vergüenza al descubierto". Todas estas experiencias pueden relacionarse con aspectos sociales de la cognición y el comportamiento, y parecen ser experiencias reiterativas no sólo con la ayahuasca y otros psicodélicos, sino también en otros tipos de experiencias espirituales no inducidas por sustancias. Como señalan Cloninger y Kedia (2011), las dificultades en el desarrollo de aspectos relacionados a la socialización, como son la empatía, el altruismo, las expresiones de amor, entre otras, llevan a distintos problemas psicológicos, dado que los seres humanos estamos naturalmente preparados para "sentirnos bien" en compañía, así como nos autodefinimos y reconocemos en el contacto social con otros. En este sentido, quizás la ayahuasca y otros psicodélicos actúen de manera directa o indirecta sobre dichos mecanismos, Sumado a esto, la continua interacción social dentro de una comunidad terapéutica aislada en la selva, junto con terapeutas y personas con la misma demanda terapéutica, permite que estos aspectos se intensifiquen, principalmente dado que el centro se constituye en una red de mutua cooperación. En el caso de Rafael por ejemplo, a lo largo de la entrevista y su diario personal, vemos como reconoce distintas personas como clave de su proceso. Entre ellas están Leonardo y Miguel, quienes en ese momento estaban en IDEAA más como cuidadores que como pacientes.

> Y llegó un momento… yo sufría muchísimo, lo pasaba muy mal. Entonces el Mia no sabían que hacer, porque era… muy sensible, me tiraba del pelo, hacia agujeros en el suelo […] Me cogió un día el Mia me dijo "Mira, llevas tres meses y medio, no sabemos que hacer contigo". Yo sufría como un animal. Sudaba, lloraba, era un desastre. […] Entonces me dijo, "lo único que se nos ocurre es que un día te vengan a buscar por sorpresa a la cabaña a las cuatro de la mañana, te vas a la selva, a hacer un trabajo de día, con uno, el que tú quieras, el Leonardo, el Miguel", o no se quien más había. "Pues con el Miguel" dije. "Y me tienes que prometer que vas a tomar todo lo que te demos, tenemos que ir a romper, porque no hay manera. Hay una resistencia, un sufrimiento…" […] "El secreto es confía y déjate llevar" y dije "¡pues que mal lo tengo!"

Fábregas propone un "trabajo especial" para él, con el objetivo de romper una "resistencia" muy grande. Para ello, debe "confiar", "dejarse llevar", lo cual desde un punto de vista cognitivo podría

entenderse como un procedimiento que intenta romper con las constricciones ejecutivas mediante la manipulación del gradiente volición-sincronía (Czachesz, 2017). La experiencia es relatada por Rafael en su diario personal,

> Miguel aparece en mi cabaña a las 4:30 de la madrugada. […] A las 5:45 aproximadamente hacemos una primera toma bastante fuerte. Vemos salir el sol y hablamos, de familia y hermanos sobre todo. […] Mi tema más trabajado es vivir el presente. Ser capaz de disfrutar el momento. Más o menos lo consigo. Bajamos al rio y disfruto mucho. Volvemos a la cabaña, leo un poco, el Tao, y me siento a gusto. Me dejo un buen rollo pero no es un gran trabajo.
>
> Segunda toma, me cuesta mucho de tragar. Hay mucho y es muy espeso. Cuando empieza, la fuerza es tal que vómito y me caigo al suelo varias veces. Me quedo un rato. Me agobian mucho los ruidos, el sol, los insectos. Ahora me doy cuenta que no puedo disfrutar el momento, que estoy todo el rato pensando. Si no hubiera insectos, si no hiciera tanto sol, los ruidos, no me puedo dejar llevar y lucho contra esto. […] Al llegar arriba de la ladera nos sentamos. He hecho un gran esfuerzo por llegar. El sol en ese momento parece insoportable. […] Andamos por un camino que se acaba convirtiendo en un barranco. Cada paso que doy creo que me voy a morir. […] Llegamos al fin abajo. Tengo que sentarme varias veces, estoy inquieto, intranquilo, me siento muy inseguro por estar tan lejos. Hay un momento que creo que no sabremos volver. […] Llegamos arriba, paramos un momento en los troncos y seguimos. El sol es abrasado, y descubrimos un paisaje quemado que da muy mal rollo. Como falto de vida. […] Vuelvo muy cansado. He trabajado mucho pero no he conseguido disfrutar. Más bien todo lo contrario. Y sé que solo tengo que confiar y aceptar […] Una vez en casa descansamos. Voy al tronco del río y me siento bien por haber aguantado. Se me pasa un tic, o más bien un espasmo que tenía en la garganta. Habían momentos que me parecían ganas reprimidas de llorar o gritar. Era como si mi cuerpo quisiera explotar, soltar algo encerrado.
>
> Yo creía que eran las cinco o las seis de la tarde, y que ya habíamos acabado cuando veo que Miguel saca otra botella, me comunica que son la una del mediodía, y me recuerda de mi promesa de beberme lo que me dieran. Lo vivo fatal. Tuve un vaso en la mano más de 20 minutos. No me atrevía a tomármelo. Inventé todo tipo de escusas, pero Miguel no estaba para la labor de comprar ninguna, solo de tanto en tanto me decía: "Cap adentro". Finalmente cabreado le dije: "¡es el mayor ejercicio de confianza que he hecho en toda mi vida!" y me lo tomé. Desconozco lo que era pero era muy espeso. Estoy acojonado, además de cansadísimo física, psíquica y mentalmente. Estoy destrozado, intento superar este miedo y entregarme. Intento disfrutar. Cuelgo mi hamaca y pienso: "que sea lo que Dios quiera".

De acuerdo a Rafael este trabajo fue el peor y el mejor día de su vida, y en ese día "murió Rafael y nació otro". Si bien la segunda toma la describe como llena de "horror", donde vomitó, lloró, defecó, tuvo alucinaciones y oyó ruidos horribles, al comenzar la tercera toma, se recostó en la hamaca rendido, y fue la última "muestra de rebeldía" que el viejo Rafael realizó antes de morir. Luego, el nuevo Rafael lloró "felicidad y plenitud", "rió", y a partir de allí comenzó un giro en su trabajo terapéutico en IDEAA. En su retorno a España, no sin distintas dificultades, Rafael, ya recuperado, puso un centro propio, así como decidió continuar su vínculo con Santo Daime, manteniendo actualmente un grupo propio.

Caso 4: Dios y la muerte

El último caso no se mencionará anónimamente, ya que la persona entrevistada, Giovanna Valls, ha escrito un libro sobre su experiencia, editado en varios idiomas, titulado "Aferrada a la vida. Diario de un renacimiento" (Valls Galfetti, 2014). Giovanna tiene 50 años y es nacida en París, en

lo que describe como un "ambiente familiar fantástico". Hija de un pintor catalán y una maestra suiza catalana, y hermana de Manuel Valls, conocido político Francés.

> Yo nací en París, y ahí fui a la escuela pública… […] Mis padres tenían poco dinero y… mi padre era un hombre que tenía que luchar cada día delante de un cuadro, de una tela, para sacar adelante su familia. Mi padre era un hombre creyente, de religión católica, y practicante. Pero no nos inculcó lo que era esto. […] De la misma manera que mi hermano optó con 18 años por no seguir creyendo, y meterse en política, yo nunca dejé de creer… nunca. Siempre fui practicante, nunca dejé de creer, hasta que la vida se me rompió en mil pedazos. Mi vida fue muy normal, y llena de riquezas intelectuales, porque por mi casa pasaban grandes genios, exiliados en Paris que vivían ahí, personajes, desde… eh… como te diré… escritores, músicos […] Yo nunca tuve ningún tipo de problema. Lo que pasa que a los 18 años tuve un gran amor, primer enamoramiento muy importante, que me fue muy mal, y que me dejó como muy frágil, muy desorientada, y muy humillada […] Y con 20 años, de una manera como muy tonta, muy inocente, en casa de unos conocidos, pues me encontré con que me propusieron de esnifar una raya… blanca… de heroína… la aprobé… […] y me engancho, instintivamente […] Y a partir de ahí me doy cuenta que ya estoy enganchada en 15 días, y que ya tengo que… espabilar, ¿no? […] Y llego a Barcelona en el 85 y me desintoxico, en un centro […] y una comunidad terapéutica […]
> Luego, pude llevar más o menos una vida normal durante unos 10-15 años. Trabajando en turismo, vendiendo libros. Con mi piso, mis parejas… mi vida. […] Y me sucede una desgracia, que con más de treinta y pico, no es que me enamore, conozco un hombre […] alcohólico, maltratador, y todo lo que va con él. Y casi aguanto un año, de maltratos, insultos, historias de estas, horribles. Y cuando por fin me libero yo de esta persona, fuera, se acabó, me quedo tan… como humillada dentro de mí misma, que en vez de ir a buscar ayuda, o pedir que me ayuden, que me protejan, me dejo llevar por […] el primero de la esquina que me propone coca […] Esnifada primero… y también dejo la coca, me desintoxico de la coca […] Pero lo peor de todo es cuando yo en el fondo estoy entre que ya he dejado la cocaína, la heroína no la he vuelto a probar desde más de 15 años, y de repente me encuentro con alguien que me dice "¿quieres que vayamos a pillar?" […] Y me dejo, porque me dejo, pinchar, por primera vez. Y con más de treinta años vuelve a entrar la heroína dentro de mí sangre, y me vuelve a enganchar. […] y en una semana de pincharme, pues evidentemente me infecto del virus del SIDA… y de la hepatitis C. […] Y acabo pinchándome durante más de 5 años, o 6 años, llevo una vida de yonqui, y me pincho, heroína y cocaína cada día como 10 veces diarias. […] acabo cometiendo hurtos, acabo yendo a la cárcel […]

Finalmente y tocando fondo, Giovanna decide ingresar a una comunidad terapéutica, a los cuarenta años de edad y pesando 38 kilos. Hace un tratamiento de 7 meses donde se desintoxica y se mantiene sin consumir. Es en ese entonces que Fábregas le propone ir a Prato Raso,

> Yo me voy a Brasil en primavera del 2005. Y yo ya me voy recuperada de salud y todo a Brasil, pero con la carga viral muy alta, y las defensas muy bajas. […] yo tomaba mucho retroviral, yo me fui a Brasil con más de 16 pastillas a tomar cada día […] Bueno yo llegué ahí con un grupo, de 4 o 5 personas […] Y bueno a la semana cuando llegó el doctor Fábregas hicimos una primera sesión con él […] había un fuego grande, que me acuerdo que me senté ahí, medio mareada al mismo tiempo, pero bien. Y nada más de mirar las estrellas o mirar el cielo me empezaron a caer unas lágrimas, ¡pero unas lágrimas! Una sensación… que es… muy difícil de describir. Porque era como un torrente, pero no de tristeza. La ayahuasca la primera vez que la tomé, me hizo algo. Me enseñó, y me demostró, y me hizo ver, aquello de que era capaz de ayudarme ¿no? Y las herramientas que me iba indicando, al filo de las horas que iban pasando. […] Este fue el primero, luego vinieron muchos más. Y muchos… de padecer, de sufrir. […] Yo he vomitado mucho. Mucho, mucho, mucho… mucho, mucho, mucho, mucho [risas]. Y llorar mucho, y de encontrarse mal, pero… de ir poniendo poco a poco los sentimientos y las sensaciones en su sitio, en cada cajón. Puertas que se abren, puertas que se cierran. […]

Las experiencias que describe Giovanna también son en su mayoría de recapitulación biográfica, relacionadas a recuerdos familiares, o de malas experiencias vinculadas a las drogas. Son

experiencias cargadas de una amalgama de sentimientos, relacionados con el amor, la culpa, y el sufrimiento. Como primer paso de la cura, Giovanna menciona el "perdón a sí misma" y el sentirse perdonada por los suyos. Por otro lado, y más allá que Giovanna señala que el perdón y los valores van más allá de toda religión, reconoce a su vez que las experiencias con la ayahuasca le ayudaron a su "reconciliación con la fe", en el marco de su camino personal,

> Yo creo en Dios, y tuve una sesión muy bonita, que con los ojos cerrados, y con alguien que estaba a mi lado como si hubieras estado tú, yo sentí la presencia de Dios que bajó a mi lado. Pero no quise verlo, no hice así [gira la cabeza] y miré. Me quedé con esta sensación. Sensaciones que van muy bien en la vida, porque, te… te… hacen más fuerte, o te reconcilian verdaderamente con tu propio ser, o con lo que tú crees. Y, aparte de esto que fue después, la presencia de Dios, pero sobre todo, lo que más he luchado yo con la ayahuasca, y conmigo, y las sesiones, ha sido con la muerte. La muerte, a la cual yo he retado muchas veces, y a la cual no es que le he tenido miedo pero… cuando a mí me anunciaron con 36, 37 años, que ya me había infectado del virus del SIDA, que después me anuncian que ya me queda poco si sigo así en este camino, yo creo que lo que me hizo reaccionar y salir de las drogas es mis ganas de vivir, y mis muy pocas ganas de morir. Pero con la ayahuasca se me presentó la muerte en miles de maneras. […] y cuando digo la muerte es porque me conecta con la emoción de la muerte, y me conecta en este sentido con la muerte en el sentido literal de la palabra, no con el más allá. No. Con la muerte…

Ambos tipos de experiencias resultan interesantes desde el punto de vista de una fenomenología de la experiencia religiosa, en tanto involucran lo que Rudolf Otto (2008 [1917]) denominó un sentimiento de *majestas*, experiencia de encuentro con un ser superior, y el sentimiento de "criatura" o finitud, que filósofos como Kant describieron en tanto experiencia de lo sublime (Kant, 1919 [1764]). El contacto con la propia idea o emoción de la muerte es un tema recurrente también en los estudios psicodélicos, y ha sido señalado como movilizador desde un punto de vista existencial; de allí sus importantes aplicaciones en trastornos psicológicos asociados a enfermedades terminales (Bossis, 2014).

> Yo volví de Brasil la primera vez a los cuatro meses, porque me obligaba el hospital, para hacerme los análisis, y saber cómo estaba. Y me volví [a Brasil nuevamente]. Me volví porque mis defensas habían subido un 38%, y había vuelto con el virus indetectable en la sangre. ¿Milagro? No. El clima de la selva, los mosquitos, la ayahuasca, los retrovirales, la rabia, la ira, la soledad, todo, yo creo que hizo un componente de choque, de terapia de choque.

Tal y como señala Giovanna, el impacto psiconeuroinmunológico del tratamiento no puede adscribirse a un solo factor sino a variados componentes, siendo quizás la ayahuasca en tanto sustancia la menos importante. Estudios inmunológicos marcan una acción negativa transitoria durante la ingesta de ayahuasca (dos Santos et al., 2011), y ningún efecto significativo a largo plazo (Andrade et al., 2004). En el caso del VIH, dos Santos (2014) señala como la ingesta de ayahuasca produciría una reducción transitoria de los leucocitos CD3 y CD4, considerados como involucrados en la destrucción de células infectadas, por lo que el efecto de la sustancia debería de ser negativo, por lo menos en el momento de su ingesta. La perspectiva que proponemos en el presente artículo permite sin embargo entender los efectos de la cura ritual en sus diversos componentes, y más allá de la sustancia en sí misma. Tal como señalan Ironson y Schneiderman

(2002), el VIH afecta directamente el sistema inmunológico, por lo que es de esperar que los portadores del virus sean más sensibles a efectos psiconeuroimunológicos. Los estudios sobre el tema marcan una amplia variabilidad en la progresión de los síntomas del VIH según distintos factores, como la salud física (factores nutricionales, ejercicio, hábitos de sueño), la salud mental (ansiedad, estrés, depresión) y variables psicosociales, las redes de soporte social y el estilo de vida (Feaster et al., 2000). En el caso particular de Giovanna, todos estos factores se encuentran potenciados positivamente desde su llegada a IDEAA, si seguimos los testimonios y las descripciones de las actividades del centro que mencionamos anteriormente. Por otro lado, si bien la ayahuasca como sustancia puede impactar negativamente en el sistema inmune durante la ceremonia, las experiencias espirituales y místicas asociadas a la misma pueden desencadenar efectos positivos en el individuo, incrementando las capacidades corporales de placebo y autocuración. Este efecto de la práctica religiosa ha sido estudiado por Woods, Antoni, Ironson, y Kling (1999) quienes, en una población de hombres gay VIH positivo, encontraron una correlación positiva significativa entre practicantes religiosos y mayores niveles de CD4, así como menores niveles de depresión y ansiedad. Se puede decir entonces, tanto para el tema específico de la carga viral como para la recuperación de Giovanna, que es en la multifactorialidad del tratamiento donde reside su impacto inmunológico positivo.

Por último, desde los relatos tanto de Giovanna como del resto de los casos presentados, el elemento más recurrente es el trabajo con uno mismo, siendo la ayahuasca –también llamada la "planta"- una especie de "terapeuta" que permite acceder a recuerdos, información y aspectos del *self* ignorados por la persona,

> Porque claro, la droga, sobre todo la heroína, entiendes, con los trabajos de ayahuasca, de vez en cuando, me sale como una especie de cosa que me dice por aquí atrás, "estoy ahí". Y ahí es cuando yo, bajo los efectos de la ayahuasca me pueden salir lágrimas, o puedo vomitar. ¡La hija de puta está ahí! Pero te lo está indicando la ayahuasca. ¿Y por qué me lo está indicando? Porque o he tenido un pensamiento negativo, o simplemente, nada, me lo recuerda, para que lo tenga siempre presente.

Conclusiones

En el modelo de cura ritual propuesto al principio del artículo desagregamos los distintos elementos que intervienen en el ritual, poniendo en relación tanto variables de contexto como psicológicas. El modelo parte del supuesto de que existe una variedad de factores que inciden en mayor o menor medida tanto en la experiencia subjetiva del participante como en sus resignificaciones posteriores y el potencial efecto terapéutico resultante. En el caso de IDEAA, el diseño ritual implicó un estilo psicoterapéutico ecléctico y flexible, orientado hacia la reflexión sobre uno mismo, a través de consignas como "cerrar los ojos" y "mirar hacia adentro", la disposición de una ornamentación que no distraiga en dicha tarea, el uso de música bajo la idea de romper resistencias psicológicas, la presencia del terapeuta como "facilitador". Esto marca una fuerte diferencia con otros tipos de

diseño ritual del tipo religioso y/o espiritual, donde narrativas institucionales, procedimientos formalizados, y/o una autoridad carismática producen otro tipo de resultados. A su vez, el ritual de ayahuasca en IDEAA debe ser entendido ensamblado en un contexto y una dinámica comunitaria terapéutica particular, articulado con distintas actividades, todas ellas apuntando a un trabajo psicológico introspectivo y reflexivo. El efecto terapéutico no depende solamente de la experiencia ritual, sino también del ordenamiento progresivo de la misma, a través de un trabajo de "integración", donde la memoria de la experiencia es interpretada, y resignificada. Desde un punto de vista biográfico, la memoria de la experiencia se muestra como punto clave de articulación entre la vieja y la nueva identidad. Norman Denzin (2014) los denomina *turning points* o epifanías, eventos críticos o hechos significativos en el relato de vida que marcan un cierto giro en el encadenamiento de los sucesos vitales de la persona.

Los cuatro casos muestran las características presentadas en las descripciones realizadas de Fernández y Fábregas (2014), tanto de contenido (revisiones del pasado, insights, experiencias emocionales y/o trascendentales) como de proceso (fase inicial de revisiones y "limpieza", fase final de reconciliación). Las experiencias más reiterativas se encuentran relacionadas a la revisión biográfica, algo que no es extraño dada la direccionalidad que supone una demanda terapéutica muy específica, así como el contexto y disposición del ritual por parte de IDEAA, claramente focalizado al trabajo psicológico introspectivo. No es de extrañar la amplia presencia del "pedir perdón y perdonarse", si tomamos en cuenta que toda narrativa es un "drama social" que involucra actores, acciones, escenarios, metas y un conflicto a resolver (Bruner, 1986). El perdón juega un papel central en los cuatro casos analizados, siendo que involucra nociones intuitivas de lo justo y lo injusto, un reconocimiento empático sobre daño causado hacia otros y hacia uno mismo, y la posibilidad de construir una nueva narrativa, reconciliando la imagen del *self* con el conjunto de los actores dentro de una trama social personal.

Tal como describen Fernández y Fábregas, no hay una destacada presencia de entidades sobrenaturales en las experiencias de los casos analizados, aunque cabe destacar el uso del concepto de la "planta" o "ayahuasca" en tanto agente con atributos intencionales, tanto por los pacientes como por los terapeutas. Ella es la "maestra" que "muestra situaciones", "conecta con sentimientos y emociones", "indica", "cura", "abre", "protege", "enseña", "da información", "conecta con el sentimiento de otros". La noción de "planta" como agente sobrenatural es a veces entendida en forma literal (la "ayahuasca" existe como entidad independiente), otras en forma fenomenológica (es vivida como tal durante la ceremonia, pero en última instancia la demostración de su existencia real es cuestionable), o en forma metafórica (es una forma de explicar lo sucedido, sin entablar un compromiso ontológico con dicha creencia). Por último, más allá del rol central de lo narrativo en

la recuperación de cada uno de los casos, también hemos visto la manifestación de determinados mecanismos específicos en el proceso de cura. En Leonardo vimos el rol central de la corporalidad y lo psicosomático en su narrativa de enfermedad y curación; Miguel describe la presencia del jaguar, símbolo –en el sentido dado por Sperber- que dispara mecanismos inferenciales e intensifica la búsqueda de sentido, la rememoración y la reflexividad; en Rafael juega un papel central la intensificación de mecanismos de cognición social, relacionados con intuiciones morales y la empatía; en Giovanna vimos el efecto psiconeuroinmunológico de la estrategia terapéutica en su conjunto, llevando a una mejora considerable de sus defensas y su carga viral.

Desde una perspectiva biomédica, todos estos mecanismos son usualmente considerados como "inespecíficos", mientras que desde un modelo interdisciplinario como el presentado en este artículo dicho mecanismos pueden ser visibilizados y especificados, y de esta manera contribuir a entender mejor como operan y contribuir a futuras aplicaciones clínicas de los mismos. Cabe reiterar nuevamente que dichos mecanismos no son necesariamente y exclusivamente terapéuticos, pudiendo ser utilizados con distintos propósitos como la consolidación de narrativas colectivas en la memoria de los participantes, la generación de compromisos colectivos, la intensificación de lazos sociales, la adquisición de conocimiento espiritual y medicinal, la comunicación con espíritus, el adoctrinamiento dentro de una institución religiosa o espiritual, entre otros.

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Ayahuasca, addictions, and ritual healing in Catalonia. A qualitative study of two cases using an interdisciplinary model that combines cognitive and cultural perspectives.

Abstract: Ayahuasca is a psychoactive substance from Amazonas, traditionally used for spiritual, religious and medical purposes. In the 1990s the brew gained popularity in the transnational Western psycho-spiritual networks, and appeared in Spain and the rest of Europe through various religious institutions and spiritual/holistic centers. The present article is a study of two addicts, who were treated and recovered in two different alternative therapy centers in Catalonia that use ayahuasca ceremonies as their main therapeutic strategy. The ritual healing and the spiritual conversion of both cases will be analyzed using an interdisciplinary model that combines cognitive and cultural perspectives.
Key words: ayahuasca, addiction, ritual healing, cognition & culture, Catalonia.

Introduction

Ayahuasca – from quechua, *aya*, spirit, soul; *waska*, rope, vine; commonly translated as "vine of the spirits" – is a psychoactive substance from the Amazon, usually prepared with two main ingredients. First, the vine *Banisteriopsis caapi*, which contains the alkaloids harmine, harmaline and tetrahydroharmine. Second, the shrub *Psychotria viridis*, which contains N,N-dimethyltryptamine, usually known as DMT. Both substances are necessary for the psychoactive effect because DMT, the main compound, when ingested orally is degraded by the digestive system, so the harmine alkaloids are necessary to inhibit its degradation (Bouso 2012). In the traditional Amazon cultural environment it is used by more than 70 groups for religious, magic and medical purposes (Luna 1986). Throughout the 20th century, new religious groups appeared in Brazil and combined Umbandism, Kardecian Spiritism, Catholicism and Amazon shamanism in different ways. Last but not least, in the 1990s the brew underwent a fast transationalization, mainly through the international networks of spirituality and alternative therapies, in which religion, medicine and psychotherapy are combined in different ways (Labate and Jungaberle 2011). In the case of the shamanic, holistic, and alternative centers, the brew is usually related to Western spiritual psychotherapies such as Gestalt and transpersonal psychologies, the New Age psycho-spiritual milieu, and the progressive rise of the renaissance of psychedelic studies.

In Spain, ayahuasca emerged at the end of the 1980s through psychological schools connected with the psycho-spiritual networks, and the expansion of churches from Brazil, such as Santo Daime and União do Vegetal (López-Pavillard and De las Casas 2011). For the specific case of Catalonia, Corbera (2012) identifies 17 groups, including shamanic ones, Brazilian churches, and holistic centers. Despite the variety of groups and institutions, there is usually a common cultural psycho-spiritual background, in which spiritual perspectives, New Age ideas, psychological schools, and religious worldviews interact in a medical and spiritual pluralistic environment. In these networks, it is common to find all kinds of combinations of religious and secular practices and worldviews. As in other alternative medicines, the Spanish people who attend ayahuasca ceremonies for therapeutic reasons usually do so after trying several therapeutic

options and not finding a solution to their sickness (Apud and Romaní 2017). One common therapeutic demand is drug abuse and dependence.

In the current article, I will describe, analyze, and compare two addicts who were cured in two different ayahuasca groups in Catalonia. The main aim is to understand how the ritual healing works, from a perspective that combines both cultural and cognitive approaches. The first section starts with a brief description of the various clinical studies of ayahuasca, and the models to understand its effect on addiction problems. The section also presents the interdisciplinary model proposed in this article for understanding the therapeutic effect of the ritualistic use of ayahuasca. The second section is a brief introduction to the research method used (a biographical and ethnographic qualitative study). In third and fourth sections, the two cases are described and analyzed using the methodology and theoretical framework proposed. Finally, the conclusion summarizes the data presented, comparing both cases and centers.

Addictions and ritual healing using an interdisciplinary model that combines cognitive and cultural perspectives.

Very few long-term studies have been made on the effects of ayahuasca on mental health. Samples are small and the research has to be carried out in religious communities, where other confounding variables make it difficult to discriminate if the effect comes from the brew itself, or other social and religious factors (Bouso 2012). Bearing these limitations in mind, the scientific literature suggests not only that it has no negative effects on health, but also that it has positive therapeutic outcomes in both adults (Barbosa et al. 2009; Grob et al. 1996; Riba et al. 2002; Barbosa, Giglio, and Dalgalarrondo 2005; Halpern et al. 2008; Bouso et al. 2012) and adolescents (Da Silveira et al. 2005; Dobkin de Rios et al. 2005). In recent years, several researchers have mentioned the possible therapeutic applications of the brew in mental problems such as depression, anxiety and addictions (Tófoli and de Araújo 2016; dos Santos, Osório, Crippa, Riba, et al. 2016; dos Santos, Osório, Crippa, and Hallak 2016; Nunes et al. 2016; Domínguez-Clavé et al. 2016; Winkelman 2014; Bouso and Riba 2014) and potential contraindications (dos Santos 2013b; dos Santos 2013a; Gable 2006; de Oliveira et al. 2011). In the specific case of addictions, various studies have suggested that there is little risk of developing dependence – a feature shared with other psychedelics – and that it has potential uses for the treatment of patients with problems of drug dependence (Grob et al. 1996; Da Silveira et al. 2005; Halpern et al. 2008; Thomas et al. 2013; Loizaga-Velder and Verres 2014; Fábregas et al. 2010; Mabit Bonicard and González Mariscal 2013). It should also be pointed out that several authors have discussed the traditional use of ayahuasca for the treatment of addictions in religious, shamanic, and spiritual contexts

(Mercante 2013; Labate et al. 2008; Santos Ricciardi 2008; Chiappe 1977; Mabit Bonicard and González Mariscal 2013).

Pricket and Liester (2014) describe various theories about the possible therapeutic mechanism intervening in the effect of ayahuasca on addiction problems. Firstly, the "biochemical hypothesis", which considers the action of ayahuasca in the brain reward pathway, normalizing the dopaminergic circuit through its connection with serotoninergic networks. Secondly, the "physiological hypothesis", related to the "rewiring" of the "hijacked" addictive behavior through "neuronal learning" triggered by the substance. Thirdly, the "psychological hypothesis", which considers ayahuasca as a substance that provides access to unconscious memories, repressed emotions and unresolved traumas, and increases the ability of insight and decision making, leading to a revision of dysfunctional patterns associated with addictions. Finally the "transcendental hypothesis", which regards ayahuasca as a catalyst of "peak" and "transcendental" experiences that causes radical changes in values, beliefs and worldviews.

As is analyzed in Apud and Romaní (2016), in recent decades the biomedical notion of addiction has been forced to go beyond neural reward pathways to explain dependence and include different cognitive processes (e.g. memory, learning, motivation), and social and cultural factors (e.g. contextual conditioning, stress factors, family structure, social environment), in the so called bio-psycho-social model. But despite this interest to integrate other variables, biomedical perspectives still resist including socio-cultural models from the humanities and social sciences. Although it is true that this resistance is related to biological reductionism that stems from the classical notion of addiction as a "disease of the brain", it is also true that the disciplines concerned with the socio-cultural model usually have a similar but opposite bias (that is, sociological and/or cultural reductionism). The current article presents an interdisciplinary approach that combines cultural and critical perspectives from medical anthropology with perspectives from cognitive sciences (e.g. cognitive anthropology, Cognitive Science of Religion). The interdisciplinary approach proposed here attempts to remove itself from both kinds of bias and integrate both cultural and cognitive mechanisms in the understanding of addiction and ritual healing.

In anthropology, the ethnographic study of the use of psychoactive substances in traditional societies has shown that they are usually included in traditional pharmacopoeias for both religious and/or medical issues. Psychedelics such as ayahuasca are commonly used in ritualistic settings, which use different techniques, symbols and cultural artefacts to manipulate cognition and states of consciousness, and to produce a positive medical outcome (Apud 2015). As several authors have pointed out, ritual healing is a dramatic performance that involves at least

one practitioner and one patient, united in the common goal of solving a therapeutic demand (Turner 1977; Kaptchuk 2002; Dow 1986). The model proposed in this current article disaggregates the dramatic performance of the ritual in its cultural variables, and also the cognitive functions that it usually manipulates (Figure 1).

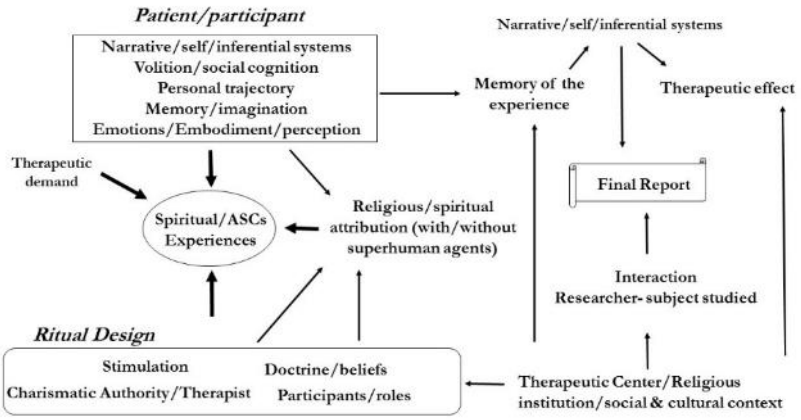

Figure 1. Ritual model.

In the model proposed here, the practitioner can be a therapist or a charismatic authority. Practitioners can be shamans or Western psychotherapists, who are usually healers focused on solving a medical demand. Charismatic authorities can be religious or spiritual, in a leader-follower relationship with the patient. As this article will discuss, the style of the therapist/authority is an important factor in the ritual effect. But this does not mean that the participants are passive agents, since their personal trajectories and personalities play a part in the ritual effect. Furthermore, patients and healers are not isolated. In the social interaction that is an essential part of all rituals, there is an associated community and cultural context, which also influence the experience, independently of whether other members are present or not in the immediate scenery of the ritual. And, as well as community members, we must also consider – phenomenologically speaking – the direct or symbolic presence of other agents related to the supernatural and spiritual realms. The participation of these supernatural agents increases the degree of suggestion, as the supernatural agency is someone that has "full access to strategic knowledge" (Boyer 2001).

Ritual healing is effective when it activates mechanisms that trigger a positive therapeutic outcome on the health of the patient in the short or long term. The classical biomedical perspective refers to these mechanisms as the placebo response and regards them as "unspecific factors". But nowadays there is growing interest in opening the black box of the placebo, in order to better understand how the therapeutic effect is produced. From medical anthropology, Daniel Moerman (2002) describes the effect as a "meaning response", where the attribution of meaning in

a therapeutic procedure triggers a cascade of neuropsychological processes that give relief and/or healing. It is important to note that the symbolic effectiveness or response does not require patients and healers to share a common mythical structure. All that is required are certain therapeutic conditions that can prompt the patient to search for personal meaning, to construct a new biographical narrative, and the resulting impact on personal dispositions, such as physical condition, psychological state, life styles, and/or social behavior.

From the neuroscience of religion, Patrick McNamara (2009) describes the ritual as a transforming liminal space of the self in a process he calls "decentering". Various techniques are used to weaken the volitional aspects of executive functions, which enables patients to engage in an imaginative navigation through unconscious contents of memories, emotions, and the self, with the subsequent production of new narratives and identities. From Cognitive Science of Religion, several authors have shown how the ritual uses different techniques of stimulation that affect individuals and their experience by altering a variety of cognitive processes, including sensorial and emotional modulations, semantic and/or episodic memory, degree of suggestion/volition, social cognition and others (Czachesz 2010; Schjoedt et al. 2013; Lawson and McCauley 1990; Whitehouse 1995; Geertz 2013).

Despite their differences, from all these fields of study, there is a recurrent idea that by altering these cognitive processes the ritual can eventually produce positive or negative outcomes on health and/or social cooperation. These procedures of suggestion and alteration of consciousness can trigger a cascade of psychosomatic and psychoneuroimmunological responses, related to the natural abilities of the human body for self-healing – placebo response – or self-damaging – nocebo response – (McClenon 1997; Winkelman 2010; McNamara 2009; Bulbulia 2006). Furthermore, it is important to add that although ritual healing can be positive in itself, the context in which it comes about may not be necessarily positive. In some cases, ritual healing can act as a legitimation event within a religious community, with potential negative consequences for the individual.

The model proposed in this article also considers what István Czachesz (2015) calls the "memory of the experience": that is, as researchers we never access experience itself, but to the experience stored in the memory of the participant, with its re-significations after the ritual. These changes can be the consequence of an individual´s personal biases but also to literary genres and cultural narrative styles, related to the social context in which the experience is retold. The memory of the experience is negotiated and re-signified in monologic and dialogic speech acts of daily life, acting as a hallmark in the narrative of the self. Finally, in qualitative research the final report is produced as a result of the interaction between researcher and the subject studied, so their

personal, social and cultural biases play a role. Therefore, the content of every narrative recorded cannot be said to be independent from the social interaction involved in a research interview.

Biographical method and healing narratives

In the current article two cases of the ritual healing of addiction through ayahuasca will be described and analyzed, using a qualitative biographic and ethnographic approach. In both cases in-depth interviews were conducted with the subjects, and participant observation was used in both the centers studied. A qualitative biographical methodology was chosen because of the importance of narrative construction in the model proposed to understand ritual healing. The idea is to analyze the patients' healing narratives in terms of "illness/addiction trajectories", following a long ethnographic tradition of studies on the cultural uses of drugs (Raikhel and Garriot 2013; Romaní 2007) and narratives of religious conversions and ritual healing (Buckser and Glazier 2003). Furthermore, the approach presented in this article combines cognitive and cultural perspectives so the two cases are analyzed using an integrative framework in order to better understand what happens during the process of ritual cure of an addiction using ayahuasca.

One of the first qualitative investigations that used biographical methods to study the use of ayahuasca in subjects with addiction problems was the pioneering work of Grob and collaborators (1996), who studied a sample of members of the church União do Vegetal at a center in Manaus. In the study, the research group administered a battery of qualitative and quantitative techniques, including life story interviews. In the stories, the subjects with addiction problems reported a "profound impact" of the ritual sacrament on the course of their lives, and the perceived belief during the ritual that they were on a self-destructive path that needed a radical change in personal behavior. Later, Loizaga-Velder and Verres (2014) carried out qualitative interviews with 14 subjects who had dependence problems and who were being treated with ayahuasca. The subjects mentioned various subjective factors that they believed had contributed to their recovery: a better understanding of the underlying psychological and personal causes of their addictive behavior, a mobilization of positive resources, the reduction of the craving, the attenuation of withdrawal symptoms, the importance of spiritual and transcendental experiences as reinforcing meaning and purpose in life, and the connection with a spiritual energy that transcends the individual. In another article, Loizaga-Velder and Loizaga Pazzi (2014) describe four main categories in the subjective experiences of subjects treated with ayahuasca for their drug related problems: body-oriented (increased body awareness, detoxification, anti-craving), emotional/social (release of psychological burdens, reliving traumatic life events, contacting blocked emotions, forgiveness of self and others, facilitating social support), insight oriented/cognitive (confrontation with addiction, insights of maladaptive psychological

patterns, self-awareness, therapeutic instructions, awareness of positive personal resources), and transpersonal (death experiences, peak experiences, spiritual healing, sense of meaning and purpose in life). Fernández and Fábregas (2014) analyzed the testimonies of 20 Spanish patients with addiction problems treated in the Institute of Applied Amazonian Ethnopsychology (IDEAA) in Brazil. The authors describe six fundamental thematic blocks of experiences in order of importance: *i)* reviews of the past (biographical revisions, childhood remembrances, memories related to negative events related to the drug abuse, damage caused to relatives and friends, traumatic episodes), *ii)* psychological insights (personal conflicts, patterns of psychological functioning), *iii)* emotional experiences (grief, sadness, rage, loneliness, shame, forgiveness, feelings of love), *iv)* death and rebirth experiences, v. experiences with nature (connection with the jungle, sense of beauty, perception of everything being alive, reconciliation with nature, projection of human qualities into animal or plants, awareness of being one more animal), and *vi)* transcendental experiences (feelings of union, connection, serenity, spiritual experiences, perinatal experiences, transpersonal experiences). Finally, in a recent article Talin and Sanabria (2017) analyze the trajectories of seven Italian individuals, who were cured of their addictions by the Santo Daime church. The authors used an ethnographic approach that combined participant observation with in-depth interviews to record the narratives of the participants. They conclude that the healing effect depends not only on the pharmacological action of the substance, but on the semiotic world in which the participant is introduced and the social reintegration it involves.

In general terms, and at a psychological and phenomenological level of description, the Western testimonies of the experiences during ayahuasca intake include cognitive alterations such as change in thoughts, loss of volition and control, emotional changes, corporal image distortions, visual-spatial alterations, changes in meanings, increased capacity of insight, hypersuggestion, biographical revisions and increased capacity of empathy (Grob 1999; Shanon 2013; Apud 2013; Fericgla 2000; Loizaga-velder 2012). The subjective descriptions cogently match the data obtained at a neurological level. For example, in a study using SPECT, Riba et al. (2006) found a pattern of brain activation related to body representation and its associated emotional states (right anterior insula), motivational aspects related to the processing of emotional information (anterior cingulate and frontomedial cortex), memory processing and appraisal of negative emotions (left amygdala and parahippocampal gyrus). The authors conclude that ayahuasca activates brain areas that play an important role in emotional, introspective and biographical processing, helping to bring to consciousness memories from the past and process them in novel ways (Bouso and Riba 2014). McKenna and Riba (2016) propose that ayahuasca – as well as other

classic psychedelics – acts by reducing cognitive volitional constraints on executive functions, and the excitability of various hierarchical brain levels in the association areas. This situation provides access to information that is not usually available to consciousness and produces new associations and changes of thought, in an attempt to give meaning to the discrepancies between the received information and the pre- established top-down cognitive models. All of this creates a background that is suitable for introspection and personal reflection, and novel associations between memories, ideas and emotions. Bearing in mind the results of these studies, and using the model proposed in this article, ayahuasca seems to have an extremely powerful impact on the cognitive effects that are usually manipulated during certain rituals. These effects, however, are not in themselves necessarily psychotherapeutic, since they can also be associated to other kinds of goal. For example, in the traditional Amazon shamanic context, this psychological state of introspection and novel associations is used in other kinds of demand, such as for fighting witchcraft, healing culture-bound syndromes and learning knowledge through spiritual entities (Luna 1986; Beyer 2009; Apud 2013; Dobkin de Rios 1973; MacRae 1992).

In the sections below, two cases of addiction recovery through the ritualistic use of ayahuasca in Catalonia will be described and analyzed. It is important to mention that the names of the subjects and any reference that could identify them have been changed or erased. For each case a selection has been made of those fragments of the interview which are considered to be most relevant to the topic. To obtain further information about the cases, participant observation was also used during the fieldwork, leaders and participants in the groups were interviewed, and institutional materials were shared by the subjects or found in the media. Particularly relevant to the selection of the contents were the moments of the narrative usually referred to as *turning points* (Denzin 2014), when there is a twist in the biography of the subject, and which in our specific cases are commonly related to ritual experiences that triggered a spiritual conversion, and a spiritual healing.

Case 1: Death and Rebirth

Daniel is 31 years old and was born in a family with no economic problems. His father is a businessman, his mother a housewife. He has a brother, who also had problems with drugs. Both parents are Catholic, but Daniel did not believe in anything until his first ayahuasca ceremony.

> I was very young and my brother was like, wow! The big brother as a reference, and I started to imitate his way of life […] I started [to take drugs] in an attempt to imitate my brother […] First, it was the cannabis… in my group of friends, knowing that the reference was my brother […] and not long afterwards I started with cocaine, with my brother […] My mother encouraged me to do a degree at university, and my brother was always the lazy one who did not want to study […]

> There was a turning point when I was 16… the death of my best friend. I was there with him, it was an accident, and after that I rejected life. I said "Life is shit and now I will burn it". And I started to take drugs to burn out my life […]
>
> There was a period of time when I had a girlfriend and I restrained myself […] I was studying [at the university] and I was taking cocaine but in quantities that did not disturb my daily life. I had other things in my life apart from drugs. But later when we broke up… she left me, ok? At that moment I started again [taking drugs compulsively], and I realized that I had a big, big problem. But this was when I was 23, when I finished my degree at the university. […] When she left me my life started to revolve only and exclusively around drugs. […]
>
> And the drug that has done me most harm was speed […] I was working in a hospital. And I had been four days without sleep and working there […] lots of pressure at work […] I woke up every night, five or six times. I had no continuous rest […] I started to develop depression and anxiety. My workmates took me to a doctor there. But that was when I was trying to quit drugs, ok? I started to decrease my consumption, and the less I consumed, the more depressed I felt. […] I felt I had crossed a line where there was no turning back. I was going to die being a junkie. Finally I was using so much speed that I started to take heroine to sleep. And then, I gave up speed and took only heroine […] smoked or sniffed, never injected.

In that situation Daniel asked a friend for help, and she sent him to a reiki therapist. Reiki helped him with the craving: he started to use lower doses and feel a little better. But despite this, the next two years were a pendulum of relapses, and he fluctuated between consumption and depression. Then, one of his workmates at the hospital told him about a center where people cured their addictions using ayahuasca.

The center is directed by Miguel, a former addict who was treated and recovered from his condition by ayahuasca. During his therapeutic recovery, in one ayahuasca ceremony, Miguel made a commitment to the "plant" (which is how participants usually refer to ayahuasca when they attribute agency to the brew). He told the plant that if it helped him to quit drugs, he would help others to follow the same path, in the classic logic of the wounded healer. Since then, he has been conducting ayahuasca ceremonies in Catalonia. Despite this mention of the "plant" as an entity, Miguel believes only in a personal God and a personal spirituality, both of which are unrelated to any kind of religion or spiritual school. He could be regarded as a "therapist", extremely focused on the therapeutic demand.

The ritual at the center is usually performed at weekends, with two sessions, one on Friday and another on Saturday. It is always done at night. The participants sit or lie on the floor, making a circle around some sort of humble ornamentation. Music is not played live, but on a computer. The goal of the ritual is self-reflection, so it is usually recommended for participants to close their eyes, and it is forbidden to talk or disturb the other participants. There are three intakes of ayahuasca during the night, each one accompanied with different music in order to evoke certain emotions and psychological states. In the first intake the main goal is to enter into the experience, using music to "relax" and "meditate". In the second intake, music is played in order to "disrupt", "break with resistances" and go deeper into the inner self. The final intake is more conciliatory,

with happy and peaceful music that helps have a good "landing". The design of the ceremony is a secular one: there are no religious or spiritual symbols, beliefs or doctrines. Although spiritual and religious experiences and beliefs of the participants are respected, the staff take special care not to transmit religious or spiritual ideas to the participants.

After the ritual there is usually a "group integration" session, and a second one three days later. The goal of the integrations is not to explain or judge the experiences of the participants, but to give order, expression, support and practical advice. If some participants need an individual interview with Miguel, it can also be scheduled. Miguel considers himself to be a "care-taker", helping in the personal process of each one of the participants. He gives support during the ritual and afterwards, using his experience as a wounded healer in individual therapy and group integrations. Miguel considers the plant to be the real teacher who guides the personal process of each participant. His work in the ritual consists only of taking care of the participants, giving the safety measures for the inner journey, and using the support techniques. Although the center does not belong to a spiritual tradition, religious doctrine or psychotherapeutic school, ideas from psychoanalysis, transpersonal psychology, perennial philosophy, neo/shamanic literature and Eastern spiritual traditions are used informally and freely. All these ideas are used in an eclectic and flexible way during integrations and other instances when the participants share their experiences. According to Miguel, some participants usually have "moderate" and more "psychological" experiences, while others have "great", "spiritual", "transpersonal" experiences. Daniel belongs to the second category, as we can see in his first experience with ayahuasca:

> Well, the first ceremony was… I remember going there and asking for a favor, that I wanted to feel better, ok? […] The plant treated me really good. I did not pull a trauma, but I made some divine connections, so I could understand reality and see things that made me overcome the depression. I saw that there was something, ayahuasca, which I could use, and that it would be helpful […] I saw things about…this metaphysical experience of how we all project ourselves in reality. I saw myself as a being that projects himself on the world as Daniel because it is the best way to evolve. I had a very mystical experience… I saw the connection with everything, how everything was interconnected […] It was like we are all emitting geometrical patterns continuously, as if we were adopting the perfect form for our evolution […] I understood that we are continuously creating our reality. If you believe that life is magic, you will have magic in your life. And if you believe in God, you will see God in your life. It is neither good nor bad; you are creating your reality.

Daniel's description of a spiritual dimension that creates our reality through its own evolutionary process, is a common belief in New Age literature, perennial philosophy and transpersonal perspectives. As has been mentioned above, these ideas are "free floating" in these kinds of center, but it was the first time Daniel had been to Miguel's center , so it is less likely that it had any sort of influence over the experience. We could hypothesize that in other places such as the reiki centre there was some unconscious priming, or that the general experience of a spiritual realm can be

spontaneously experienced by the individual. But whatever the case may be, the important thing is that the experience had an important effect on Daniel´s worldview and on his expectations of recovery. After this experience, he went to a second ceremony but he experienced nothing at all, which he interpreted as ayahuasca telling him to slow down a little bit. He went to the third ceremony in an attempt to better understand why he was depressed:

> I was wondering why, when I was at home and not taking drugs, I started to feel such a huge hole in my life, inside me, and I started to cry, and I did not know why, ok? And in the third ceremony I asked about that hole. I saw a hole… like a giant black cloud, so, so big that I could not close my eyes. And then, out came the death of my best friend, and I… like cried for three hours, like I'd never cried before. […] I do not remember any visions, only that I had to pull out the pain from within me and it was bigger than I was. I stopped crying and started laughing. And when I started laughing, Miguel took me to another room, so that I didn't disturb the other participants. And when I was in that room I started to feel as if I was dying, that I was disintegrating, ok? And then I hugged Miguel, and I had orgasms in my chest, I felt that… that the universe was making love to me through my breathing. I felt that I got pregnant, I lay down, and I gave birth to myself, and felt as if I could not breathe because I was coming out from the uterus. I came out, took a deep breath for the first time, and there were Miguel and his assistant, and I thought, "They are my parents! How do I tell my parents that now I have other parents?!" And when Miguel looked at me, I saw the reflection of [my dead best friend] in his face. And I finally understood, and all the connections came into my mind. I understood that it was an unfinished mourning process. That life is wonderful, and death is part of it, and that there is no rebirth without death. I had to die and to have this experience of being reborn to understand death in another way. And it was a turning point […] I was born again and I was cured from that emptiness. And since then, the void that I used to feel when I came home and made me start crying without knowing why, that void disappeared forever […] Pulling out the trauma of the death of my best friend was a turning point for me to start moving forwards…

Daniel's experience of death and rebirth is illustrative of some ideas mentioned in the theoretical part of the article. Daniel came to the ritual with the therapeutic demand of understanding his depression better, which also involves an *a priori* emotional and cognitive attitude. The ceremony started, and new contents started to emerge with the help of ayahuasca. When the effects of the brew started to take hold, there was a break in consistencies, an invasion of emotional and visual content, and a reduction in volition. Daniel saw a strange "black cloud" that triggered different negative associations and emotions. As things started to become more unpredictable through the senses, and top-down constraints were weakened, inferential symbolic interpretations started to work in an attempt to explain cognitive mismatches through novel associations, using memory and different modal perceptual systems. The result is that highly condensed symbols (e.g. Miguel is his father, but also his dead friend) and metaphoric interpretations (e.g. the "black cloud" as a hidden trauma; death-and-rebirth as a metaphor of life itself) are produced, leading to different connections between his depressive mood – related to his implicit emotional attitude and explicit therapeutic demand– and the traumatic unconscious remembrance of the death of his best friend. The cascade of experiences after this remembrance of the death of a beloved is fragmented at first, but as the experience continues, the discrepancies seem to be cognitively ordered in a symbolic

thematic chain of death-sex-and-rebirth, in a full, totally embodied experience. The final psychological insight of understanding death and rebirth as part of the "wonder" of life gave him a new cosmological perspective about life, which re-signified the traumatic event of the death of his friend, and solved an "unfinished mourning process" within a new worldview.

After these three sessions, Daniel stopped using drugs. He continued going to the ceremonies every month, working on other issues, most of which were biographical revisions, related to his relationship with his parents and his brother. He also complemented his ayahuasca ceremonies with his reiki sessions, which he regarded as a place in which he could integrate what happened during the ceremonies. He continued to have other profound spiritual experiences, some of them in connection with this realm in which the spirit of every living being projects the reality we live in. All these experiences prompted Daniel to convert from an atheistic background to a spiritual one.

Case 2: Masks and intrusive thoughts

Ernesto is 23 years old and is the only son of a "supportive" and "loving" family. He went to a Catholic school as a child, and believed in God for a brief period of time. But finally he stopped believing:

> …because I had a mental disorder, of anxiety. An Obsessive Compulsive Disorder, where thoughts came to my mind that I did not recognize as mine, but as intruders. I was afraid of becoming a monster […] There were some sexual issues, perversions… I was afraid of… becoming someone like that […] It is called Obsessive Compulsive Disorder without compulsions. The obsessions and compulsions are only mentally manifested. I was 17 years old […] and that's when I started to get interested in psychology… It was because of this suffering that in some way I broke… I broke down, and started to seek answers about what was happening to me. I suffered a lot, I did not know… but when I started to read about it on internet and realized that other people have the same thing, I understood that I was not the only one. […]
>
> I started to go out with high school friends, but only girls… And I really took a long time to lose my virginity… […] I started to drink, when I was 17 years old […] It was a blow off valve […] I lost telephones, credit cards, clothes […] I started to behave violently… […] I ended up in jail one day. Another day I fell over and hurt myself because I was too drunk, and my father had to take me to hospital. And I also had a fight at Christmas, and ended up in court. And it was all because of the alcohol. I lost control and the day after I did not even remember what had happened.

Ernesto started to study psychology at university in an attempt to understand himself better. But as the years passed, he was drinking more often. He started to have tremors, and felt that things were getting worse. He went to Alcoholics Anonymous for four months, until he encountered ayahuasca, after seeing advice about a retreat on the internet.

The center Ernesto contacted was directed by Marcelo, an alternative therapist who had discovered ayahuasca in South America. The ritual in this center is not too different from the one described in the previous case: the ritual is also done at night, the participants sit or lie in a circle,

ethnic music is played on a computer, the goal of the ritual is to engage in self-reflection and break resistances, and there are no spiritual or religious symbols. But the institutional styles are very different. In this particular center, there is the strong presence of a charismatic authority, Marcelo, who influences the beliefs and doctrinal aspects of the practice. Marcelo regards himself as a vehicle for ayahuasca, helping the spirit of the plant to connect with shamans, professionals, and the whole world. He also regards himself as the developer of a new method to reach spiritual awareness. He proposes a faster path, mixing ayahuasca with psychotherapy and other techniques of self-knowledge and consciousness awakening. The final goal is to acquire complete freedom of the mind without the need to drink ayahuasca, something that he has already achieved. He bears a message to the "whole world", and his mission is to expand and transform people through a movement of unification and integration. From his point of view, his spiritual movement is a unique and important historical event, an evolution of consciousness going against the modern material involution of humanity.

In Ernesto's narrative we can see that the center's doctrine is embedded in his memories of the experience with ayahuasca. In the first ceremony for example, Ernesto told us:

> Suddenly, I gave a shout of rage… uncontrollable, I could not stop it, and it came from deep inside me… and from then on I was open to healing, it was like an opening of my consciousness, you know? It was so… so… formless… […] as if I was saying to the universe "I am here in this life, and I do not know why!" It was existential angst. And I believe that it is still in some way within me, because it is a part of every one here in this world. But the opportunity to look at it and not identify with it, just watch it as something that is occasionally there… the rage… the impotence… because of a sense of injustice, of why that was happening to me. Why? Why me? Why did I have that disorder? I regarded it as bad, unfair, not as something perfect. Not that jump I could make later… and then one start to thanks. Because all these things made me study psychology, and led me to understand... the strands start to twine together when you have the real perspective…

Although the experience is first described by Ernesto as "formless", and related to feelings such as "existential angst", "rage", "impotence", and "injustice", we can see that it is then reinterpreted as "something perfect" that had to happen, in a chain of events directed by the universe and life itself, leading him to self-understanding and wisdom. Marcelo´s doctrine – but also the New Age worldview – often mentions this idea that illness and personal crisis are opportunities the universe offers to grow and evolve through healing. The dramatic structure of this narrative also seems to be common in a wide variety of religious and spiritual worldviews (for example, in the evangelical groups, but with God instead of the universe, Vallverdú 2010). This structure of healing offers an excellent narrative conclusion in the search for an existential and social meaning to the illness, by attributing the healing process to a supernatural agency with a special design for every being. In Marcelo´s doctrine, the perfect design of the universe is obstructed by modern society, and that is what the participants start to learn in his school's integrations and courses. Marcelo's style

of integration is very different from Miguel's "minimalistic style". As Ernesto says:

> Marcelo is very confrontational. He confronted me, he confronted me a lot… confront means that he makes you aware of the characters and things that you believe you are or are not, and makes you to disidentify with them. He exposes you, makes you listen to what you do not want to hear. He makes you see who you are not […] It is a therapy that does not respect the Ego, does not respect character […] Character is a mask that the person has created to live in society, but it is not your true self. You are afraid of being yourself. With the passage of time you start to believe that the character is you […] You must explain this to the person… […] You explain it, you denounce this character publicly, this lie, that the person has taken as a truth […] Because when something is hidden within the person, it is intimate and very strong. But if you explain this on the outside, in a group of 15 or 20 people, the lie loses strength […] When you are free of the destiny that society has marked within you, you start to connect with what you really want. Then, life, existence, connects you to the destiny of your soul. […] As soon as you connect to your true destiny, to the destiny of your soul, you simply let yourself go, you stop controlling, you trust… […] It is an evolution... a spiritual evolution... all of us are spiritual beings living a human experience, not human beings living a spiritual experience […] When I went to retreats with him, he confronted me during the integrations. He really had a deep insight into what is happening to a person, because he had worked on inner conquest, so what he says is a pure intuition, not a projection. He says something is because he is seeing it, because he has the ability to see into the depths of the person […]

Marcelo's confrontational style is related to certain therapeutic techniques he invented to "destabilize" and "break" with the "fictional identities" produced by the individual. He considers identity to be a "personal lie" that human beings construct in their social interactions, and the first thing we have to destroy in order to "connect with our true self" and achieve an "inner spiritual evolution". We can see that this particular style of integration manipulates various cognitive elements that weaken volition and intensify the suggestion to the charismatic authority, to the group, and to the doctrine. Marcelo aggressively confronts the person, using his charismatic authority and leader figure to contradict the personal beliefs of the participants, in an attempt to break the image of themselves, and introduce them into a new narrative of salvation. He carries out this procedure in a group setting, where he has a privileged position, and after a ayahuasca ceremony, in an afterglow period in which people are more psychologically receptive, suggestive, vulnerable and permeable.

In the narrative that Marcelo presents to his apprentices he plays the central role in the path to true wisdom. Having already won "inner conquest" against the "fictional social" identities, Marcelo has acquired a special kind of "pure intuition" that gives him a direct connection with his and everyone´s "true selves". He sees things as they are, and as they are happening, so he can help you in the difficult task of breaking the "masks" we use in our everyday social interactions, and that we think are the essence of who we are. This discourse should be understood as a dramatic performance, with various discursive elements reinforcing Marcelo's charismatic "aura". For example, "the pure intuition" reinforces his authority and the trustworthiness of his speech; the "destabilization" and "confrontation" with a "social identity" detaches the participants´ from their

social ties, and strengthens their ties to Marcelo, his school, and his millenarian mission. All these ideas influence the experiences of the followers during the ayahuasca rituals, since there is not a pure experience in the ceremonies, and all the participants arrive to the ritual with an "emotional attitude" in which sensations, emotions and cultural contents interact in different ways.

In the particular case of Ernesto, the system of belief proposed by Marcelo gave him a framework in which to understand his intrusive thoughts as "masks" of the self, as false social images that obstruct the rise and growth of his real true spiritual self:

> I understood that the origin of this [alcoholism] was that I had intrusive thoughts, but these thoughts were not mine. Because I had lots of things within me that were not mine. They were from my parents, society, and family. All those fears were… were inflated in a monstrous way, as a signal that I must go deeper and face my true fears and heal them. Fear of freedom, fear of letting go, of losing control […] When you experience an amplified state of consciousness, you realize that these thoughts are not yours, and you have to let them go. Because the only thing I was doing was adding theory, garbage, hiding the source of inner wisdom within me. When I started to connect myself with that source of inner wisdom, I realized that everything that was inside me was not me. That there is another territory to explore, my true self. […]

So, in some way, the indoctrination helped Ernesto to deal with his intrusive thoughts, making him feel less guilty and not identified with these thoughts, understanding them as masks, that did not define his real self. Besides, the psychological insights and the process of decentering –in the sense given by McNamara – during the ayahuasca rituals also helped Ernesto detach from his intrusive ideas and see his addictive behavior from another perspective. The first step in his recovery from addiction was an experience in a ritual during a group journey to the Amazon rainforest,

> There, I really saw what it is to have an alcohol dependence, the terrible thing that it is to have an addiction. In one intake [of ayahuasca] I saw it, I saw many cigarettes ends, and me with a beer at home, hooked to something and not to myself. Like a handicapped person who needs a beer. I cried… I saw no escape… but really it produced a very big cure… […] And it was then that I started to quit alcohol […] You have to be aware of the nature of the alcoholic, the type who says "Hey, I care about nothing". You have to live a life of awareness, and that is what ayahuasca gave me. Because I was inside my conditioning, immersed in it. I could not see it from outside, but now I can see it, and I can disidentify myself from it, and not see it as what I am, but something that is there, and I have to be aware of it.

Conclusions

The two cases presented are an opportunity to describe and analyze the various elements involved in ritual healing for the specific case of ayahuasca ceremonies in spiritual networks. It is interesting to note how ritual healing can work in two very different ways in two different centers. The first center has a secular perspective and a minimal degree of indoctrination. Miguel´s style is more adapted to the fall of traditional religious total institutions that used to give individuals a full narrative for leading their lives, and the subsequent post/modern privatization of religious practice and beliefs. Miguel is interested in assisting in the participants' search for meaning, helping in the process but not interfering in the content. On the other hand, Marcelo's style is strongly charismatic

and he transmits his millenarian worldview to his apprentices. It is interesting that ayahuasca ceremonies and the interpretation framework given by Marcelo helped to cure –or, at least gave relief to – Ernesto's addictive behavior and intrusive thoughts, but at the cost of an unreflecting indoctrination and an acritical perception of a charismatic authority.

It is important to note that the problem of indoctrination is not the final content of beliefs. It is about the process, during the search for meaning. For example, both cases mention the belief that we are spiritual beings living a human experience. They also talk about a spiritual dimension that connects with and projects the material world, in a spiritual evolutionary process of self-knowledge. But while Daniel reached that conclusion through his own mystical experiences, without being indoctrinated by Miguel or the center, Ernesto's situation is quite the opposite. He did not have the experience, but was indoctrinated by Marcelo to recognize it. In both cases there is a process of conversion. In Daniel's case, the conversion is the passage from a disenchanted worldview to a spiritual one, with no indoctrination or institutional affiliation in the strict sociological sense of the term (that is, an affiliation that compromises self-identity and sense of belonging, and involves members belonging to a social group with its own worldview). In Ernesto's case, the conversion is also from disenchantment to spirituality, but strongly directed by a charismatic authority and a set of beliefs, with an institutional affiliation to the school in which Ernesto learns, tries to connect with his "true self", and acquires the "pure intuition" of his idealized leader, Marcelo. In Daniel´s case conversion can be explained as both a gradual and a sudden process. The classic model of "sudden Pauline conversion" through a "religious experience" is present in Daniel's first spiritual experience, but he did not accept this spirituality at once. He processed it progressively and integrated it into a new narrative of the self and the world, which he re-affirmed during other similar spiritual experiences. Ernesto's conversion is more doctrinal and seems more a desperate act of surrender to a charismatic authority who has the answers that can solve his therapeutic demands. Despite these differences, in both cases conversion comes about not by a sole singular experience but by many instances, in a transition that involves a variety of social practices and agents, and a process with a multifactorial set of conditions, something usually stressed in the literature about conversion (e.g. Lofland and Stark 1965; Stark and Brainbridge 1985; Lofland and Skonovd 1981).

But can it be said that the second case is a cult or sect in the negative sense of the term? The problem is a complex one, and impossible to fully address in this article. But it is important not to focus on the biased vision of the "danger of the sects", more commonly used by the mass media than by the professionals who work in the field. The problem of how to distinguish between church and sect is strongly related to the tension between secularization and religion, mainly after

the emergence of the New Religious Movements (Prat 1997). The rejection of new religious expressions sometimes does not consider that the mechanisms these groups are criticized for are also present in traditional institutions such as the Catholic Church, or even in our democratic system, with its mechanisms of demagogy, indoctrination and suggestion. Besides, key concepts that define the idea of sect, such as "brainwashing" and "mental control" are not scientific but pseudoscientific metaphors (Robbins and Anthony 1982). To solve this problem, some authors distinguish between "sect", which implies only a minority religious group, and "destructive sect", which includes "absolute devotion", "manipulation", and "isolation" from the family and social circles (Rodríguez and González 1989). However, if we want to go deeper into the matter, and understand and discriminate the true "destructive sects" from the others, we should go beyond the classic biased concepts of "manipulation", "brainwashing" and "social isolation", and try to better understand the cultural and cognitive mechanisms involved. Then, we should combine this knowledge with thick ethnographic descriptions of the cases, stressing the interaction between members, leaders and doctrines.

As has been shown in this article, every ritual manipulates cognitive processes in different ways, in order to transform the sense of identity and the biographic narrative of the individual. The action of the ritual must be understood as a universal biocultural practice (Geertz 2013), used for different psychological and social issues, and as a manifestation of the general process of socialization in religious and nonreligious institutions (Long and Hadden 1983). In some cases, the positive effect of ritual healing or spiritual conversion can also have negative effects, since spiritual transformation usually involves a "vortex of vulnerability" (Rambo 1993), a "masochist union" (Berger 1999), or, in cognitive terms, a temporary suspension of the executive cognitive functions, which can be used for different purposes. The ayahuasca rituals are a good instance of breaking consistencies, decentering the self, weakening volitional constrictions, and allowing unconscious material to emerge and then have profound psychological insights. But in the final analysis, the effects of ayahuasca cannot be divorced from beliefs, social ties and a general cultural context which gives the practice a particular style with different goals and effects.

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General Conclusions

Throughout this study I have analyzed the ayahuasca ritual as a practice that lies between medicine, science and religion. The objectives described in the General Introduction have been discussed in the various sections of the dissertation, and in the papers presented. Section II addressed objective 1 (to analyze ayahuasca networks as alternative health care systems, from the perspective of medical anthropology) and 2 (to analyze the intersection between spirituality and science in the case of ayahuasca), analyzing the intersections between science, religion and medicine in the case of ayahuasca in the general and the specific case of Catalonia. Objective 4 (to construct a theoretical model to explain how ritual healing works, integrating cultural and cognitive elements), and objective 5 (to use the model to explain how ritual healing works in different cases of treating addictions with ayahuasca) were addressed in sections III and IV respectively. Finally, objective 3 (introducing myself into the text by means of reflexive anthropology) was addressed primarily in section I, but also in different parts of the dissertation by describing different theories, and my personal scientific position between those theories. I have explained my academic point of view, and the theories that have influenced my understanding of the cases. I hope that the sections, articles and chapters of this dissertation can provide the reader with various tools not only to understand the theories and models proposed here, but also to visualize my theoretical decisions as a researcher and scholar, and the personal ascriptions and experiences that have influence the path that has led me to write this kind of dissertation.

It is important to stress that there is no final and univocal explanation of the topic studied. I wrote this dissertation hoping to contribute to current interdisciplinary perspectives, mainly in the field of medical anthropology. It is always a good thing to accept our intellectual limitations, because thought always reduces the object to a particular model, and comprehends it in rational terms. But we have to be cautious, and even more cautious when we analyze mystical experiences such as the ones produced during ayahuasca rituals. I have tried to explain these experiences in this study, but I feel that my explanations, like all explanations, are always incomplete, and that ultimately these experiences have something ineffable about them that cannot be explained. In some way, mystical experiences show us our rational limitations and our finitude as human beings. As the Argentine philosopher Vicente Fatone stated:

> As an experience, the mystical has no need for explanations, although it can tolerate them. But these are not mystical explanations, but explanations about the mystic. It is important to point this out, to avoid confusion between the fact and the doctrine, the mystic experience and the mysticism (Fatone, 2009, pp. 35–36 translation from Spanish by me).

Science and spirituality: the demarcation problem.

At the beginning of the 20th century, the psychologist James H. Leuba (1916) conducted a statistical study in which US scientists from biology, mathematics, physics and astronomy were

asked about their belief in God. The results showed about a 40% of believers in the scientific community. Leuba considered the high percentage of religious scientists to be the consequence of a lack of education at that time, and predicted that the rate would go down over the decades. But it seems that this is not so. More recently, Larson & Witham (1997) replicated Leuba´s survey, and the percentage is almost the same: 40% of scientists still believe in God or an afterlife, 45% do not believe and 15% are agnostics. This is not surprising if we consider that in the USA 95% of the general population believe in God or some higher power, and only 16% do not express any sort of religious affiliation (Lindsay & Gallup jr., 1999). Although the percentages are different for top scientists (e.g. Larson & Witham, 1998; Stirrat & Cornwell, 2013), the main point I want to make is that there is a strong presence of religious and spiritual believers in the total population of scientists, which contrasts with the idea that science and religion are opposing fields of knowledge. So Max Weber's idea (1999) of a progressive process of rationalization and disenchantment with the world is not only doubtful in modern societies, but also in the scientific community.

From the perspective of the epidemiology of beliefs, this is not a trivial issue. If, as the anthropologist Pascal Boyer claims, religious ideas propagate more easily in the human population because of cognitive characteristics that act independently of the cultural context, then this may also be true for the scientific population, too. As we have seen in the CSR article, according to Boyer (1994) religious ideas are particularly successful at spreading in a population because of their minimal counterintuitiveness, which means that cognitively they are more attention-demanding, and are easy to acquire, memorize and transmit. The idea is that the main characteristic of a religious idea is a counterintuitive claim that violates expectations of natural biological, physical, and/or psychological phenomena. The counterintuitiveness must be minimal; if it is not, the idea becomes overloaded with counterintuitiveness and loses its advantage over others,

> In slightly metaphorical terms, one could describe the interaction of violations and confirmations as a kind of division of labor. Religious concepts could not be acquired, and more radically could simply not be represented, if their ontological assumptions did not confirm an important background of intuitive principles. At the same time, they would not be the object of any attention if they did not contain some principles that are simply ruled out by intuitive expectations. One can therefore assume that certain combinations of intuitive and counterintuitive claims constitute a cognitive optimum, in which a concept is both learnable and nonnatural (Boyer, 1994, p. 121)

But Boyer´s model only explains why religious ideas are more memorable, not how a person makes a personal commitment to them, truly believing in them. The issue is addressed by Scott Atran (2002) in the "Mickey Mouse Problem". We all know who Mickey is, but most of us do not believe that he really exists. His human-like behavior is memorable, because it violates the ontologcal division between humans and other animals by transferring human features to a mouse. But we do not have a special commitment to him as a moral legislator, or as a creator. For a religious idea to be believed we must considered other cognitive processes related to our ability to establish personal

commitments to ideas and values. Some of these abilities are related to social cognition dispositions that ensure adherence to a belief within a community and a particular cultural context (Gervais, Willard, Norenzayan & Henrich, 2011). Some of the most common mechanisms mentioned in the epidemiology of beliefs are: imitation of the majority, learning from the members of a close in-group (e.g. parents), imitation of a high-status individual (also called prestige bias), attention to costly signals that ensure the credibility and commitment of the individual (called credibility-enhancing displays, or hard-to-fake signals), and other context biases (for a review of the topic, Czachesz, 2017, pp. 166–186).

In the particular case of the scientific community, the process of becoming committed to a particular theory or SRP is not straightforward, rational or clear. Charles Peirce (1877) may have been one of the first scholars to consider this idea when he described different levels of "fixation of beliefs". He identified four methods: tenacity (believing in something because it is already held to be true), authority (because someone important said so), metaphysical or aprioristic (because it sounds rational) and scientific (based on logic and facts). As Juan Samaja points out (1998), Peirce did not regard these methods as acting in totally separate ways, but at different levels, and with possible interactions. Scientists do not stop using the other levels of fixation, and in some ways, they depend on them, since it is impossible to scientifically test every idea using our own individual experience. So scientists are not immune to hunches, to believing in something because someone important in the field says so, and even to confusing speculation with facts.

In the philosophy of science, this dilemma is usually solved by the separation between the context of discovery and the context of justification. That is, scientists can use whatever they want to discover or create something individually, but in the scientific community they must prove the idea using a specific methodological protocol related to the context of justification, testing the idea and exposing it rationally and empirically to the scientific community, so others can replicate the procedure. In history and the philosophy of science, this separation is also related to the "internalist" conception of how science works. Internalism implies that the production of scientific knowledge depends on the rational internal steps that link one theory to another, and that social/external factors are not determinant at the theoretical level. This idea was questioned after the publication in 1931 of *The Social and Economic Roots of Newton's Principia*, by Boris Hessen (1931), who described the relationship between Newton´s theories and the middle-class in Europe. In the second half of the 20th century the debate continued with the confrontation between positivism (e. g. Merton, 1965) and relativism (Kuhn, 2004 [1962]), and in the present through a variety of nuances and perspectives in the interdisciplinary field of Science & Technology Studies. Although I feel I belong to evolutionary epistemology, in the sense that I consider science not only to be one kind of knowledge among many but the most solid and reliable we can acquire through our evolutionary and cognitive abilities (Wuketits, 1984), I also think that things are not crystal clear within the internal context of justification. For example, in the Social Studies of Science, Boundary-

work research shows that the strategies of demarcation between what is and what is not science have changed at different historical and cultural moments (Gieryn, 1983). Studying the mechanisms of "fixation of beliefs" in science involves going beyond the ideal image of scientific knowledge as an exclusive final product of a rational chain of internal steps within a justification context, isolated from other external factors such as religion or spirituality. This does not mean that good science should always be the result of a clear, logical and justified method; it can also be practised with skepticism in an organized and non-dogmatic way. But to ensure better science, we should not ignore all the mechanisms involved in the production and commitment of ideas, including those mechanisms that are not part of mainstream scientific analysis, but work backstage on the academic production of knowledge.

In Section II, I described some intersections between science, medicine, and spirituality, showing how spiritual beliefs and experiences are more or less present in academic and medical practices. I defined religion/spirituality not by using the ideas of counterintuitiveness or superhuman agency, but as the idea of consciousness being independent from the natural world and interacting in a phenomenological supernatural realm to create an intuitional belief in what I called "spiritual ontologies". The intuitive belief in a spiritual realm is possible because human beings, through different ASCs, naturally experience consciousness as not always grounded in the material world. In our particular case of psychedelic studies, the centers that use substances as gateways to spirituality have different secular and spiritual perspectives. The case of Spain is not an exception, as we have seen in the perennial background of the new spiritual psychologies of Claudio Naranjo, the Western reformulation of shamanic practices by Fericgla, and the more pragmatic syncretism of Western and folk healing practices by Fábregas. These cases integrate alternative medicines, spiritual ontologies, Western academic health practices and the use of psychedelics in different ways.

In psychedelic studies, the presence of the belief in spiritual ontologies is strongly related to the ASC experiences of the researchers themselves, which has contributed to a shift from a mere pharmacology of consciousness to a pharmacology of spirituality. The first-hand experiences of the scholars produced personal, intellectual, and professional commitments that led to new perspectives, schools and theories, integrating spirituality as a psychotherapeutic tool in different ways. Following Sperber´s distinction between intuitive and reflective beliefs (Sperber, 1996), it could be said that spiritual ontology is a kind of intuitive belief related to ASC experiences that produces different kinds of reflective belief, some of which are secular, and others more spiritual, depending on how the spiritual experiences are interpreted. These reflective beliefs are interpretations that also come about in the interactions between personal spiritual beliefs and other

ideas circulating in the academic environments. But, like counterintuitiveness, it is important to mention again that spiritual experiences do not directly ensure commitment to a particular belief. ASCs are a heterogenic cluster of subjective experiences which can include different cognitive processes, and the final commitment to certain beliefs will depend on various factors. The perspective presented in this dissertation tries to integrate this variety of factors, in an interdisciplinary approach that includes neurological, cognitive, social and cultural elements.

Medicine and religion: the legal conundrum of ayahuasca

Nowadays ayahuasca is in an uncertain legal position, caught between categories such as "religious freedom", "public health", "drugs", and "medical practice". As a substance, it contains DMT, a prohibited drug according to international treaties. But, as a brew, it can be interpreted as a concoction that is not DMT and, therefore, not explicitly mentioned by the international conventions. As a practice, ayahuasca rituals can be protected as a manifestation of religious freedom but, when considered as a medical procedure, they are usually forbidden. As we have seen through the lens of medical anthropology in Section II, this separation between medicine and religion is a difficult one, at least in most of the organizations related to ayahuasca. Besides, in the same way that ayahuasca religious practices cannot be divorced from their medical aspects, psychotherapeutic practices related to ayahuasca cannot be separated from their spiritual aspects, as we have seen in section II.

Medical anthropology is useful for understanding health practices beyond the limits of biomedicine, in what is called medical pluralism. This concept includes those medical practices that usually take place in informal networks, such as alternative medicines, religious institutions, folk healing traditions, and many others. It is also useful for analyzing how the legitimation or prohibition of certain medical practices depends not only on rational and empirical scientific evaluations, but also on cultural, economic, political and religious factors. In our particular case, most countries have a void in the legal status of ayahuasca, and in those that do not ayahuasca is protected by the freedom of religious practice. The blind spots that the prohibitionist paradigm in drugs has generated has produced a situation in which there is, on the one hand, a growing population with the urge of *numen*, but often with no information about the potential harm and side effects these substances might have. On the other hand, a growing proliferation of a variety of centers offering the brew, some of them directed by responsible trained therapists, but others by people who are not well-prepared to offer the therapeutic support needed for this kind of practice. So even if we believe that ayahuasca has no therapeutic value at all, we must bear in mind what situation is generated by the prohibition paradigm. For ayahuasca, like other substances, the ideal scenario should always be not to prohibit, but to construct instances of information, self-

regulation, and interconnections between the social actors implicated, in order to minimize risks, and maximize positive effects if there are any. In the construction of these instances, academic researchers should provide the various institutions, centers, and policy makers with help and expertise.

Ritual healing, addictions, and dependence

The interdisciplinary perspective presented here is useful for analyzing ritual healing in both cultural and cognitive terms. The model shows that culture and social interactions are not isolated from cognitive dispositions. They are grounded in them but, in a feedback loop, they also change them, always within the limits of the natural constraints of the architecture of the brain. Culture is one of the ways cognition shapes itself, using socially shared knowledge and tools. Ritual plays an important role in this, since it is a special space in which a variety of strategies are implemented to manipulate cognition and solve social and psychological problems. I have presented the ritual as a dramatic performance in which cultural symbols, tools and social interactions are used to have cognitive effects on the patient, triggering a variety of potential therapeutic effects, in the short, middle, and/or long term. The ritual has cognitive effects that are useful for certain therapeutic demands, since it can cause a variety of experiences that alter a participant´s perspective on life, the world, self-identity, behavior, social relationships, projections to the future and ways of understanding the past. In the cases presented, we can see that the recovery from an addiction is not due to a single cause; several effects have an impact on different physical, neurological, psychological, social and cultural levels. But if the effect is to be long term – in our case, the avoidance of a dependence behavior pattern – the treatment must leave a mark on the narrative of the self, which is usually identified as a turning point in the biography of the individual, and which in most of the cases could be described as a kind of spiritual conversion.

Like other kinds of ritualistic activities, ayahuasca rituals are a "therapeutic emplotment", using Calabrese´s concept we mentioned earlier (Calabrese, 2014). These traditional strategies for dealing with different health problems should not be excluded from the range of potential therapies to treat addictions. NIDA's principles of effective treatment (2012) state that no single treatment is appropriate for everyone. In Western therapies, there are different options for dealing with drug dependence, but most of them do not specifically address spirituality. This is not a minor issue, if we consider that most people believe in something, with or without an institutional or religious affiliation. Furthermore, at least some resistant cases go through all kinds of therapies without finding an effective solution for themselves. In the twelve cases that I have presented, half of the cases went through different conventional therapeutic strategies, without finding a solution to their problem. Some of them were spiritual or religious people, but others were not so it may be

important to study in which cases the use of psychedelics should be considered, as they seem to be more effective for certain people.

But… could spirituality or ayahuasca be considered as a new dependence that substitutes a previous one? In the strict sense of the term – as it is defined by the DSM and the ICD – the answer is that they cannot, at least in the cases studied in this research. But in a wider sense, if we regard humans as socially and culturally dependent beings, then the ayahuasca ritual could be considered as a new dependence. This dependence is neither positive nor negative *per se*. Being healthy does not involve being independent from things, substances or people. On the contrary and as we have seen earlier, we are bio-socio-cultural beings who function by being coupled to the environment. It is in our nature to establish strong social ties with a certain degree of emotional dependence. Our brain, mind, and body are extremely sensitive and dependent on the use of the resources of the environment, including technology, food, substances, and other people. We need social ties and to find physical and psychological homeostasis between us and our context in order to construct and project ourselves onto everyday life in society. Our brain is an organ that is naturally adapted to be social, and our identity and happiness is possible only in relation to others. Reward and craving are also natural adaptations of our brain for seeking food, water and other necessary things. Escaping from daily duties is also important, in order to mentally and physically rest and recover. So, it is important to have moments of stress – the "sympathetic" moment of "fight or flight" – and to have time to reach a state of calm, where recovery and self-healing occurs – the "parasympathetic" moment of "rest and digest". So a sedative state of consciousness and the temporary rejection of daily problems are also important for a healthy personality. Finally, it is not necessarily unhealthy to use psychoactive substances in order to reach these states of calm and leisure.

Addictive behavior is the result of an untenable dislocation of these mechanisms in the particular social and cultural context in which they are embedded. It is not produced solely by the drug, but also by the way in which it is used, and how this use affects and subsumes the other activities and moments of life which cannot be avoided or rejected indefinitely. Being healthy is about being able to cope with everyday problems, and being flexible enough to adapt to the unavoidable changes during our life span, something that addicts seem to lack in most cases. All these problems and changes must be processed if we are to reorder our lives in the new circumstances. Spiritual beliefs, religious rituals, and specifically the ayahuasca rituals described in this dissertation, address this problem of reconstructing the narratives of the self, in an effort to put the new and the old pieces together again. As anthropology pointed out long ago, different

societies have been using a variety of rituals for this: rites of passage, weddings, funerary rites, initiation rituals, and so on.

In the specific case of ayahuasca rituals, and as we have seen above, they are frequently used to deal with medical issues. In the cases presented we have seen how ayahuasca rituals played a major role in the reconstruction of the individual´s self-narratives, producing different effects, and leading to changes, most of which were positive, but some of which were potentially negative. This is a delicate moment, and it is even more delicate if the life of a drug addict needs to be reconstructed. This moment of vulnerability is also a moment of strong suggestion, and religious indoctrination can happen in both positive and negative ways, and with the possibility of a new dependence on a charismatic leader or a community, which could be negative for the individual in the long term. The degree of "dependence" on the new spiritual/entheogenic practice or the group does not depend on ayahuasca or the ritual itself, but on factors that may vary from case to case, and from group to group.

Healing, conversion, and indoctrination

Nowadays, and against the background of the renaissance of psychedelic studies, a wealth of scientific studies suggest that ayahuasca rituals are not only relatively safe but also that they are potentially useful for treating some health problems, among them, addictions. In section IV of this dissertation we have seen different cases of former addicts who have recovered by following a therapeutic strategy centered on the ritualistic use of ayahuasca. As has already been mentioned, this study is not an assessment of the effectiveness of ayahuasca in the treatment of addiction. The main goal was to explain how ritual healing works in the case of ayahuasca by analyzing certain cases of former addicts who have been successfully treated in centers in Catalonia. The interdisciplinary model proposed in section III describes how cultural techniques and social interactions in the ritual produce different cognitive effects that have the potential to produce a positive medical outcome in the participants. Psychedelics such as ayahuasca are especially useful, since they act on mechanisms that are usually addressed by rituals but, with the help of these substances, the desired effects are easier to reach, and also more intense. The breakdown of constancies, the search for new associations and meanings, the reduction of executive functions and the intensification of visual and emotional contents are all exploited in different ways, and not only in psychedelic spiritual and medical applications. They are also used in other ritualistic practices.

In the liminal ritual space of ayahuasca ceremonies, experiences are revealed and mechanisms are activated, so it is difficult to find a single path that triggers potential changes. Despite this, if the ritual is to have a lasting effect these mechanisms need to have an impact on

the patient's self-identity. This effect involves integrating the experience into the biographic narrative of the self. As we have seen in section III and IV, the potential changes that the ritual triggers in the individual must be understood not only within the limits of the ritual itself, but also as the memory of the experience produced during and after the ritual. The experience is a significant episode in the biographic narrative of the subject and produces certain changes in the participant's self-image. The new narrative of the self is always a social narrative, about an agent interacting with other agents in a social scenery, and committed to a social life style and values. So it is not strange to find certain common patterns in the experiences with ayahuasca related to social cognition.

The effects of the ritual are not essentially psychotherapeutic. They can also be associated with other kinds of goals: for example, for combating witchcraft, or as a suggestion technique for indoctrination. Indoctrination is not necessarily harmful, and doctrinal modes of religiosity were and still are an important technique in the transmission of knowledge in large-scale societies. Although the last case studied in section IV could give the impression that it is a kind of "destructive sect", I recommend the reader to go beyond these stereotyped conceptions of certain religious movements, and think how similar techniques of suggestion and indoctrination can be found in different social and political events and organizations, without being considered *per se* as negative or destructive. The principle of a reflexive and critical approach demands that the same model used to explain the subjects studied must also be used to explain ourselves. So maybe we should worry about indoctrination and charismatic suggestion not only when it is used in this kind of strange religious group, but also when it is used every day in the mass media for political indoctrination, partisan membership and nationalism. And I am not referring only to the current revival of nationalism and bigoted right-wing ideologies, but also to the general political and mass media mechanisms of manufacturing consent (Herman & Chomsky, 1988). Learning from religious indoctrination should help to understand not only how religious people are susceptible to acritical thinking, but also how indoctrination is a general process that is part of our daily life.

The positive and/or negative outcome of the ritualistic use of ayahuasca depends on several factors, and not only the brew itself. In this sense, ayahuasca rituals are no different from any other kind of ritual or psychotherapeutic strategy. Ayahuasca is one more element that interacts with other physiological, psychological, social and cultural elements. So if we want to understand its potential negative or positive effects, we should consider all these aspects. This kind of study needs to take into account different perspectives and disciplines; it needs to be an interdisciplinary study that avoids monodisciplinary reductionism. The interdisciplinary model presented in this dissertation is an attempt to integrate some of these factors by using insights from different SARs that integrate cognitive and cultural variables. But it is only one of many different models, and it

does not explain all the complexity of the phenomena studied, including the spiritual experiences of the participants. With this model I only tried to shed more light on a topic that is usually viewed through a different lens, but rarely combined in new integrative perspectives. Methodologically speaking, if we are to understand ayahuasca ceremonies we must consider the cognitive mechanism involved in its ritualistic use. And to do so, it would be a big mistake to underestimate the neurological and psychological knowledge on how the human mind works. As I have already pointed out more than once in this dissertation, mainstream cultural anthropology should reconsider its relation with these disciplines and other natural sciences. But the opposite is also true. Ayahuasca rituals cannot be explained without taking into account the context in which they are used. So ethnographic method, as well as other qualitative approaches, should always be a part of biomedical research, because it completes our understanding of real life interactions.

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