



AYAHUASCA BETWEEN COGNITION AND CULTURE

Perspectives from an interdisciplinary
and reflexive ethnography

Ismael Eduardo Apud Peláez

COL·LECCIÓ ANTROPOLOGIA MÈDICA

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Ayahuasca: Between Cognition and Culture

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Tarragona, 2020

PUBLICACIONS DE LA UNIVERSITAT ROVIRA I VIRGLI
Av. Catalunya, 35 - 43002 Tarragona
Tel. 977 558 474 · publicacions@urv.cat
www.publicacions.urv.cat



Antropologia Mèdica, 32
1st edition: March 2020
ISBN (paper): 978-84-8424-834-7
ISBN (PDF): 978-84-8424-835-4

DOI: 10.17345/9788484248347
Legal deposit: T 226-2020

Photograph of the cover page: the curandero Francisco Montes entering to Sachamama center in Iquitos. Photograph taken by Ismael Eduardo Apud Peláez, Peru, February 2014.



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Publicacions URV is a member of the Unión de Editoriales Universitarias Españolas and the Xarxa Vives, which ensures the dissemination and sale of its publications nationally and internationally.

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ABBREVIATIONS

- 5-HT: 5-hydroxytryptamine
AA: Alcoholics Anonymous
APA: American Psychiatric Association
AIDS: Acquired Immune Deficiency Syndrome
ASCs: 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
fMRI: Functional Magnetic Resonance Imaging
HRS: Hallucinogen Rating Scale
HIV: Human Immunodeficiency Virus
ICD: International Classification of Diseases
IDEAA: Instituto de Etnopsicología Amazónica Aplicada (Institute of Applied Amazonian Ethnopsychology)
LSD: Lysergic Acid Diethylamide
MCI: Minimal Counterintuitiveness
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
NRMs: New Religious Movements
RCTs: Randomized Controlled Trials
SPECT: Single Proton Emission Computed Tomography
UDV: União do Vegetal
URV: Universitat Rovira i Virgili

ACKNOWLEDGMENTS

To the people who participated or helped with the research: Juan Scuro, Merilena Vazquez, Mia Fábregas, Rick Strassman, Edward MacRae, José Carlos Bouso, Jordi Riba, Iker Puente, Genis Ona, Tré Borrás, Joan Prat, Núria Martorell, Jaume Vallverdú, Manuel Villaescusa, Giovanna Valls, Álvaro Mailhos, Ignacio Estevan, Mario Luzardo, Claire White, Ilario Rossi, and the informants in Latin America and Spain.

To my MSc and PhD supervisors: Alejandro Maiche, L. Nicolás Guigou, István Czachesz and Oriol Romani.

To my friend Nicolás Peruzzo for his drawings.

To the Sectorial Committee of Scientific Research (CSIC) of the University of the Republic (UdelaR, Uruguay), the Faculty of Psychology (UdelaR), and the National Agency of Research and Innovation (ANII, code reference POS_- EXT_2013_1_13637) for their financial support.

To family and friends, especially my little niece Giulianita!

PSYCHEDELIA, RATIONALITY AND EXPERIENCE:
AN ANTHROPOLOGICAL PERSPECTIVE

Oriol Romani

Medical Anthropology Research Center, Universitat Rovira i Virgili

If I have dared to paraphrase the title of Byron Good's well-known book (2003) on biomedicine, it is because I truly believe that nowadays psychedelia is made up of these two parameters (although to associate rationality with psychedelia could be regarded as a deadly sin by most of its mystical adherents). We should remember that for a long time now – maybe ever since Claude Lévi-Strauss' (1964 [1962]) *The Savage Mind* became canonical reading – anthropology has recognized all the various rationalities present in different cultures. At the same time, in *The Problem of Social Reality* Alfred Schutz (1974 [1962]) claimed that the irreducibility of experience can be at least attenuated by understanding the meaning we attribute to it. Therefore, although it is true that the relations between those two parameters are too complex, it is also true that both experience and rationality are inseparable, at least if we want to embrace the scientific study of human activity. This inseparability and complexity is discussed by the author of the book you are holding.

The book is a reflexive analysis of 10 years of research into ayahuasca. I will not describe these 10 years, because the author himself summarizes them in the text. I am more interested in pointing out other issues. First, I would like to mention the reflexive anthropological approach undertaken by the author, which allows him to integrate his personal experiences with ayahuasca into the whole ethnographic intellectual practice. I think this approach brings the research closer to a situated autoethnography, but still a long way from certain postmodern perspectives that are so concerned about the place of the anthropologist that they end up forgetting what the anthropologist went there to study in the first place. This is not the case of Ismael Apud, who moves through a variety of disciplines – mainly, as

he defines them, medical anthropology, the cognitive science of religion, and evolutionary psychology – to describe a complex picture. He gives a good description of the history of the uses of ayahuasca, going from its traditional context to its current meaning in the globalized world. Subsequently, he focuses on how ayahuasca is used to treat addictions in Catalonia and reflects on the relationship between science and religion.

Although it is true that there are certain similarities between the personal ayahuasca experiences of a wide variety of people, it is also clear that using it in an urban Western setting is not the same as using it in the context of native communities. Traditional societies are to some extent isolated from the specialization of modern societies. In traditional communities, the ayahuasca ritual brings meanings and social roles that usually belong to different social fields into the same space and time (for example, our distinction between medicine and religion). The situation changes when the practice is transferred from the native shamanic context to our modern interconnected societies. While in the traditional context ayahuasca is used without distinction as both a medical and a religious practice, modern societies use ayahuasca in different social contexts: religion, medicine, self-help, ethno-tourism, recreational social rituals and others.

These particularities have transformed ayahuasca into a transnational phenomenon, boosted by a cultural invention known as the New Age, one of the inheritances of the counterculture of the 1960s. At this point, I would like to quote a fragment I wrote long ago about the variety of these inheritances:

...the countercultural inheritances of what, at a particular historical moment, were a group of subcultures in a situation of marginality-opposition to the dominant system can be identified in a wide spectrum of features of current society: certain flourishing sectors of industry and trade; uses and habits indissolubly linked to Western ways of life in this historical period of crisis of civilization; and a whole range of movements that radically defend a way of life totally different from the other ways of life that reign over planet Earth' (Romaní, 1983, p. 32; translated from Catalan).

Although this was written in 1982 – almost 37 years ago – I think time has confirmed that the contradictory inheritance of the cultural explosion we know as the counterculture of the 1960s was partly to do with drugs!

The contradictions of that cultural inheritance are well described by Ismael for the case of the contemporary uses of ayahuasca, which can be situated at the heart of the “neoshamanic complex” (see, for example, Prat

2017). In fact, psychedelics, chosen as tools and symbols for alternative ways of life by some countercultural groups of the 1960s, could be playing the same role for some current participants. Furthermore, psychedelics can be found in what seem at first sight to be dissimilar phenomena. One example is ethno-tourism, a phenomenon that has at least helped native communities – marginalized by neoliberal globalization – to affirm their presence in both cultural and economic terms, although this is happening in a transnational context of assimilation of subalternity. Another example is the use of psychedelics in a variety of therapeutic practices, which were initially alternative but nowadays this is no longer necessarily the case. As Ismael mentions, ayahuasca is now being used by various specialized institutions as a therapeutic resource for the treatment of drug dependence.

I think it is important to stress the author's excellent analysis of the interconnection between science and religion, two cultural traditions that seem so far apart at first sight. One example of this interconnection is the importance of anthropology as a science in the rise and development of neoshamanism as a religious practice. On this particular issue, some people could be poking the bear and questioning the scientific status of anthropology. Alternatively, others could be defending the expressive and artistic approach of the discipline against a narrow and mechanical view of science. But this is not Ismael's case. He analyses the topic from the point of view of an agnostic scientist, using his anthropological and psychological background creatively but rigorously.

The book can be approached in several ways. It can be read as the itinerary of a personal inquiry within the spiritual culture of "wisdom plants." It can also be read as an anthropological monography, that is to some extent multi-situated. And finally, it can be read as a classic ethnography (in the good sense of the term!) with some useful insights (for example, cognitive concepts that could shed light on the assessment of some therapies). The book is written in an enjoyable ethnographic style, which shows the benefits of anthropology, a profession that allows us to work in something we love. Of course, this principle should be extended to every human enterprise, and all of us should have the opportunity to work in a fulfilling activity. But this does not mean that academic work does not have its own contradictions. One of these contradictions is apparent in the present scenario, in which scholars have become their own exploiters, in a logic of the entrepreneur of oneself, so well described by Gilles Deleuze (1995). In an academic system that is increasingly more profit-oriented, more bureaucratized, and more based on numerous forms of precarious jobs, conducting ethnographies has become a difficult task.

I hope I have been successful in describing what I mentioned at the beginning of this preface: the inherent contradictions and the intriguing relations between rationality and experience, discussed in the present book about ayahuasca by Ismael Apud. As his PhD supervisor, I have learned lots of new things from him and, as it is always a good habit to give thanks, I would like to seize the opportunity to publicly express my gratitude. From my point of view, being able to supervise a variety of dissertations is one of the most gratifying academic activities. In the process, you always learn something new. And it is also a good opportunity to be brought up to date on different subjects because PhD students need to be fully aware of the state-of-the-art of the topic studied. This was undoubtedly true in the case of Ismael.

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INTRODUCTION

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. It is usually prepared by mixing two plants: the vine *Banisteriopsis caapi*, which contains the beta-carbolines harmine, harmanine and tetrahydroharmine, and the bush *Psychotria viridis*, which contains N,N-dimethyltryptamine (DMT), an alkaloid similar to serotonin. Both substances are essential for the psychoactive effects of the brew. DMT is the major active compound but, when ingested orally, it is degraded by monoaminoxidases in the gut, so harmala alkaloids are needed to inhibit this degradation (Bouso, 2012; Callaway *et alii*, 1999). The brew is widely used in the Amazon, so there is a great deal 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 such as *toe* in Peruvian shamanism).

The origin of the brew remains unknown, since it is not easy to conserve archaeological material in the rainforest. Some authors believe that ayahuasca has been drunk for thousands of years (Naranjo, 1986). Others suggest that it is a recent colonial and *mestizo* invention (Brabec de Mori, 2011; Gow, 1996), and yet others contest this by claiming that there is strong historical evidence of its use by native people in the jungle (Cipolletti, 2011, 2017). Historical accounts can be traced back to the Jesuits’ anecdotal testimonies in the 18th century, and to the first scientific descriptions in the 20th century, when the geographer Manuel Villavicencio (1858) encountered it in the Napo River, and the botanist Richard Spruce (1873, 1908) described it being used by natives on his journey with Alfred Russel Wallace.

In the Amazon rainforest, 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 the indigenous Amazon healing systems, a phenomenon that has been well documented by medical anthropology for decades (e.g. Dobkin de Rios, 1973; Kuczynski-Godard, 2004 [1944]). Other kinds of practice emerged during the first half of the 20th century, with the arrival of churches that made different combinations of Umbandism, Kardecian Spiritism, popular Catholicism and shamanism.



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

These churches appeared during the rubber boom in the northeast of Brazil, when a poor Afro-descendent population migrated to what is now the state of Acre to work in rubber extraction. The workers got 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 shamanic cosmologies and Afro-descendent cultural background. In a social context of extreme poverty and poor sanitary conditions, these religions created new strategies of solidarity and medical practices, all of which revolved around the brew (Goulart, 2008). Raimundo Irineu Serra in Rio Branco (capital of Acre) founded one of these new religions, the Church of Santo Daime, in the 1930s. Later, in 1945, and in the same city, Daniel Pereira de Mattos created the Church of Barquinha. In the 1960s, 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 Centro Eclético da Fluente Luz Universal Raimundo Irineu Serra (CEFLURIS), led by Sebastião Mota de Melo.

Since the 1990s, ayahuasca sessions have become a transnational phenomenon, gaining popularity in religious, spiritual, secular and scientific environments (Labate & Cavnar, 2014). First, UDV and CEFLURIS expanded internationally and then ayahuasca started to gain popularity in the Western global networks of psycho-spirituality, after it came into contact with such religious and therapeutic practices as alternative therapies, yoga, ethnotourism, meditation, holotropic breathwork, New Age literature and transpersonal psychology. Finally, ayahuasca became a major player in the “renaissance of psychedelic studies.” Research into the properties of the brew were initiated in clinical and non-clinical settings, and therapeutic centers were set up in several countries, combining Western and traditional approaches.



Figure 2. Two different ritual settings. On the left, session in a Church of Alto Santo. 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 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. As an ethnographer in the field of religions, I decided to meet those groups, participate in their rituals and drink the brew myself. I started my fieldwork informally in Santo Daime, in the year 2008, not as a researcher, but as a regular participant who went there more

out of spontaneous curiosity than for a scientific purpose. Although at first I experienced nothing at all, I noticed that during the ayahuasca sessions some participants were having profound experiences. I also noticed that the brew was helpful for such ailments as depression, addiction and other psychological problems. But as time passed, and I became more accustomed to different religious and psychonautic settings, I began to experience mild but regular visions.

Finally, in 2009, during a ceremony in the holistic center Ayariri, I had a profound experience, which was a turning point in my life. As both an agnostic and an academic, I was intellectualizing religion in such a way that, until that moment, I did not realize the importance of participants having a direct experience with the realms and/or entities that they believe in. The experience convinced me to study more formally ayahuasca's religions and spiritualities. I set out on a journey through different places: Uruguay, Brazil, Peru, and later Spain.

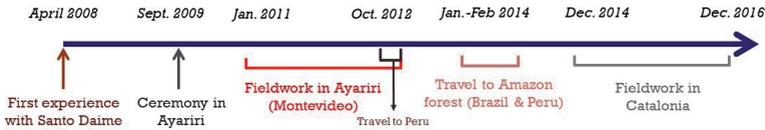


Figure 3. Timeline of my research into ayahuasca, from my first experience with the brew to the end of my fieldwork in Catalonia.

During my research several questions arose: why is ayahuasca used in both spiritual and healing practices at the same time? Why does ayahuasca heal and what is the scientific explanation? Why are some scholars studying ayahuasca already affiliated to religious or spiritual groups and why do others convert during the course of their research? I have tried to answer these questions using my own training as an anthropologist and a psychologist. As the reader will notice, I used various theories that, to one extent or another, are related to my expertise, in a multilevel approach. I try not to limit the analysis to the cultural level, which is the common trend in cultural anthropology. Besides, my interest was not only to use the model, but also to explain why I chose it, and how it was related to my own personal, cultural, and academic trajectory. I used a reflexive anthropological approach, introducing myself into the text as part of the analysis so as to make myself visible as a researcher, with my own worldviews and cultural ascriptions as a social and academic actor.

The current book is a summary of all these concerns, which first emerged in Latin America and then developed in Catalonia, over a period of nearly 10 years. Section I, “Ethnography in Latin America”, addresses my fieldwork on the continent, focusing on Uruguayan networks of spirituality, neoshamanic practices, and the transnational network of spirituality that connects the country with centers in Peru and Brazil. In Chapter 1, “The fieldwork before the fieldwork”, I describe my initial experiences with ayahuasca groups, and how they convinced me to make an ethnography of ayahuasca. Chapter 2, “An ethnography from Uruguay to Peru,” is about my fieldwork in Latin America, taking Uruguay as the starting point. I will describe not only the field but also the approach that I used to understand ayahuasca rituals and the spiritualities surrounding it. I used an interdisciplinary approach, which combined psychological and anthropological insights, in an attempt to unveil the cognitive underpinnings of the cultural and psychological manifestations of ayahuasca practices and beliefs.

I also tried to understand ayahuasca practices in their intersections with science and religion. From the very beginning of my research, I noticed that many of the scholars and researchers studying ayahuasca also believed in its spiritual manifestations and some were affiliated to religious institutions or spiritual centers. For an agnostic like me, this was curious, because modern science supposedly came about as an alternative to religion. So I have attempted to understand why this happens to ayahuasca researchers in the big picture of the history of science, a topic that I will address in this book more than once. Chapter 3, “Anthropology, shamanism, and neoshamanism”, addresses this concern by focusing on the relation between anthropology and the rise of neoshamanism. I will describe how the emergence of neoshamanism was related to anthropology as an academic discipline, a good example of the permeability between science and religion.

In Section II, “Ethnography in Catalonia”, I will describe my research in Catalonia and surrounding areas, conducted during my PhD studies in medical anthropology at the Universitat Rovira i Virgili. In Chapter 4, “Ayahuasca and medical systems in Catalonia”, I use key concepts from medical anthropology to shed more light on the relations between religion and medicine in the case of ayahuasca. I describe ayahuasca at the intersections between different cultural health care systems in Catalonia, and analyze it as both a medical and a religious practice. Chapter 5, “Science, spirituality and ayahuasca”, goes deeper into the demarcation problem

between science and religion for the case of ayahuasca, psychedelics and for the general case of science and the academy. I propose a multi-level model – cognitive and cultural – to explain why this happens, which uses insights from cognitive anthropology, cognitive science of religion, evolutionary psychology, and other interdisciplinary approaches.

The last chapters address the specific problem of using ayahuasca for ritual healing, both theoretically and empirically. In Chapter 6, “Ritual healing from a multi-level perspective”, I briefly describe various ritual theories from medical anthropology, cognitive science of religion, the study of conversion and religious experience, and psychedelic studies. Those theories all had an influence on the model I propose, which integrates cognitive and cultural dimensions of analysis. In Chapter 7, “Ayahuasca healing and addictions in Catalonia”, I use the model to analyze how ayahuasca ritual healing could be applied to treat addiction. To this end, I conducted a qualitative study of 12 cases of former addicts treated in centers in Catalonia and surrounding areas. I describe these cases in this chapter, while in Chapters 8 and 9 I subject half of them to a more in-depth analysis. Finally, in “General Conclusions,” I briefly return to each of the topics presented and reflect on them more generally.

The reader should be warned that this book is a summary of a long research project, which has spawned numerous articles and publications. It contains old and new ideas on the topic, which are discussed in a shortened and simple style, in accordance with the length and aims of the book. Some parts are taken directly from my PhD dissertation, while others are a reformulation of previous ideas presented in articles, chapters of books, and my master’s degree dissertation. My intention is to give the reader an overview of the whole of my trajectory in the field of ayahuasca to date. I will do my best to present the topics in a clear and enjoyable style.

SECTION I.
ETHNOGRAPHY IN LATIN AMERICA

CHAPTER 1. THE FIELDWORK BEFORE THE FIELDWORK

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 Montevideo, Uruguay, the city where I was born. So it has been a long journey, in both time and 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 something that could be experienced phenomenologically by the people who believe in them.

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 had 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, so the crossroads between religion and mental health was of great interest. 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 curious. But my friend was reluctant to put me in touch with the Church, since he felt – I guess – that his experiences were too personal and intimate, and he wanted no interference with his inner work. Finally, however, he left the Church, and the path was clear for me. 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 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 had 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. Martín 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 have 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, 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, accompanied by a guitar and some percussion. The songs were in Portuguese. I sang with them using a little book that Martín 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 overpowering for me. I am also concerned about how my secular beliefs will cope with this ritual experience. There are 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 CEFLURIS/Santo Daime, and 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*. 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 crises.

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).



Figure 4. Work in Santo Daime. Photograph taken by me, Céu do Mapiá, Brazil, January 2014.

This is one reason why 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), which are used according to the ritual calendar. The hymns are in Portuguese and express the moral and religious wisdom of the various *mestres* of the church. Although this worldview has its origins among the lower classes of the population, the rubber workers, the millenarian idea of salvation and struggle against a modern Western materialistic evil fit well with other discourses (for example, those of the New Age networks) that were more common in the urban middle and upper classes. My fieldwork experience (Apud, 2013b) showed that participants at Céu de Luz are from the lower and middle classes, quite unlike the more affluent attendees at 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 neoshamanic centers (for a more detailed ethnographic account of the 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 on arriving was to go to Martín’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. Martín 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 other 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’s 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 point we stood up to drink Daime. Two small wooden windows opened. The women 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. Martín was there. He had been so kind to me, like everyone else, from the beginning. The ceremony finished with applause 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 about my experience and I replied “Quiet, nothing out of the ordinary 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 intense moments. [...]

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. And when it does, you have to give yourself to it completely, and it flows and... I needed to be healed, to be cleansed... [...] I believe that it is like a force that arrives and starts to pass through 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 had felt nothing out of the ordinary during this first experience, one thing is quite clear to me: most of the participants had had an intense experience, and it was a spiritual and purifying one. So it was a kind of healing practice, deeply emotional and physical. The woman's experience of a "spiritual force" reflects a common idea expressed in Santo Daime and in 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 researching into ayahuasca at the time, more than a year went by before I had another encounter with the brew in a ritual setting. The next time was not in a Church but in a Uruguayan holistic center for alternative therapies, closely connected to what other authors call New Age Networks.

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. There 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 is 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 image that New Age gradually acquired in society 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 known 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 has 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 style. Michael York (2001) regards the core features of the movement to be the commodification of religion and liberalism, understood as the freedom of practice, belief and consumption in the free market. The stress on individual responsibility rather than emancipatory collective goals could be considered to be part of the personalization process that Gilles Lipovetsky (1986) and J.-F. Lyotard (1979) associated with 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 their common rejection of Western materialism, and the return of a variety of Western and non-Western spiritual traditions (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, 2013) 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 care 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 had donned new clothes and converged in a heterogenic movement to confront the materialistic biomedical approach that had once kicked them off 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 the 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 (1990) points out, all these different movements found 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 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). 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 more extreme cases such as the *Germanische Neue Medizin* of Ryke Geerd Hamer, 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 led 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 (Menéndez, 1997). Ayahuasca groups emerged in the 1990s, through different modes of religiosity, such as churches (e.g. Santo Daime), and neoshamanic/holistic centers (e.g. Ayariri, Red Path). As in other countries, the New Age networks in Uruguay usually attract people from the upper and middle classes, interested in self-help and New Age literature. Ayahuasca

neoshamanic practices such as those of 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 states that it is dedicated to healing through experiential work and the exploration of consciousness, offering 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 travelled 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. Concoction of ayahuasca by day, ceremony by night. Photographs taken by me in the Sachamama center of Francisco Montes, Iquitos, Peru, January 2014.

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). According to

this animistic worldview, plants are 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.

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 a *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 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. It felt like someone was pulling the 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 child, 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 child. I was happy because I was in that beautiful and amazing place, but also afraid of being pulled out of 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 giving her children permission to play in particular places. But she was also encouraging me to go further, like she was teaching me how to walk. But I refused to, I was terrified, and this kind of mother, although she was pulling at 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 projected out of the room into the unknown. I was at the mercy of some higher being or thing. In the meantime, 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. At first, 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 child, still too scared, and carried on playing in that beautiful, sublime place.

At that moment, I realized I was focusing on the nonhuman world, and that I had to change 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 it was God who undressed me with her gaze [...]

After a while the experience started to recede. Merilena and Fernando blew *mapacho* smoke [*Nicotina rustica*; a strong Amazonian tobacco] over us. The participants gradually calmed down and fell asleep, but I could not. I couldn't stop thinking about what had just happened. I wanted to tell everybody, it was unbelievable. [...] After an hour I finally fell asleep.

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 had been 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.

CHAPTER 2. AN ETHNOGRAPHY FROM URUGUAY TO THE AMAZON RAINFOREST

An interdisciplinary research project: between culture and cognition

So I decided to make some ethnographic 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 book, such as the cognitive science of religion, 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 group in Uruguay.

One thing that interested me as I read about *vegetalismo* and took part in the ayahuasca sessions at Ayariri was how the practice changes as it is adapted to different contexts. The ceremonies at Ayariri generally follow the ethnographic accounts of Peruvian ayahuasca sessions. They are mostly held at night, the participants sit against the wall, the shaman sings his songs and blows *mapacho* smoke for protection, and to begin and end the work with the medicine. But new contexts and people lead to many unavoidable changes. For example, in the traditional Peruvian

setting the *curandero* and the apprentice sing *icaros* – the sacred songs of the 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. Instruments from different parts of the world are used, thus expressing this pan-religious aspect of New Age: flutes, guitars, Tibetan bowls, percussion instruments, among others. In the traditional context, the *curandero* is the only one who can lead the ceremony – alone or with an apprentice – while at Ayariri there is always one assistant or more, helping not only with the songs, but also with the participants if they feel 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 participants are advised to go to the session with a specific “purpose” (*propósito*), usually related to a personal issue, which in the 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 between the *shipibo* natives and holistic French therapists, and the transaction of meanings and techniques in the encounters of the two cultural groups, along the same lines as what I have described as “double assimilation.” For example, for the *shipibo* ayahuasca is a real-world experience, while for Westerners it is usually 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 make 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 who must drink it in order to access the spiritual realm and find a diagnosis or a cure. In the Western context, it is the patient who drinks ayahuasca, and the personal experience is valued as the agent of healing. For the case of *vegetalismo*, Bia Labate (2014) describes a psychologization and scientization of these practices, in what she calls *neovegetalismo*. This shift in the tradition results in new features, such as the explicitation of a psychotherapeutic demand before the session (the “intention” or “purpose” of the participant), and the requirement of

a moment of “integration” after the ayahuasca ritual. The overall process of transnationalization, cultural translation, and ritual redesign is not an exclusive trend of ayahuasca traditions, but it can be observed in several traditions, from the appropriation of Mexican *curanderismo* in Europe (Graf, 2017), to the post-Soviet revival of shamanic healing in Kazakhstan and Kyrgyzstan (Penkala-Gawecka & Mickiewicz, 2014).

In my research, 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 human brain’s cognitive processes are 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 “brain-bound model” developed by classical cognitive sciences is useful for analyzing cognitive processes within particular research designs, it falls short when analyzing 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 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 several 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 so that it could be applied to religious ritual. I distinguished various 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).

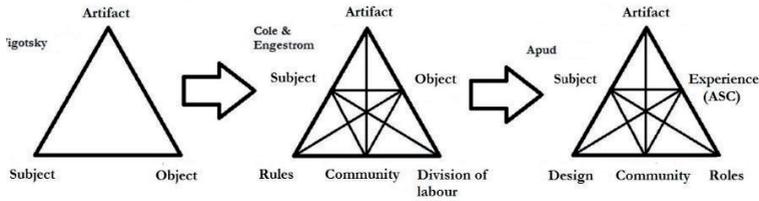


Figure 6. Cultural-historical activity system triangle. On the left, Vigotsky’s original triangle; in the middle the reformulation by Cole & Engeström; on the right, my adaptation for ayahuasca rituals.

The idea fitted with various ethnographical observations about manipulating consciousness by the ritual use of music, suggestion, dance and psychedelics to generate particular 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 other features of the ritual context – the setting – and the individual characteristic of the participant – the mindset. The elements in this model enable the variability of the ritual and its interactions with the subject’s own character to be analyzed, and they explain, for example, why in a particular ritual participants can have different experiences with 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 various tools placed what is called a *mesa* (from Spanish, “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 effects in the participants, and guide their visions and experiences. All these elements, together with the traditional songs called *icaros*, commonly produce synesthetic phenomena, a convergence of different sensorial modes, which allow the participants to literally “see” the music, “smell” colors, and so on.



Figure 7. The *mesa* used by Merilena at Ayariri. On the left, 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 none at all. Photograph by me, Montevideo, May 2012.

A multi-technical ethnography: using both qualitative and quantitative methods

My master’s degree research officially started at the end of 2011, although I had started to go to the center before then. I used participant observation not only in the ceremonies but also in spiritual retreats, ceremonies with other plants, yoga classes, conferences and meditations. I also used research techniques other than participant observation: for example, in-depth interviews for collecting information about the center from 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” (henceforth, HRS), which measures the cognitive effects of hallucinogens. The two techniques were combined through the cultural-historical cognitive approach mentioned above. I described the methodological design as a multi-technical ethnography, consisting of one main qualitative approach, with an embedded quantitative technique for answering particular questions (Apud, 2013b, 2013d).

From a methodological point of view, the idea was to break away from certain mainstream conceptions that ethnography is a paradigm of qualitative methods rather than quantitative approaches and positivistic tradition. I used a mixed qualitative and quantitative design, with particular emphasis on interdisciplinary dialogue – mainly between cultural and cognitive perspectives – but not forgetting the importance of reflexivity as an analytical tool during and after the fieldwork. In the final dissertation (Apud, 2013b), but especially in an article about ethnographic method (Apud, 2013d), I analyzed the naturalization of ethnography as a paradigm of qualitative methodological approaches, and how this historical construction became fully established in the second half of the 20th century. As I mentioned in the article, arguing in favor of the multi-technical nature of ethnography does not imply rejecting the primary importance of participant observation or the qualitative aspects of fieldwork; it opens up the methodological spectrum of techniques, with the subsequent introduction of new research questions. This action leads to complementary forms of validity and reliability, and extends the scope of the cultural anthropological inquiry to different interdisciplinary debates.

As I shall discuss below, the tensions between qualitative and quantitative methods have been present since the beginnings of modern science. But the polarity became more pronounced in the second half of the 20th century when a variety of academic social perspectives arose, such as phenomenology, constructionism, ethnomethodology, interpretivism, critical theory and symbolic anthropology. It is interesting to note that these perspectives are popularized by the same historical and cultural background that popularized the new spiritual perspectives, such as the New Age Movement, neoshamanism, holistic therapies and transpersonal psychology. For example, both postmodern anthropology and the New Age movement both reject modern Western scientific and materialistic worldviews, and hope to rescue traditional non-Western systems of belief, although they differ quite considerably on exactly how they plan to go about this. Several authors (Bernard, 2011; Guba & Lincoln, 2005; Marradi, Archenti, & Piovani, 2007; Valles, 1999; Vidich & Lyman, 1994) have reported that after the 1960s the polarization between qualitative and quantitative methods deepened. On the one hand, qualitative scholars accused the quantitative supporters of their naïve epistemology, their lack of social criticism, and their dehumanizing method, which amounted to

a commodification of human problems in compliance with the capitalist establishment. On the other hand, the quantitative scholars accused the qualitative studies of being soft and pseudoscientific, and with no mechanisms to guarantee reliability and validity, and ensure the objectivity of the knowledge produced. In cultural anthropology, the debate was reflected in the decline of positivistic schools and methods, and the rise of new critical and symbolic perspectives.

Nowadays this dichotomization is questioned by some researchers, who regard it as a false opposition. For these scholars, case (qualitative) and variable (quantitative) studies are potentially complementary. Researchers interested in mixing methods do not believe methodological approaches to be straightforwardly related to epistemological, political, social or even religious positions (Apud, 2013d; Bernard, 2011; Bryman, 1988; Marradi *et alii*, 2007; Samaja, 1998). This point is of particular interest in the field of religious studies, where we can find all the possible theoretical, epistemological and methodological combinations in both secular and religious researchers: qualitative researchers who are agnostic or atheistic; quantitative researchers who are people of faith; culturalist scholars who still regard religion as an illusion and a kind of symbolic opium; and cognitive academics who are fully committed to a religious institution or worldview. The academic study of religion shows us that the epistemological and methodological dichotomies mentioned are an oversimplification of what happens in real science and with flesh-and-blood academics.

In my research in Montevideo, I chose to use both qualitative and quantitative techniques in order to acquire a better understanding of the individual's experiences during ayahuasca ceremonies, both in terms of content and cognitive variations. On the one hand, I used in-depth interviews to study the variation in the content of the subjective experiences, as they were narrated by the participants. On the other hand, I used the HRS, to assess the variations in cognitive processes during the intake of ayahuasca. The final sample consisted of 18 subjects (8 men and 10 women) with a mean age of 37.7 years-old (range 27–58). Most of them were university graduates and from the middle or upper-middle class. They were accustomed to attending psychotherapy, and therefore tended toward introspection and self-analysis when seeking solutions to their personal lives. The demand of spiritual seekers is more existential than the most pragmatic views of the lower classes, who in Uruguay usually

attend other religious groups, such as evangelical Neopentecostal churches or Afro-Umbandism *terreiros*, where problems are addressed using magic or miracles. Of course these psycho-spiritual networks have a pragmatic attitude that underlies more sophisticated cosmologies and worldviews such as Eastern notions of karma, mystical notions of “synchrony”, “universal participation,” and so on.

The ayahuasca experiences: spirits and reflections

I conducted 18 in-depth interviews to inquire about the experiences of the participants during ayahuasca ceremonies. I asked them what had happened in the last session they had attended and also about other experiences during their lives. My intention was to study the most common themes and the variation in the subjective experiences of the participants during an ayahuasca ceremony. As I have mentioned above, there is a shift in both the ritual design and the symbolic worldview between the native context of ayahuasca and neoshamanic practice. Besides, the goals and uses of ayahuasca differ. Shamans tend to use it for a variety of community problems such as combating witchcraft, acquiring knowledge, and communicating with the spirits of the forest. Neoshamanic participants use it in a psychotherapeutic and holistic way, to connect themselves with nature, the inner-self, love, the meaning of life and so on. So, these differences should be reflected in the content of the visions, and therefore in the participants’ narratives.

Michael Harner (1973) describes a variety of recurring topics reported by native people from Colombia to Bolivia: out-of-body experiences, visions of jaguars and snakes, contact with spirits, visions of landscapes and cities, geometrical patterns, near-death experiences, divinatory visions of lost objects or crimes, and others. *Vegetalismo* shares the cosmology of the *mestizo* culture, probably strongly influenced by ayahuasca visions. The cosmology involves believing in spirits and entities that inhabit the jungle, the river’s underworld, and the spiritual realm. As Luis Eduardo Luna points out,

The cosmology of the *vegetalistas* is immersed in the general animistic Amazonian religious background of the various Indian tribes that existed, and still exist, in the Amazonian territories. Nature is animated by spiritual powers which assume theriomorphic and anthropomorphic nature when communicating with human beings (Luna, 1986, p. 72).

Examples of these spirits are the *sachamama* (from Quechua, *sacha* means “jungle”, *mama* means mother; a giant boa considered to be the mother of the rainforest), *sacharuna* (“people of the forest”), *yacuruna* (“people of the underwater realm”), *tunchis* (spirits roaming in the air), dolphins, and sirens. Some of these entities have bad intentions. For example, the people of the forest and the water are known for their tricks to abduct regular people; *tunchis* are sometimes *almas malas* (from Spanish, “evil souls”) with harmful intentions.

Amazonian shamanism is a profession that can be accessed by vocation, by a supernatural event, by being cured of an illness, by initiation, by following the family tradition, and/or by a spiritual call. People often go to a shaman to deal with a folk illness such as *susto* or *envidia*, or to combat sickness produced by another shaman’s witchcraft (Dobkin de Rios, 1992). Ayahuasca is used for different purposes: to have visions, clean or purge some physical or spiritual sickness, to remove a harmful object or treat an injury caused by an enemy or evil shaman, to find lost objects, to meet family members (dead or alive), to answering questions or solve a quest.

In neoshamanic settings, participants report experiences that have some similarities with shamanic experiences (e.g. visions and communication with spirits and animals), but also differences, most of which have to do with the individual mindset and the therapeutic goals of the ritual. The testimonies of the participants usually include biographical revisions, profound insights, emotional connections with nature and the universe, and an increased capacity of empathy (Fericgla, 2000; Grob, 1999; Kjellgren, Eriksson, & Norlander, 2009; Loizaga-velder, 2012; Shanon, 2010).

In both shamanic and neoshamanic settings, there is a common, recurring element: the communication with ayahuasca as a spiritual being. Ayahuasca is regarded as one of the most powerful plant teachers because of its capacity to make direct contact with the spiritual realm. This property is expressed in its name, which comes from the Quechua, *aya*, meaning soul or dead person, and *waska*, meaning vine. It is usually translated as “vine of the spirits” or “vine of the dead.” It is also called *doctorcita* (diminutive for a female doctor), and *medicina* (“medicine”) because of its application in both diagnosing and healing. Reliable representations of ayahuasca visions can be observed in Pablo Amaringo’s paintings, which became popular after the publication of a book he co-authored with Luis Eduardo Luna, in the 1990s (Luna & Amaringo, 1999).

In the cases I studied, I classified the variety of phenomenological experiences into four major – but not exclusive or exhaustive – categories. The first kind of experience was “feeling the presence of the plant’s spirit,” which is not surprising since, during the fieldwork, the idea of contacting with the plant as a teacher and doctor is constantly mentioned and strongly encouraged by the group. Other beings were mentioned – e.g. dead or living relatives, horses, spiders, native people – but the “plant” was the most relevant spirit in the narrative of the people interviewed. The spirit of ayahuasca appears in different forms: a snake, a person, a powerful and mystical presence, an entity that shows you different situations with a strong emotional content. Here are some of the participants’ descriptions.

[Case a]

...I felt that there was a live presence affecting me, not a psychoactive substance, but a feeling of a presence... and that [experience] will remain with me for the rest of my life. [...] I didn’t drink the substance again for years. The impact on my subjectivity was very strong.

[Case b]

At one point, the plant was showing me things and feelings that... they were too much, too heavy to cope with... and also so upsetting that I felt sick...

[Case c]

You can ask questions, and when the plant shows you a situation, and you cannot overcome it, you can ask the plant to take you away from there...

A second category, closely related to the first, includes the experiences of “trance and possession”: that is, animals and other spirits going through the participants’ bodies. The participants described different modalities of possession. The most common one was the feeling that the plant enters the participant’s body. The person, without losing awareness, feels as if the entity is inside him/her, usually with a healing purpose. The experience is initially recounted as disturbing, but later as liberating and/or enjoyable.

...a sensation that the plant is going through my body, as if it is going inside my arteries, that it is traveling inside you...

This sensation can also be accompanied by a sense of something powerful both inside and outside the body,

And there I saw the snake, a big anaconda, a giant snake. I felt that it was a live presence, that the snake was not a product of my imagination, but it had the capacity to show itself through a vision and [at the same time] I felt as if it was inside my body, so to speak. It was a powerful feeling. If it had been a virtual reality experience, I would have been connected to a suit too, because my body was part of it. A sensation of possession so to speak... I have never been possessed but it was as if there was a strange presence inside my body, which, despite the feeling of being possessed was not entirely unpleasant [laughs]. Feeling that sensation of strangeness, I can only describe it as a feeling of a living force, which was the snake that was watching me. It was very clear, no confusion at all. It was a snake, or at least what was presented to me as a snake, a living force, a beast, something that gave me the feeling it would have been able to destroy me...

Furthermore, in some possession experiences participants lost their ability to distinguish between their own actions and those of other beings. The subject seems to be both spectator and participant in the action,

And I suddenly started to play the *maraca*. But it was like... It was not the spirit of the plant playing the maraca, it was me but... there was an energy driving my hand, and playing in time. It was not rational, [I was not thinking] what I was doing... there was a kind of energy driving me to play. And on an impulse I started to sing. I don't know what I sang. I haven't got a clue. I was very focused, very centered. I didn't care what the lyrics were about, or if they rhymed. And all with the same mood as before. An inner force guided me to sing what I was singing.

Finally, there were also voluntary experiences, in which the participants mimicked or changed into other beings (for example, jaguars, spiders or eagles), moving, thinking and acting as these animals would.

In most of these cases it is difficult to differentiate between possession and ecstatic trance without possession, which involves some control over the spirits and the trip through the spiritual world (Eliade, 2009). The distinction between the two is a controversial one in the anthropological literature, with its supporters (Bourguignon, 1980; Firth, 2011; Winkelman, 2010) and its detractors (Lambek, 1980; Lewis, 2003). As can be observed from the testimonies presented during my fieldwork in Uruguay, I found it difficult to separate ecstatic trance, possession trance and daydreaming. Although the individual experiences do not accurately match these distinctions, this does not mean that the categories are useless. It is important to point out that there is a strong correlation between shamanic

trance and simple societies on the one hand, and possession cults/beliefs and stratified societies on the other (see, for example, Bourguignon, 1968; Peoples, Duda, & Marlowe, 2016; Winkelman, 1986).

A third category contains what I have labelled “embodied experiences”: that is, experiences in which the participant has not only visions but also sensations that involve the body as a whole, most of the time showing that psychological issues are connected with physical ailments or suffering. The increased awareness of the body during ayahuasca sessions is used by alternative therapies to explore repressed emotions and memories and obstructed energies that need to operate if participants are to be healed and to evolve spiritually. Sometimes the body is regarded as a place where emotions and memories are located. The ayahuasca ritual is, for the participants, a way to by-pass the repression of the mind, and directly access unconscious psychological or spiritual content in the body.

The difference between the plant and a psychotherapist is that the plant resonates in other places within you, not in your brain but in your heart, in your feelings... or deeper, in your cells. It has other resonances other memories in your body.

Bodily experiences are especially valued by holistic medicine as a path to spirituality unlike the general mechanical perspective of scientific mainstream thought which regards the body is nothing but a material vessel. The bodily experience *par excellence* of ayahuasca rituals is the vomiting, which is considered to be a kind of purge; a physiological, psychological and spiritual cleansing. From a physiological point of view, the nausea and vomiting are explained by the higher levels of serotonin and the corresponding stimulation of the pneumogastric nerve. But there are other explanations. Generally speaking, the action of vomiting is a natural reflex that consists of expelling something from within one's organism. Most of the time the expulsion is the result of an intoxication with food or other substances. We could speculate that this reflex is easily cognitively transformed into an embodied expulsion of something that is psychologically unpleasant (e.g. a strong feeling or emotion, a remembrance, or an experience that became too chaotic for the conscious mind). Mental states are not amodal and abstract experiences. In cognitive sciences, some authors analyze how mental states are usually expressed through a variety of embodied metaphors (Clark, 2006), somatic markers (Damasio, 1999), and grounded cognitive bodily states (Barsalou, 2008). Psychoanalysis has also identified the so-called “psycho-physiological

autonomic and visceral disorders,” which shows that complaints are usually expressed through the body (Oken, 2009). So it is not strange that during ayahuasca sessions participants usually corporalize their emotions, feelings, memories and thoughts. In this situation, the action of puking is also experienced as psychological relief.

The fourth category was “dialogic consciousness,” which I characterized as the ability of people to distance themselves from their own mental processes and, therefore, to be more prone to insight and self-reflection. According to Fericgla (2000), this metacognitive experience gives participants the sensation of being inside and outside the rational chain of thought of their self-identity. Fericgla describes dialogic consciousness as opposed to the logical and structured “dialectic consciousness” of daily life. In the next section, I will analyze all these processes in the light of a new framework that combines the cultural and cognitive explanation of rituals and religion. For the moment, let’s stay with the idea of an experience of a “dialogic consciousness” which creates an opportunity to acquire deep insights into our psychological automatisms, and helps us to distance ourselves from our sense of self and identity.

[Case a]

[...] it happens to me a lot [...] when I can see myself with a kind of astonishing objectivity. That thing of “look how I am suffering”... In real life, you get angry and you are that anger, you are not an angry being that knows he is angry. When you feel happy you are happy. Therefore, you don’t see yourself [from the outside], you only are. In these experiences [with ayahuasca] you have the opportunity of being and observing yourself...

[Case b]

...[the experiences with ayahuasca] took me back to memories of my past – images, situations – it removed things that I thought I had sealed and covered up because they had happened so long ago. I evoked many situations and found many explanations from these moments. It showed me many situations of my current life, too [...] watching myself from a distance, from outside, so to speak...

Finally, I found it interesting that when the participants understand the properties of the brew, they start to use it as a tool for self-knowledge. My impression was that they have a kind of learning curve, a progressive trajectory during which they improve their skills for obtaining valuable information during the ceremonies.

The cultivation of mental imagery: ayahuasca as a cognitive tool

Although it is true that the ritual design or setting is important for the emergence of emotional, symbolic, perceptual and cognitive elements that make up the subjective experience of the participants, there is also a variety of individual experiences during the same ceremony. This is something that cannot be explained solely by the substance or the context, and is mostly to do with participants' individual spiritual trajectories, personality traits, and general biographies. Like all human phenomena, it is important to consider not only the context in which things happen, but also the psychological subject as a unity. This is an important point that I will discuss later as part of what I call "the individual as a node." The individual is a neuropsychological unit that has the ability to act as a creative node. In the mind of the participants, different psychological dispositions and cultural trends intersect, resulting in different kinds of syncretisms and cultural configurations. In the case of the ayahuasca ritual, each participant comes to the ceremony with her/his own personality, socio-cultural belonging, spiritual/psychonautic trajectory, personal symbols, cognitive dispositions, and a particular therapeutic/spiritual/existential demand.

In psychedelic studies, participants' characteristics are usually known as their "mind's set", which includes the experience and skills acquired over the years and the ceremonies. As with any tool, ayahuasca involves a learning process, during which participants gradually understand its effects and what they can do during them. As far as the psychological effects are concerned, the scientific literature usually mentions loss of control, alteration of thoughts, divergent thinking, changes in meaning, increased capacity of insight, emotional changes, body image distortions, increased empathy, hypersuggestion, biographical revisions and hallucinations, among others (e.g. Bouso *et alii*, 2012; Fernández & Fábregas, 2014; Grob, 1999; Loizaga-velder, 2013; Riba, Rodríguez-Fornells, Urbano, *et alii*, 2001; Shanon, 2010). My hypothesis was that these cognitive effects were related to volition, perception, thought and other mental processes, and would vary in quality and degree between subjects depending on their experience and skills when using the ayahuasca ritual as a cognitive tool to explore life's meanings, personal memories, inner experience, and so on.

The idea of psychedelics as a cognitive tool was addressed by Kenneth Tupper (2002), who used the concept of existential intelligence, and the possibility of using ayahuasca as an educational tool to develop it. In addition, the idea of learning how to use a psychedelic as a cognitive tool to acquire knowledge is not necessarily culture-bound to Western societies, but could be applied to the shamanic complex and other spiritual practices. One example is Richard Noll's concept of "cultivation of mental imagery" (1985). Noll suggests that shamanic practice is a process in which the apprentice learns how to make clear and vivid mental images ("vividness"), and to control the shamanic trance ("controlledness"). Another example is Tanya Luhrmann's idea of "spiritual training" by manipulating the "imagination" for such religious groups as Catholics, Jews and New Age centers (Luhrmann, 2004). She claims that all these groups implicitly and/or explicitly instruct their followers in certain techniques of "absorption," in order to produce mental changes that induce spiritual experiences (Luhrmann, 2013).

Under these assumptions, I used the HRS to measure the changes in the cognitive variables of several participants with different spiritual and psychonautic trajectories. My idea was to better understand how the individual trajectory of the subjects – from novice to skilled participants – affects certain cognitive variables. The HRS was created by Rick Strassman to assess the subjective effects of intravenous DMT. The results of his investigation can be found in his book and documentary "DMT, the spirit molecule" (Strassman, 2001). I used the HRS after consulting Strassman and Jordi Riba from the Hospital de Sant Pau in Barcelona, who provided me with a translated version of the scale in Spanish.

The HRS consists of six variables that are usually affected by psychedelics: *i*) somesthesia (somatic effects such as interoceptive and visceral sensations, nausea, "inner tremors," sensation of being separated from the body), *ii*) affect (sensitive and emotional responses, such as anxiety, fear, laughter, awe), *iii*) volitio (capacity of will and control over oneself and/or the environment), *iv*) cognition (changes in the process of thought, such as the content of the thoughts, sensation of chaos, derealization, intuitions and revelations), *v*) perception (changes in visual, auditory, olfactory and gustatory experience), *vi*) intensity (strength of the experience in its totality, with its constancy and fluctuations). The scale has been used in various studies not only on DMT but also on ayahuasca, LSD, psilocybin and other psychedelics. The assessment of the Spanish

scale showed an acceptable level of internal consistency in four of its variables, and a reasonable reliability and convergent validity for its use in the evaluation of the psychedelic's subjective effects (Riba, Rodríguez-Fornells, & Strassman, 2001).

The independent variable of the research was the "degree of experience using ayahuasca." As proxies of the variable, I used the total number of ceremonies in which the subject had participated and the frequency of those ceremonies per year. The sample was divided into three groups: a "low level" (n=6; participation in less than 3 ceremonies; frequency of less than 2 ceremonies per year), a "medium level" (n=6; participation in 5 to 10 ceremonies; 2-4 ceremonies per year), and a "high level" (n=6, participation in 15-55 ceremonies; 5-12 ceremonies per year). The dependent variable was called "mental integration of the experience." Higher mental integration assumes the qualities mentioned by Noll, reflected in a greater volitive capacity to direct the experience (the "controlledness" part of the experience), and a more powerful experience in terms of perception, affect and somaesthesia (the "vividness" quality of the experienced shaman).

Unfortunately, the results were not statistically significant on most of the sub-scales (for more details, Apud, 2013, 2015a). One big problem was that I had no choice but to use a research design that did not control the variables to ensure a better outcome. The main concern was the difficulty of the dosage, which I could not control and standardize for each of the subjects. According to the participants, the effects of the brew were "soft" and "quiet," which may mean that the effects were homogeneous among the three groups. The final experience produced by the brew was maybe on the threshold between psychoactivity and a kind of placebo response. Although I did not control the dosage, I asked the participants how many "cups" of the brew they drank during the night. Surprisingly, the participants who had more cups of ayahuasca were the novices. I interpreted this in different ways. The most plausible explanation was that, in these circumstances, the less experienced participants needed more "cups" to reach a threshold where they experienced at least some "soft" effects. Despite no significant differences in the results, I observed a small increase in the sub-scales somaesthesia, perception and volition when the level of experience was taken into account. Bodily effects such as "inner tremors" were mentioned, as were visions of phosphenes and iconic images, which usually occur in the early stages of the visionary experiences.

A multi-situated ethnography: transnational networks of spirituality

My initial intention had been to write an ethnographical account of the holistic Uruguayan center, but this changed as the research progressed. I realized that 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. Besides, the group activities were not constrained to a single locality. On various occasions trips were made to “sacred” places in both Uruguay and Peru. The emergence of this kind of ethno-entheogenic journey 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. In the 1990s ayahuasca became a focus of attention, and shamanic centers started to offer their services and accommodation to a Western population involved in psycho-spiritual networks, using the internet as the new means of communication (Fotiou, 2010; Losonczy & Mesturini, 2010; Tupper, 2009).

So now, I was doing a multi-situated ethnography. Looking back, I think that the shift was unavoidable, considering that I was studying what James Clifford (1995) called a post-cultural syncretic phenomenon, a new cultural invention produced by a context of multinational exchange. In this situation, ethnographic locality and density do not guarantee an accurate account of the group studied (Appadurai, 2001), 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 George Marcus (1995) explains, the multi-situated ethnography allowed me to follow the participants’ journey and stories to different places, which is especially relevant to the study of cultural phenomena in the postmodern milieu, where cultural traits are not constrained by particular traditions, places or periods of time. I was travelling with a group of practitioners through 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 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

trekking, physical exercises, spiritual retreats, lectures, 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 therapeutic demand), and with an interpretive framework that used 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 happens is caused by a superior realm that was sending us clues about how to grow, evolve 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 enabled the various members of the group to redefine their social and psychological issues.

The trip was the final activity of the research for my master’s degree program. Afterwards, 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. Together with Juan Scuro, an anthropologist and a friend of mine, we planned a journey to Brazil and Peru. 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 2014. 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 10 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 8. Ethno-entheogenic tourism in Cusco, Peru. Photograph taken by me, February 2014.

A reflexive anthropology

From the very beginning of my research, as an ethnographer I felt that I should be a part of the research analysis to show how my own non-religious adscription interacted with the fieldwork, and to 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 her/his scientific practice, 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” 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 and initiating an intense methodological debate about the authority of the ethnographer as a witness and translator of cultural facts (Geertz, 1989). Finally, and with the post-modern turn, anthropology put the focus on the reflexivity of the ethnographical styles of writing (Atkinson & Hammersley, 1994; Guigou, 2010), and the experimentation of new ways of doing anthropological research (Clifford & Marcus, 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, both the researcher and the subjects studied were included as agents with their own reflexivity, in a game of mirrors where identities are negotiated, and both parts of the equations have their own social and cultural biases. My idea to make a reflexive ethnography was to put myself in the text, and show these tensions in the fieldwork. Furthermore, the idea was to explicitly describe and explain my adscription to certain theoretical frameworks. As a researcher, I am also a social actor, and a reflexive anthropology should always be concerned with how the researcher is located in both the fieldwork and the academic field.

In the particular case of my own research, I tried to expose my subjectivity as a non-spiritual person, and analyze my fieldwork's interactions, my theoretical 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. The difficulties and contradictions during my fieldwork in Uruguay were related to my own personal background and biography. Since my childhood – and despite brief episodes of spirituality associated to child quests and adolescence conflicts – I have always been a skeptical person, with certain nihilist and disenchanting ways of thinking about life and our place in this world. Besides, before I started to study ayahuasca, I was at the beginning of a personal search for an interdisciplinary perspective to explain religions and rituals in cultural, cognitive and evolutionary terms.

The first peak experience with ayahuasca I narrated above had various effects on my perspective about religions. First, it showed me that, at least phenomenologically speaking, we should consider the existence of a strange realm, which manifested under the effects of the brew. Anyone can have these experiences, and not necessarily after taking a psychoactive compound; there are a variety of techniques for producing altered states of consciousness. I regarded the belief in this kind of realm as an intuitional “spiritual ontology”: that is, the belief in an ontological spiritual realm that could be accessed through spiritual techniques, and even through normal experiences such as dreams and daydreaming. Second, the experiences with ayahuasca made me feel quite humble when formulating my final conclusion about the existence or nonexistence of such realms. Since then, I have declared myself “agnostic.”

Last but not least, during my experiences with ayahuasca I developed a kind of relationship with the plant. In the midst of the experience, the plant mostly manifested as a kind of powerful woman, like a mother or a teacher. She seemed to protect me, and at the same time she showed me things, some of which were hard to swallow. After my first strong experience, I started to be scared about what could happen during the ceremonies; I was afraid that the experience could overwhelm me, afraid of my own insanity, afraid of losing control and going mad. In some way, the plant helped me with the difficult task of exploring these experiences. One of my interpretations was that I was mentally creating this woman in order to better cope with the experiences. If that is true, then I was doing it unconsciously and from the very beginning, because in my first intense experience a woman had been trying to pull me into the unknown.

All these events brought me closer to the worldview of the “natives” with whom I was sharing the center’s activities. Despite this, I was still a stranger in other aspects. I was still a researcher, still a skeptic, and still confronting some of the group’s common beliefs. I still believe there is no karmic justice in this world, no final wisdom waiting for us, and, above all, no signal from the universe so we can evolve. This position generated some friction during my fieldwork in the holistic center. But, in general terms, and despite the fact that I am introverted, I got on well them.

One of the things that caught my attention about other studies on ayahuasca was that many researchers were also spiritual believers. As I will discuss later, 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, neoshamanic practices may not have emerged without the publication of *The Teachings of Don Juan* by the anthropologist Carlos Castaneda, or even the formulation of the shaman as a healer by Eliade and Lévi-Strauss. And holistic centers may not be quite so interested in psychedelics if it had not been for Maslow and Grof's transpersonal psychology. I realized that religiosity and spirituality were not only my object of study but also part of the academic field, coexisting with me in the same disciplines and traditions that were shaping my thoughts about the field. Maybe this juxtaposition between science and religion is not a big surprise for a religious or a spiritual person. But it was for me because I considered science to be in contraposition to religious worldviews. As a scholar, I found myself in dialogue and discussion with other academic perspectives, some secular, others spiritual. I also discovered that religious commitment could be explicit or concealed in academic studies and theories.

The crossroad between science and religion is, therefore, not an anecdotal one. As I will describe later, it has been present from the very beginnings of modern science, and also plays its part in the current academic field. This is the case of anthropology, which has been playing a major role in the emergence and development of the practices that we call neoshamanism. In the next section, I will briefly describe this intersection.

CHAPTER 3: ANTHROPOLOGY, SHAMANISM AND NEOSHAMANISM

For in those curing nights what I had to reckon with was the power of the mental image to alter the course of misfortune. Now surely I want to historicize this imagery with its play of angels and sacred gold, its wildness and montage, its possible locations in a giant and, strange to say, curing, narrative of colonial conquest, Christian redemption, and Statecraft – the point of this narrative being the way the Indian, the (phantom) object of scrutiny, is recruited as a healing object.

Michael Taussig *The Nervous System* (1992, pp. 7–8)

Three decades have passed since the anthropologist Michael Taussig did his fieldwork in the Colombian Putumayo. Taussig was right in noticing how indigenous shamanism was recruited by Westerners and how, in an urban and post-colonial milieu, the shaman was converted into a healer of our own misfortunes. This shift was not something new. Indeed, the phenomenon can be traced back to the encounter between the West and the original shamanic complex of Siberia.

The origin of the term “shaman” comes from the *tungus* – Evenki – of Siberia and Central Asia, who use the word *Saman* or *xaman* to refer to certain religious specialists, described as “agitated” or “excited,” and believed to have the ability to enter into a static trance in order to contact with the spiritual world (Eliade, 2009; Lewis, 2003; Znamenski, 2007). To do so, they perform a ritual that can include music (e.g. drums, rattles and chants), hallucinogens and other techniques that usually try to cause an altered state of consciousness (henceforth, ASC). One of the first mentions of shamans in a text appeared in the second half of the 17th century, when Avvakum Petrovich, a cleric of the Orthodox Russian Church exiled to Siberia, described shamans as despicable magicians, capable of summoning demons (Narby & Huxley, 2005; Price, 2001). The stereotype of the shaman as a devil character was constantly mentioned by the Christian chroniclers and travelers. Missionaries and scientists also considered shamans as quacks and deceivers, who exploited their patients.

Enlightenment vs Romanticism

The first scientists to recognize the shamanic complex were not Russians but Germans. In the 18th century, German academics collaborated with the Russian government in the exploration of Siberia, studying its natural resources, population and culture. According to the historian of religions Andrei Znamenski (2003), German academic tradition influenced the creation and development of Russian sciences during the 18th and 19th centuries. The influence of German scholars also brought its contradictions. One of the most important was the discussion between the naturalistic scientific worldview of the Enlightenment and a humanistic romantic tradition.

The Enlightenment considered Western civilization to be the result of a universal accumulative and progressive cultural process, in a temporal sequence that reached its peak of expression during the Age of Reason, with its victory over superstition and the primitive forms of organization. Against this perspective, romanticism raised its voice in favor of tradition and culture, in conflict with the cosmopolitan, materialistic and rationalistic worldview. For this tradition, cultures cannot be compared but experienced and valued in their own terms. According to the anthropologist Adam Kuper (2001), these tensions between relativism and universalism were rooted in the agonistic relations between a French tradition that defended the achievements of *civilization*, and the German defense of the notion of *kultur*. By the end of the 19th century, this opposition had an influence on the emergence of the social sciences, which resulted in the classical distinction between *Naturwissenschaften* (“natural sciences”) and *Geisteswissenschaften* (“human sciences” or “sciences of the spirit”).

The naturalistic tradition usually regarded shamanism as a kind of delusion, superstition or even fraud, which could be traced back to the earliest forms of religion and knowledge. The first expeditions to Siberia, undertaken by the Russian Academy of Sciences in the 18th century, expressed these clichés by painting shamans as “...either skillful deceivers, simply weird people, or, worse, easily irritated neurotics” (Znamenski, 2007, p. 7). This was the general picture that was transmitted worldwide, and the one expressed by Denis Diderot in *L'Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*, who considered shamans as impostors who pretend to communicate with the devil, and sometimes get their predictions rights (Narby & Huxley, 2005). For other scientists,

shamanism was not entirely negative. For example, for the father of anthropology Edward Burnett Tylor, animism and magic were not evil practices but primitive science, a necessary step at the beginnings of human history (Tylor, 1977). From the evolutionary perspective of that time, shamanism was a fossilized primitive science, not capable of discriminating between dreams and reality (Apud, 2011).

In contrast, the romantic tradition painted shamans as guardians of true knowledge. Romantic philosopher Johann Gottfried Herder refused to consider native spiritual practitioners as deceivers, and considered shamans as creators of order from chaos (Znamenski, 2007). Sometimes we tend to think that the romanticization of non-Western cultures is a trend that started in a post-modern milieu, with spiritual seekers looking for alternative modes of emancipation to Western meta-narratives. But all of this was already happening, at least in the 19th century, both in Europe with the romantic movement (Znamenski, 2003, 2007) and in North America with the nature religions (Albanese, 2013). Both the general population and scholars were already frustrated with Western civilization and science, and seeking alternative non-Western paradigms of emancipation was not an uncommon trend. Academic studies produced new understandings about religion, which were influential in the emergence of new forms of religious practices, such as Transcendentalism, Theosophy and Spiritualism (von Stuckrad, 2014). Furthermore, some of today's neoshamanic practices were present then. According to Znamenski (2003), shamanic ethnotourism was already happening in Russia in the first half of the 20th century, and some profiteers – including shamans looking for new income – were transforming the shamanic séance into an exotic object for quick intercourse between travelers and shamans.

The universalization of the term shaman in the anthropological glossary took its first steps in the initial academic collaborations between Russia and the U.S. The similarities between native medicine men and women on the north-western coast of North America and Siberian shamans was soon noticed. By the end of 19th century, the Russian-American Jesup North Pacific Anthropological Expedition was organized, under the supervision of Franz Boas, and with the participation of Russian scholars such as Vladimir Bogoras, Vladimir Jochelson and Lev Shtemberg. The expedition was an important step in the popularization of the term shaman beyond the boundaries of the Siberian culture. From then on, and on Boas' initiative, the medicine men and women of North America would be called shamans more and more often (Znamenski, 2007).

Another stereotype of shamans also emerged when Russian ethnographers started to look on them as being mentally ill. The link between insanity and shamanism was popularized through the culture-bound syndrome called “Arctic hysteria,” a diffuse term that for some authors covers a variety of disparate phenomena (Gussow, 1985). Arctic hysteria was related to mental instability and the harsh climate and natural conditions of the region: extreme cold, isolation, scarcity of food and supplies, high rates of morbidity and mortality, endemic diseases and poverty. According to some authors, these morbid initial conditions led to the emergence of shamans, who were later legitimized by the local culture. Therefore, shamanism was a kind of social recruitment of people who in our modern societies would be considered to be neurotic or psychotic patients.

Throughout the 20th century, scholars such as Åke Ohlmarks, Maria Czaplicka, Vladimir Bogoras, Weston La Barre, Paul Radin, Geza Roheim and George Devereux considered shamans in the Arctic and other parts of the world to be mentally ill. Other scholars, such as Segei Shirokogoroff and Nora Chadwick, were more cautious and warned about ethnocentric and eurocentric biases when dealing with such exotic phenomena from other disparate cultures. To make things worse, during Joseph Stalin’s cultural revolution and under the influence of a social evolutionary paradigm, shamans started to be regarded as a problem that had to be eradicated. Shamanism was regarded as a cult to insanity that obstructed Soviet progress, and shamans were said to come from the rich indigenous aristocracy, a class enemy (Znamenski, 2003). This conception dominated Soviet anthropology until the death of Stalin in the late 1950s.

The vilified shaman turns into a psychotherapist

In the second half of the 20th century, a new image of the shaman appeared with a mix of naturalistic and romantic features. The first move was made by the French anthropologist Claude Lévi-Strauss who in 1949 published two important articles, “The Sorcerer and His Magic” and “Effectiveness of Symbols” (both translated into English in 1963, in the classic book “Structural Anthropology”). Let’s take an example from “The Sorcerer and His Magic,” in which Lévi-Strauss uses a case reported by Franz Boas. The story is part of the autobiography of Quesalid, a Kwakiutl Indian from Vancouver, Canada.

Quesalid (for this was the name he received when he became a sorcerer) did not believe in the power of the sorcerers – or, more accurately, shamans, since this is a better term for their specific type of activity in certain regions of the world. Driven by curiosity about their tricks and by the desire to expose them, he began to associate with the shamans until one of them offered to make him a member of their group. Quesalid did not wait to be asked twice, and his narrative recounts the details of his first lessons, a curious mixture of pantomime, prestidigitation, and empirical knowledge, including the art of simulating fainting and nervous fits, the learning of sacred songs, the technique for inducing vomiting, rather precise notions of auscultation and obstetrics, and the use of “dreamers,” that is, spies who listen to private conversations and secretly convey to the shaman bits of information concerning the origins and symptoms of the ills suffered by different people. Above all, he learned the *ars magna* of one of the shamanistic schools of the Northwest Coast: The shaman hides a little tuft of down in a corner of his mouth, and he throws it up, covered with blood, at the proper moment —after having bitten his tongue or made his gums bleed— and solemnly presents it to his patient and the onlookers as the pathological foreign body extracted as a result of his sucking and manipulations.

His worst suspicions confirmed, Quesalid wanted to continue his inquiry. But he was no longer free. His apprenticeship among the shamans began to be noised about, and one day he was summoned by the family of a sick person who had dreamed of Quesalid as his healer. This first treatment (for which he received no payment, any more than he did for those which followed, since he had not completed the required four years of apprenticeship) was an outstanding success. Although Quesalid came to be known from that moment on as a “great shaman,” he did not lose his critical faculties. He interpreted his success in psychological terms – it was successful “because he [the sick person] believed strongly in his dream about me.” (Lévi-Strauss, 1963, pp. 175–176)

Lévi-Strauss’s understanding of shamanic healing makes place for the charade and the cure at the same time, situating Quesalid in the intersection between the quack and the folk healer. The story describes not only all the tricks and cheats used by the shamans, but also a positive therapeutic outcome, explained as the symbolic power of believing. Besides, there is not only a belief, but a theatrical staging, a performance that can be effective to one degree or another.

While visiting the neighboring Koskimo Indians, Quesalid attends a curing ceremony of his illustrious colleagues of the other tribe. To his great astonishment he observes a difference in their technique. Instead of spitting out the illness in the form of a ‘bloody worm’ (the concealed down), the

Koskimo shamans merely spit a little saliva into their hands, and they dare to claim that this is ‘the sickness.’ What is the value of this method? What is the theory behind it? In order to find out ‘the strength of the shamans, whether it was real or whether they only pretended to be shamans’ like his fellow tribesmen, Quesalid requests and obtains permission to try his method in an instance where the Koskimo method has failed. The sick woman then declares herself cured. (Lévi-Strauss, 1963, p. 176)

Quesalid’s story continues, as do his competition with other shamans. Lévi-Strauss also recognizes that shamans can be truly honest. This occurs especially when they undergo “specific states of a psychosomatic nature” produced by “hardships and privations.” According to Lévi-Strauss, “body experiences” are a shamanic mode of knowledge. They are intuitive and real experiences, often linked to a “spiritual crisis,” a “divine guidance,” and/or a “journey to the beyond.” The shaman does not perform a simulation, but recreates an event in all its “vividness,” “originality” and “violence,” producing an “abreaction” in the strict psychoanalytic sense.

An important element of the shamanic complex is the audience who support, approve or disapprove what is happening between healer and patient. The role of the audience is essential because it gives authority to the shaman, by direct or indirect means. “Quesalid did not become a great shaman because he cured his patients; he cured his patients because he had become a great shaman. Thus we have reached the other – that is, the collective – pole of our system” (Lévi-Strauss, 1963, p. 180). For Lévi-Strauss, the shamanic séance is a performance that is a product of social consensus.

The three terms of the shamanic complex play their role in the expression of the pathological thinking of unconscious language: the sorcerer as a neurotic, the patient as an ill person, and the audience as a distant witness of the “fireworks.” Like some of the other theories I describe below, for the French anthropologist the ritual performance breaks down normal conscious thought, and enables the shaman to dive through the overflowed reality of the unconscious.

From any non-scientific perspective (and here we can exclude no society), pathological and normal thought processes are complementary rather than opposed. In a universe which it strives to understand but whose dynamics it cannot fully control, normal thought continually seeks the meaning of things which refuse to reveal their significance. So-called pathological thought, on the other hand, overflows with emotional interpretations and overtones,

in order to supplement an otherwise deficient reality. For normal thinking there exists something which cannot be empirically verified and is, therefore, "claimable." For pathological thinking there exist experiences without object, or something "available." We might borrow from linguistics and say that so-called normal thought always suffers from a deficit of meaning, whereas so-called pathological thought (in at least some of its manifestations) disposes of a plethora of meaning. Through collective participation in shamanistic curing, a balance is established between these two complementary situations. Normal thought cannot fathom the problem of illness, and so the group calls upon the neurotic to furnish a wealth of emotion heretofore lacking a focus. (Lévi-Strauss, 1963, p. 181)

This process of abreaction allows the shaman to access new meanings, to intertwine them across the diffuse states and defiant nonsense of the sickness, and articulate them into a new whole, in what Lévi-Strauss calls symbolic effectiveness. The magical behavior in the shamanic complex involves the manifestation of an emotional display, but the essence of the procedure is intellectual, since the shaman asks "...magical thinking to provide him with a new system of reference, within which the thus-far contradictory elements can be integrated" (Lévi-Strauss, 1963, p. 184).

Quesalid's story is a controversial one. According to the anthropologist Harry Whitehead (2000), Quesalid was in fact George Hunt, one of Franz Boas' assistants, who had both Tlingit and English origins. The descriptions about the skeptical native who wanted to learn the way of the shamans is in fact a literary invention. The true story was that Hunt converted to shamanism during his youth; his biography was not the impressionistic picture painted by Boas. But this does not discredit Lévi-Strauss' analysis. Putting the particularities of the various ethnographical examples used by the author to one side, theoretically, the effectiveness of symbols was an important contribution to the anthropological understanding of how ritual may work. Lévi-Strauss came up with a fresh look, describing ritual healing as the interplay between bottom-up pathological thinking and top-down intellectual regulation. This core idea is a common feature of subsequent multilevel approaches. Besides, Lévi-Strauss blends the quack, the mentally-ill and the psychotherapist into a new kaleidoscopic figure. This new image of the shaman was recruited by the going-native anthropologists of the following decades.

Another important scholar in the construction of the psychotherapist shaman was the historian of religions Mircea Eliade, who in 1951

published the classic book *Shamanism. Archaic Techniques of Ecstasy*, translated into English in 1964. Likewise, Eliade's shaman is a folk healer, capable of both psychological and social integration. Eliade put greater stress on the psychopomp ecstatic techniques of the shaman, which enable the shaman's spirit to leave his/her body, and travel – phenomenologically speaking – to both heaven and hell. The shaman is capable of traveling through the *axis mundi*, a sacred pillar between the different cosmic zones of the universe; an archetype expressed in symbols of different cultures around the world (Eliade, 2009). For Eliade, the shamanic ecstatic flight is a cross-cultural and ahistorical phenomenon, grounded in the spontaneous ability of the human mind to phenomenologically produce those experiences. The shamanic journey through the *axis mundi* is an elementary, primal experience that every culture re-works in terms of its own cosmology and worldview. Eliade's universality of the shamanic experience led to a neuropsychological model of shamanism (Martínez González, 2007), which was used to interpret cultural materials such as prehistorical art in cultures from America (e.g. Furst, 1965) and Africa (Lewis-Williams, Dowson, & Wylie, 1988) as expressions of the shamanic complex.

Psychedelics and ASCs

Both Lévi-Strauss and Eliade took a fresh look at shamans and rituals, emphasizing their social and psychological integrative aspects. They described both the bright and dark sides of shamanism, analyzing the psychological, social and cultural aspects of the performance. Although neither of them probed deeply into the connection between rituals and psychoactive drugs, interest in hallucinogens was rife at that time, in both the academy and the general population. The connection between shamans and psychedelics was easy to establish if we consider that both authors described the shamanic experiences as specific psychosomatic states or as psychopomp ecstatic travel.

By the end of the 1940s, Albert Hofmann had discovered LSD-25, a milestone that marked the beginnings of psychedelic research and psychedelic clinical studies were carried out throughout the 1950s. Besides, modern psychopharmacology was just beginning to emerge with the discovery of the first anti-psychotic drug, chlorpromazine. These new

discoveries led to new treatments for mental illness, through the direct manipulation of the nervous system. The possibility of acting by both psychological and pharmacological means was not alien to psychoanalysis. In fact, Sigmund Freud speculated about the possibility of acting on both sides of the human mind to produce a therapeutic change in the patient (Freud, 1950, 2013).

But these kinds of therapy were by no means new. Other medical traditions already used certain substances to manipulate moods, thoughts, memories and consciousness. It soon became clear that certain psychoactive compounds had been present in nature since ancient times; that these drugs were used in native psychopharmacopeia for a variety of purposes, including medical ones; and that modern science could explore these possibilities too, in order to find new treatments for different mental problems. Shamans were probably among the first folk psychotherapists to use these substances.

The psychiatrist Arnold Ludwig was aware of all these connections when he wrote his classic article “Altered States of Consciousness.” In the paper, he defined ASCs as

...any mental state(s) induced by various physiological, psychological, or pharmacological maneuvers or agents, which can be recognized subjectively by the individual himself (or by an objective observer of the individual) as representing a sufficient deviation in subjective experience or psychological functioning from certain general norms for that individual during alert, waking consciousness. (Ludwig, 1966, p. 225)

From a psychoanalytic and evolutionary perspective, the author wonders why rituals that cause ASCs are so common throughout the world and throughout history. For Ludwig, the answer lies in their ability to adapt to different problems and situations: for example, the expression and elaboration of psychic and social conflicts, or the acquisition of knowledge through mystical revelations or meditation. Ludwig also mentions maladaptive or regressive behaviors when ASCs lead to self-destructive tendencies or the avoidance of responsibilities. And finally, he proposes a classification for the various methods of inducing these behaviors: *a*) reducing exteroceptive stimulation and/or motor activity (e.g. prolonged social and stimulus deprivation, hypnagogic and hypnopompic states, sleeping, dreaming); *b*) increasing exteroceptive stimulation, motor activity, and/or emotion (e.g. brainwashing states,

religious conversion and healing, revivalist meetings, rites of passage, spirit possession, shamanistic trance); *c*) increased alertness or mental involvement (e.g. fervent praying, listening to a dynamic or charismatic speaker, prolonged watching of a revolving drum); *d*) decreased alertness or relaxation of critical faculties (e.g. meditative and mystical states, daydreaming, drowsiness, free association during psychoanalytic therapy); *e*) presence of somatopsychological factors (e.g. hypo- and hyperglycemia, dehydration, narcolepsy and, of course, the use of psychedelic drugs). Interestingly, Ludwig's ideas were innovative and are still valid in several ways: his interpretation of ritual in evolutionary terms, his idea that ritual is a cultural practice that has various psychological outcomes depending on the methods used, and his model of ASCs that uses the waking state as a point of reference.

A year later, Julian Silverman described the shaman as someone who, after suffering a psychological crisis related to mental illness, is capable of healing him/herself. To do so, the future shaman uses socially legitimized roles and practices that guide him/her to a cognitive reorganization, and a conciliation between lower and higher mental processes. According to Silverman, the shamanic complex is a cultural practice, which Western modern culture does not have, designed for coping with illness.

The essential difference between the psychosocial environments of the schizophrenic and the shaman lies in the pervasiveness of the anxiety that complicates each of their lives. The emotional supports and the modes of collective solutions of the basic problems of existence available to the shaman greatly alleviate the strain of an otherwise excruciatingly painful existence. Such supports are all too often completely unavailable to the schizophrenic in our culture. (Silverman, 1967, p. 29)

Some years later, the psychologist Charles Tart popularized the term ASCs in a volume he edited with contributions from the leading specialists in the field (Tart, 1969). By this time, several scholars were already investigating the topic, from its more naturalistic aspects (Ludwig) to its more spiritual ones. Tart himself proposed that all states of consciousness are equally valid on the path to true knowledge and wisdom (Tart, 1975). For Tart and others, going against the ontological privileges of ordinary consciousness was to confront Western materialistic experience and make a stand for spirituality as an experience far beyond our waking state of consciousness.

This attitude was not an isolated academic trend, but part of the general social milieu of the post-war context. As Lytoard (1979) points out, there was a general mistrust of Western emancipation paradigms, whether they were politically to the right or the left, or advanced the more neutral ideal of scientific and technological progress through rationality and empirical knowledge. This mistrust was not without foundation. Indeed, it was a righteous reaction to what was happening in the post-war context. In the specific case of science, it was clear that scientists were directly implicated in the Cold War arms race and the creation of weapons of mass destruction. Besides, technology, urbanization, and industrialization were not only making important improvements, but also creating problems such as pollution, alienation, poverty, inequalities and so on.

In this context, some people started not only to confront mainstream Western and materialistic paradigms but also to seek other worldviews, cosmologies and emancipatory projects. Some traditions looked more promising, especially those that were usually rejected by Western mainstream culture. India and its gurus was one hot spot. Another was Latin America and its shamanic practices, especially because of its variety of psychoactive substances, which gave faster access to the spiritual realms. The initial step was taken by the former banker Robert Gordon Wasson and his wife Valentina Pavlovna, who traveled to Oaxaca, Mexico, and took part in a ritual with mushrooms directed by the subsequently famous shaman Maria Sabina. The adventure was published in the magazine *Life* (Wasson, 1957), and aroused the curiosity of the general public. After Wasson's article, Mexico became a place of pilgrimage for psychedelic spiritual seekers. A wave of entheogenic ethnotourism flooded through Oaxaca and, by the beginnings of the 1970s, Mexican police had to take measures to stop it.

Interest in these substances was popularized in various cultural and artistic environments – for example, literature (e.g. Aldous Huxley, the Beat Generation) and popular music (The Beatles, Jimmy Hendrix, Pink Floyd) – and, of course, in the universities. In the specific case of psychology, spirituality gained popularity, and several alternatives to mainstream academic thought appeared: the Esalen Institute in California, made up of renowned scholars such as Carl Rogers, Aldous Huxley, Julian Silverman and Claudio Naranjo; transpersonal psychology, founded by Abraham Maslow and Stanislav Grof; the gestalt psychology of Fritz Pearl and Laura Posner; and the California Institute of Integral Studies. Novel

psychedelic perspectives appeared too, some of which claimed that there was a need for a radical change of consciousness, in the middle ground between psychology and spirituality (e.g. Timothy Leary, Ram Dass/Richard Alpert, Ralph Metzner).

Anthropologists going native

Among all these “happenings,” anthropology was also playing its part. One of its first contributions was Carlos Castaneda’s *The Teachings of Don Juan*, (1968) initially written as a master’s degree dissertation. In the book – and the others that would come later – Castaneda narrates how he became a shaman. In his narrative of conversion, the materialistic Western worldview is debunked, and the fantastic world of shamans revealed. During Castaneda’s process of going native, Don Juan Matus teaches him how to use several mind-altering plants, thus introducing him to an invisible supernatural world. Castaneda was harshly criticized, mainly because of doubts about the authenticity of his work. But none of this prevented him from becoming a celebrity with many followers, even today. Another classical example of an anthropologist going native is Michael Harner, who had his own intense experiences with hallucinogenic plants during his fieldwork with the Shuar in Ecuador. He later published *The Way of the Shaman* – a handbook of shamanic techniques adapted for everyone – and created the Foundation for Shamanic Studies. Harner developed a core and universal shamanism, which he considers fast, secure and accessible to the general public (Harner, 1980).

Going native anthropology was in some respects expected, at least after the symbolic turn of the second half of the century, which considered native cosmologies on their own terms, expelling naturalistic explanations because of their positivistic and ethnocentric biases. The later post-modern and ontological turns weighted the scale even more to the romantic side of the discipline. These different turns are significant in understanding the permeability of the discipline to spirituality.

However, the going native phenomenon was not only an ideological and theoretical effect. It was also a consequence of the intrinsic methodological procedures used by anthropologists. Ethnography as a method, and participant observation as a technique, give native perspectives a certain permeability, under the idea that the ethnographer cannot fully

understand a cultural process only by observation. Anthropologists have to participate too, if they want to understand the native's worldview. In the case of the study of religions, the ethnographer usually has to participate in the religious rituals of the community studied, which are often designed to cause different kinds of spiritual conversion and commitment. If we add some psychedelics to help the ethnographer to have meaningful and overwhelming spiritual experiences, the permeability increases considerably. When studying these kinds of practice, the ethnographer uses a special kind of participant observation that some anthropologists call "participant experience" (Prat, 2017), or "radical participation" (López-Pavillard, 2015). These participant experiences do not involve only direct and empathic contact with the cultural worldview, but also a variety of experiences that can lead to a strong transformation of the self.

Sometimes there is no need for psychedelics in the ritual for those experiences to occur. A paradigmatic case is the anthropologist Edith Turner, who gave testimonies about her supernatural and parapsychological experiences during her fieldwork with the Ndembu in Zambia,

In 1985, thirty-one years after my 1951–54 fieldwork, I returned to the same area with Bill Blodgett and attended two more of these rituals. In the second one I participated instead of merely witnessing. At the climax of the second one, to my surprise, I saw with my own eyes a large afflicting substance, some six inches across, emerge from the body of the patient under the doctor's hands. It happened at the moment when the participation of the whole group became total. Because of my previous fieldwork in the 1950s, I shared with the participants much of their consciousness of the complexities and meaning of the ritual and of the social field in which it took place. Conversely, the older Ndembu present remembered my earlier participation and were relatively comfortable with my presence in their midst. (Turner, 1998, p. 2)

Like Charles Tart, some anthropologists consider these spiritual experiences to be as real as ordinary experiences; they may be phenomenologically different, but they are equally valid in ontological terms. Several currents in anthropology have sustained this position: transpersonal anthropology, psychedelic anthropology, anti-anthropology, anthropology of consciousness, among others. The exponents of transpersonal anthropology proposed studying non-ordinary experiences in different cultures (Laughlin, McManus, & Shearer, 1983). The Western worldview was "cognocentric" (Harner, 1980), and they suggested that

these experiences could be useful in getting over Western materialism and positivism (Laughlin, 1988).

The variety of positions towards this paradigm shift is well represented in the article “Magic: a theoretical Reassessment” written by Michael Winkelman in 1982 for the journal *Current Anthropology*. Winkelman argues: *a)* that parapsychological phenomena do exist; *b)* that anthropologists, during their fieldwork, usually witness these phenomena, and *c)* that ethnographers often conceal the accounts of these experiences, afraid of being discredited (Winkelman, 1982). But what is most interesting is not Winkelman’s article itself, but the discussion in the Comments section, in which various opinions are given from the more skeptical of the existence of psi phenomena (e.g. Erika Bourguignon) to real believers (e.g. Marlene Dobkin de Ríos). This open-minded attitude towards spirituality and native perspectives was central to the emergence of anthropologists who not only studied shamanism but also became shamans. In this way anthropologists recruited shamans to Western settings, in what is usually known as neoshamanism.

Neo-shamanism in the psycho-spiritual networks

That neoshamanism is deeply rooted in going native anthropology does not mean that it is an exclusive academic by-product. To understand the birth of neoshamanism we have to look at the intersection of various academic, artistic and social traits that nurtured and gave a niche to neoshamanic practice in the Western world. Some of these traits are: the popularization of psychedelics for clinical, spiritual, political and recreational purposes; the idea of ASCs as paths to self-knowledge, social emancipation, contact with spirituality and expansion of consciousness; a variety of countercultural movements against mainstream Western thought; novel perspectives in the academy that questioned modern scientific and Western thought in different ways, and the popularization of new and old alternative medicines. An important influence on, and ally of, neoshamanism was the holistic health movement, in which various unconventional treatments joined forces, including neoshamanic practices. This movement revived a number of folk and traditional therapies (Haro Encinas, 2000). Its roots can be traced back to the 19th century, with the popularization of natural therapies, and later in 1978, with the creation of the American Holistic Medical Association in the U.S. (Baer, 2003).

Another important source of impetus to neoshamanism was the New Age movement, which also revived spiritual and healing practices. For some authors, this movement is a softcore version of the psychedelic and countercultural movements (Baer, 2003; Fernández Romar, 2000; Morris, 2006). This is clearly true if we compare the former collective emancipatory project of the counterculture of the 1960s with the more individualistic approach of the new-agers. The New Age usually considers that the Age of Pisces will change to the new Age of Aquarius no matter what, so no collective struggle is needed. The only requisite is to change individually and adapt to the forthcoming planetary era. For its critics, this idea reflects the individualistic approach of a post-modern mercantiled spiritual ideology, popularized in the middle and upper classes of urban societies, where religious and spiritual practices and beliefs are promoted in a supply-and-demand rationality (York, 2001).

But this criticism is not accurate if we consider the diversity of groups in these spiritual networks. For example, although the coming of Aquarius is a common idea, it is not shared by all the groups in the network. Besides, it is inaccurate to say that collective projects of emancipation are absent. For example, Catherine Albanese (2013) identifies social thinkers and a New Age ethic concerned with social problems. Losonczy & Mesturini (2010) state that critics of New Age individualism were blind to the positive aspects of these movements such as the fight for ecological preservation or the respect for racial and cultural diversity. For the specific case of neoshamanism, Robert Wallis (2003) notices that these practices are usually painted as monolithic and naïve, but they are in fact heterogenous, with a variety of political commitments and social struggles. The anthropologist Esther Jean Langdon (2006) also stresses the diversity and fluidity of both shamanic and neoshamanic practices in the context of the Amazon rainforest. Juan Scuro (2016) reports that neoshamanic practices in Uruguay often involve social commitment and utopias, with a variety of political claims and the collective construction of life styles and worldviews.

To avoid this confusion these networks should perhaps be referred to as psycho-spiritual rather than New Age, a more neutral term that does not express common clichés of the New Age literature. This does not mean that psycho-spiritual networks are beyond individualism and commodification; this is a general condition for most of the cultural practices that can be found in the world of today, whether they be

secular or religious. As pointed out by Daniele Hervieu-Leger (2005), individualism is a consequence of a general post-modern displacement of the legitimacy of the truth from the traditional institutions to the subject as a believer. This has positive and negative effects. In the particular case of spiritual seekers, they move within a network of spiritual consumption where there is no monopoly of a centralized and hierarchical *auctoritas*. They move relatively freely, so conversion and deconversion, affiliation and disaffiliation, are more common than in other traditions and institutions. Participants are a kind of *bricoleur*, who collects and combines different symbols and beliefs from a network in which practices, objects, events, rituals, beliefs and ideas circulate in a logic that is quite unlike that of traditional religions.

This more decentralized scenario is characteristic of the New Religious Movements, but also a general milieu that applies to other social fields such as art, politics, the academy, the labor market, and so on. We tend to idealize religion and spirituality, as if they should have no interest in profit or power, something that seems unlikely in both modern societies and human history in general. Nicolás Viotti (2011) calls this conception the “morally negative communitarian criticism.” It implies that we use a double standard in our appraisal of spiritual movements and secular ones. Why do we require these new spiritualities, but not other social phenomena, to provide a collective project of emancipation? And, from the perspective of reflexive anthropology, why do we not demand this of ourselves too, in our work as professionals, as researchers, or simply as citizens?

Neoshamanic groups are usually part of these psycho-spiritual networks. In Catalonia, neoshamanism usually takes place in what Joan Prat (2012) calls the “new cultural imaginaries,” covering a variety of practices from oriental, holistic, psychotherapeutic and esoteric traditions. In Brazil, it is practiced in what José Guilherme Cantor Magnani (1999) describes as the “neo-esoteric circuit,” and Amurabi Pereira de Oliveira (2009) calls “Popular New Age.” In Colombia, both Alhena Caicedo (2007, 2009) and Carlos Uribe (2008) report that the *taitas yajeceros* – the shamans who use *yajé*, the name for ayahuasca in Colombia – are recruited in the urban “emerging networks” of spirituality. In Mexico the neo-Mexicanity movement is described by Francisco de la Peña (2001) and Renée de la Torre (2008) as an urban phenomenon of the “mystic-esoteric circuits,” where the Indian is romanticized under the prophecy of a return of the Aztec kingdom in the new Age of Aquarius.

In Uruguay, both Juan Scuro and myself have discussed how the various neoshamanic groups move within a psycho-spiritual network in which holistic centers, psychologists, physicians, spiritual seekers and shamans interact, bringing together different kinds of groups rooted in different traditions (Apud, 2013b, 2013c; Scuro, 2016). Their participants usually come from the middle and upper socioeconomic classes, with some cultural and academic capital. Besides, neoshamans usually contact other foreign shamans and neoshamans in a transnational network and following the logic of supply-and-demand. This exchange produces what I called earlier double assimilation, with different cultural translations and ritual redesigns on both sides of the interaction.

The ontological turn

As we have seen in the case of anthropology, the discipline has been particularly permeable to shamanic and native worldviews, a trend that intensified after the symbolic turn. As a reaction to positivism, symbolic anthropology focused on the cultural worldviews of the subjects studied, deleting – or at least ignoring – other possible levels of analysis. This meant that anthropologists could work more autonomously, but it was also an obstacle for interdisciplinary work particularly with the natural sciences. Post-modern anthropology and the subsequent ontological turn reinforced this tendency. These shifts produced a variety of relativisms, which questioned materialistic reality, and considered different cultural worldviews as at least equally valid. For these perspectives, the problem is not how to understand reality, but how cultural realities are socially and culturally produced through different social relationships.

These academic traditions claim they are hacking the modern Western notion of reality, or, in philosophical terms, they are confronting the ontological foundations of Western culture, with science on top. As defined in philosophy, ontology (from Greek, *ontos*=being, *logos*=discourse, study of) is the study of what exists, the essential characteristics of reality, of the being itself.

A person's ontology comprises the set of objects that he takes to exist and thereby to make up the furniture of the world. Theories differ according to the objects they posit to exist. Ontology is the answer to the question "What is there?" Determining which answer is right amounts to determining what ontological commitments are acceptable. We are thus faced with the problem of finding a criterion for ontological commitment. (Bunnin & Yu, 2004, p. 490)

The critique is mostly directed at Western separation between modern scientific rationality (regarded as true knowledge), and non-Western (illusory and false) knowledge. According to those perspectives, the root of the problem is that knowledge is always about power and, if we want to take the idea of decolonizing Western knowledge seriously, we have to get to the bottom of the matter, which is our Western ontological foundation of reality (Savransky, 2017). Although decolonial criticism was already present in the discipline, the project of decolonizing anthropology became especially relevant in the 1980s, with different post-structural and post-modern perspectives (Sinclair & Jobson, 2016). A variety of strategies for dismantling Western ontological thought can be mentioned: deconstructing colonialism in all its forms; defending and affirming other alter ontologies; co-constructing new kinds of knowledge in a dialogic style; rejecting classical Western dichotomies such as nature-culture, subject-object, nature-nurture, and so on.

Let's take Philippe Descola's and Viveiros de Castro's work as an example of post-structuralist anthropological critique of colonial thought. For Descola, ontologies are not numberless, but can be ethnographically classified into a few recurrent kinds. The author assumes the existence of a universal distinction between two general domains that he calls "interiority" and "physicality" (Descola, 2013). Interiority includes a range of properties recognized by all human beings: intentionality, subjectivity, reflexivity, feelings, the ability to express oneself, and dreaming. It is related to what we usually call mind, soul, or consciousness, and in other cultures can include notions such as breath or vital energy. Physicality includes the properties of external form and substance; in cognitive terms, it is related to perceptive and sensory-motor processes. As human beings, we perceive ourselves as living in both kinds of ontological realities, one physical, and the other psychological.

Descola proposes that this duality permits only four types of classifications of the entities of the world, depending on whether the entities within each domain are similar or dissimilar. If entities are similar and continuous in their physicality and interiority, then the result is totemism. If entities are dissimilar in the two domains, then the result is analogism. If entities are similar in their interiority and dissimilar in their physicality, the result is animism; the inverse relation is naturalism (table 1).

Table 1. Descola's types of ontologies

Modes of ontologies	Physicalities	Interiorities
<i>Animism</i>	Similarity (continuity of souls)	Dissimilarity (discontinuity of bodies)
<i>Naturalism</i>	Dissimilarity (discontinuity of minds)	Similarity (continuity of matter)
<i>Totemism</i>	Similarity (identity between souls)	Similarity (identical substance)
<i>Analogism</i>	Dissimilarity (gradual discontinuity between souls)	Dissimilarity (gradual discontinuity between beings)

Each type of ontology has its own schemas, and organizes human and non-human beings in different ways. Totemic systems assume that humans and other natural beings present a physical and psychic affinity and continuity. In analogic systems, there is a multiplicity of beings, dissimilar in both their physical and psychic domains. Some examples mentioned by Descola are the “great chain of being” of the Middle Age, or Saint Thomas’ idea of the diversity and inequality of all things created by God. Animism is a mode of identification in which different beings such as birds, snakes, plants, mountains, rivers and humans share a similar interiority, even though they are all dissimilar and discontinuous in their physical form. As an animistic kind of practice, shamanic trance is about entering the skin of other beings, communicating with other non-human entities, and therefore going beyond the barriers of physicality in order to communicate with equal interiorities. Naturalism, represented by the Western and scientific worldview, is just the opposite. There is a continuity of every being in the physical world: mountains, rocks, plants, non-human and human animals are all made of the same stuff. But mountains, rocks, and plants have no interiorities, while non-human animals are half-way there. In contrast, human beings have consciousness, morality, and transcendent principles. The naturalist mode of identification also operates according to a classification by attributes, one that, in truth, is extremely elementary: humans are what they are because they have a physicality plus an interiority; and nonhumans are what they are because they have a physicality minus an interiority. Many refinements may of course be added to this contrastive opposition whose persuasive force stems from its very simplicity; but most of them relate to physicality. (Descola, 2013, p. 243)

For Descola, naturalism is one ontology among many, and one that can be harshly criticized, if we dare to pay attention to other ontologies,

such as those concerned with animism. The criticism of naturalism and the apology for animism and shamanism is well developed by Eduardo Viveiros de Castro's Amerindian Perspectivism. His proposal is to decolonize anthropology, transforming the discipline through an anti-narcissistic challenge to Western thought. His idea is to reformulate the whole anthropological project, using Amazon shamanic perspectivism and its ontologic multi-naturalism as a model.

Amerindian shamanism could be defined as the authorization of certain individuals to cross the corporeal barriers between species, adopt an exospecific subjective perspective, and administer the relations between those species and humans. By seeing nonhuman beings as they see themselves (again as humans), shamans become capable of playing the role of active interlocutors in the trans-specific dialogue and, even more importantly, of returning from their travels to recount them; something the "laity" can only do with difficulty. This encounter or exchange of perspectives is not only a dangerous process but a political art: diplomacy. If Western relativism has multiculturalism as its public politics, Amerindian shamanic perspectivism has multinaturalism as its cosmic politics. (Viveiros de Castro, 2014, p. 60)

If for Western epistemology knowing is objectivizing, for Amazon shamanism knowing is personifying (that is, taking the point of view of the people we want to know about). Descola is also inspired by Amazon cosmology, which he knows first-hand after his fieldwork with the Shuar people of Ecuador's Amazonas. In his early fieldwork, he concluded that the antinomy between the social human world and the natural world of animals is not applicable to the cultural worldview of the Shuars, who consider other kinds of classification: beings that possess the ability of language and live in parallel realms; beings without souls, such as fish or insects; Shuar people, who consider themselves as complete beings (in contrast with their neighbors who are considered as not complete); the spirits of the dead souls; predatory animals such as the jaguar or the anaconda (Descola, 1988). For Descola, the dualistic separation between nature and culture is not a universal fact, either in the Shuar worldview or in other cultures. It is a socially constructed classification derived from our Western epistemologies and metaphysics. It is a fetishization of nature and a sociocentric point of view that considers humans as special beings in their social and cultural abilities. The opposition between natural and supernatural also derives from this dichotomy, as the latter

category congregates all those phenomena that do not fit into Western understanding of natural physical properties (Descola, 2001).

But there is a big contradiction in Descola's thought. His starting point is the universality of a dualistic mind that thinks in terms of physicality or intentionality. He believes this duality not to be an ethnocentric dichotomy but a universal fact,

...this distinction between a level of interiority and one of physicality is not simply an ethnocentric projection of the Western opposition drawn between the mind and the body. Rather, it is a distinction that all the civilizations about which we have learned something from ethnography and history have, in their own fashions, objectivized. (Descola, 2013, p. 116)

Where does this duality come from? Why is it universally present in both the ethnographic and historical records? Currently, the best explanation is that this distinction is universal because it is rooted in natural cognitive domains, related to physical and social interactions, which are two distinct aspects of the development of the human mind. Intuitive person-body dualism appears early in childhood, expressed in ideas such as the existence of invisible agents (Bering & Parker, 2006) and life after death (Bering & Bjorklund, 2004). It is also a central element in beliefs such as spirit possession in Afro-Brazilian religions (Cohen, 2007), and an opposition that can sometimes be by-passed (for example, in the identification of reincarnated people in South India) (White, 2015). The duality from which Descola constructed his types of ontologies is in essence a disavowal of his criticism of naturalism, since the interiority-physicality duality is in itself the result of particular cognitive dispositions, as has been suggested by some research. The problem does not finish here. Descola's understanding of evolutionary perspectives contains a variety of mistakes. For example, he claims that

...even if no scientist would these days dare to claim that peoples once called "primitive" represent an intermediary stage in between the great apes and ourselves, one cannot but be disturbed by the interest that evolutionary psychologists take – from afar, admittedly – in the present-day mental functions of hunter-gatherers, whom they implicitly assimilate to our Pleistocene ancestors and who, we are led to believe, must therefore be closer to nonhuman primates than any Stanford professor. (Descola, 2013, p. 180)

The mistake is that hunter-gatherers are not cognitively closer to our ancestors than we are. For evolutionary psychology, all of us are

equally close to them in cognitive terms. The main idea is that the general architecture of the mind has undergone no big changes, at least since the end of Pleistocene, when hominins lived in small hunter-gatherer groups. As a result, we all have similar mental functions. Culturally speaking, it could be true that hunter-gatherers are closer to our Pleistocene ancestors than we are. But it is totally wrong to state the same in cognitive terms. This happens because cultural development moves faster than biological evolution, which is significantly slower (Creanza, Kolodny, & Feldman, 2017; Henrich & McElreath, 2003).

Another problem is that, for Descola, the gradualist perspective (referring to the idea that there is a continuity in the cognitive make-up between human and non-human beings) is a minor perspective in nature. However, there is strong evidence to suggest that there is no single trait that defines humans as a unique species. *Homo sapiens* are not an abrupt innovation, and the human genome is nearly 99% identical to the chimpanzee's (Kappeler, Silk, Burkart, & van Schaik, 2010). Maybe the main criticism of Descola is not about continuity in physical or biological terms – we must remember he claims that naturalism is based on this continuity – but that science is about a discontinuity between interiorities. This argument is wrong, too. From an evolutionary perspective, cognition and its related abilities (social intelligence, technical intelligence, language, mentalizing, etc.) developed progressively during the passage from ancient to the modern human mind (see for example, Mithen, 1996).

Last, from an evolutionary perspective we are not necessarily the most successful species. It is true that as humans we have some unusual cognitive abilities, but the same could be said of other species too. Human beings cannot be said to be at the top of the pyramid of living creatures. Each life form has had its own evolutionary route, in the interplay between chance and necessity. There are multiple paths in natural history. And the same goes for cultural history: there is not one predetermined path, but a variety of them. This idea is not new, and had already been put forward by Julian Steward, who criticized both Franz Boas' culturalism and Leslie White's unilinear evolution, and proposed a multilineal model of local adaptation (Gil, 2015).

Of course, all these controversies did not come about as a result of the ontological turn. In anthropology, they have been present since the beginnings of the discipline, when Franz Boas rightfully fought against racism and eugenics (Kappeler *et alii*, 2010). Later, and as a side effect, the

opposition between race and history was transferred to the nature-culture debate. A significant number of anthropologists took – and still take – the side of culture, denying any natural predisposition. Symbolic anthropology and its subsequent avatars embraced the struggle of culture against nature, and resisted considering traits as a natural disposition of human thought and behavior. Culture started to be regarded as a “self-contained phenomenon” (Bloch, 2012), and “exhaustive cultural transmission” (Boyer, 1994) was capable of explaining how ideas are acquired with no need for any other explanation. Tooby & Cosmides (1992) address this problem when they characterize social sciences as a *tabula rasa* model of the mind and cultural learning (figure 9).

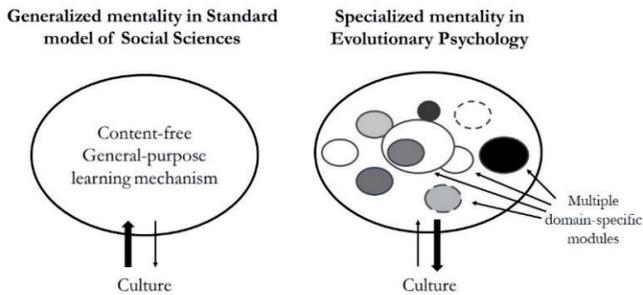


Figure 9. Two models of the mind. On the left, the social science *tabula rasa*. On the right, evolutionary psychology modularity (picture adapted from Tooby & Cosmides, 1992).

In contrast, evolutionary psychology considers that the mind has a natural architecture that has been produced by an evolutionary process of millions of years, which can be traced back not only to hominins but also to other forms of life, which developed a nervous system in their own terms. For evolutionary psychology, the human mind is not a kind of camera that passively catches the light of the environment. On the contrary, it has its own natural potentials and constrictions. For example, language is not verbal behavior acquired only through imitation. It involves innate learning dispositions, something that Noam Chomsky proved when contesting B. F. Skinner’s ideas (Chomsky, 1959; Skinner, 1957). The oddity of Descola’s work is that he implicitly considers at least two natural domains – physicality and intentionality – but at the same time rejects naturalism.

Spiritual ontologies: cognition and ASCs

People think dreams aren't real just because they aren't made of matter, of particles. Dreams are real. But they are made of viewpoints, of images, of memories and puns and lost hopes.

Neil Gaiman. *The Sandman* (1989).

As we have seen earlier, the idea that ordinary consciousness is a guide by which other ASCs can be situated was criticized by some anthropologists, usually under the claim that different states of the mind are all of equal ontological validity. Despite these criticisms, the idea of a generic wakefulness state seems to be a good starting point for classifying the diversity of possible states of consciousness. This was the idea of Arnold Ludwig in the 1960s, when he proposed ASCs as a deviation in subjective experience or in the psychological functioning of waking consciousness. From a psychological point of view, wakefulness can be regarded as a state in which we are capable of being aware and focused on what is happening in the surrounding environment, and also recognize our own body and ourselves, not only in space but on an autobiographical timeline where we are socially situated, here and now.

These abilities, which seem so obvious, are altered to some extent or another during ASCs. For example, Viatl *et alii* (2005) propose a four-dimensional descriptive system: activation (readiness to interact with one's environment), awareness span (from narrow and focused to broad and extended attention), self-awareness (attention to oneself), sensory dynamics (changes in subjective experiences). Using these four dimensions, they classify ASCs into different categories: *a*) spontaneously occurring (related to the wakefulness-drowsiness-sleep continuum); *b*) physically and physiologically induced (e.g. extreme environmental conditions, fasting, respiratory maneuvers); *c*) psychologically produced (e.g. sensory overload, ganzfeld, rhythm-induced trance, relaxation, meditation, hypnosis), and *d*) disease-induced (e.g. psychotic disorders, epilepsy, vegetative state).

During ASCs, we enter into other kinds of experience in which dreams, reality, memories, viewpoints, images, emotions and hopes interact in novel and strange ways. In one sense, these experiences are real. We are experiencing them; they are actually occurring to us. They usually

have something to tell us about who we are. We learn from them, as we can learn from our dreams, if we take note of them just after waking up. But the ontological status of these experiences is another thing. As I will propose, this is a central aspect of spiritual and religious beliefs.

During my fieldwork, the first thing that caught my attention was that the participants in the psycho-spiritual networks usually believe in a realm that can be accessed using different ASC techniques. Some of the participants have no precise description of this realm, while others have some clues, or some experiences from which they extract some descriptions. Some participants have a more sophisticated personal view; others believe in a certain cosmology or in a variety of ideas circulating in the New Age literature. Despite these differences, there is a common background and consensus: spirituality is out there, and it has to be apprehended through experience. I refer to the belief in this kind of realm as spiritual ontology, that is, the belief in the ontological existence of a spiritual realm that can be accessed through different spiritual techniques and ASCs. I consider this core belief to be the minimal definition of religion/spirituality. And I broadly define religion as a set of beliefs rooted in the idea of consciousness as independent from the ordinary world. These “unbounded consciousness” often interact with other spiritual beings, although they can be absent too, both in terms of beliefs and experience. This is an important point in the discussion of the core aspect of religion.

From a psychological perspective, religion can be considered to be a by-product of the interaction and conjunction of different cognitive modules and natural dispositions of the mind. This idea comes from Charles Darwin, who in the “Descent of Man” proposed that the evolutionary roots of religions should be traced to various psychological elements such as emotions (devotion, love, submission, fear, dependence, hope, gratitude), and the attribution of agency and passions to natural phenomena (Darwin, 2009). This latter phenomenon is related to the origin of the belief in spirits and gods, which Darwin regarded as a kind of error in the recognition of agency in the environment. Darwin uses the example of his own dog, which started to bark at a parasol flapping in the breeze as if the event was related to a real agent. Darwin’s idea has been recently been reformulated by the cognitive theory of religion as a symbolic system that uses “human-like models” (Guthrie, 1980, 1993), or as the result of a “hyperactive agency detection device” (Barrett, 2000).

My definition considers both aspects of Darwin's observations. On the one hand, the "emotional" side, which in my definition is substituted by ASC spiritual experiences that do not include the intervention of spiritual agents. And on the other, the ASC spiritual experiences that do involve spiritual agency. The core aspect of spiritual ontologies is that there is a belief in, and/or an experience of a world that is regarded as separate from natural – physical, biological and normal psychological – domains. This intuitive belief is possible because consciousness is not always grounded in reality. Different states of consciousness – including those associated with dreaming and intoxications – take us to other places of the mind not directly related to the here and now of our wakeful experience. This definition to some extent accounts for the notion of dreams and ASC phenomena as the origin of the belief in spirits. The idea is by no means new. Both Herbert Spencer and Edward B. Tylor considered the origin of religion to be related to the experience of seeing souls and ghosts in dreams.

The definition stresses the ontological part of the belief, referring to the status we give to these experiences. For example, what are dreams? Are they experiences of communication with other beings, as *vegetalista* shamans think? Are they a mere illusion of the brain, as the scientific mainstream thinks? Or are they related to an unconscious repressed space within the mind which, according to psychoanalysis, we should interpret to know ourselves better? The same questions can be considered for all ASCs, whether they be mild or extreme. Spiritual ontologies are about labeling these experiences as ontologically real.

Spiritual ontologies are not alien to academic thought. I have described a variety of ontologies throughout the history of anthropology. Several factors can explain this permeability of anthropology with religion. In the particular case of the anthropology of shamanism, scholars study other systems of thought with the idea not only of observing but also of participating and comprehending from within. During their fieldwork, they usually participate in the rituals and practices that produce ASCs, which require personal interpretation from the researcher. It is not surprising that eventually a number of anthropologists will undergo a kind of spiritual conversion, or at the very least will develop different ontological assumptions and commitments.

SECTION II.
ETHNOGRAPHY IN CATALONIA

CHAPTER 4. AYAHUASCA AND MEDICAL SYSTEMS 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 people who pass through these networks. I was witnessing not only traditional medicines but also psychotherapeutic Western ones. 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 ASCs produced by ayahuasca from both a cultural perspective and a cognitive one.

I had the good fortune to obtain a scholarship from the government of my country to come to study on the Doctoral Program of Anthropology at the Universitat Rovira i Virgili in Tarragona organized by the Medical Anthropology Research Center (MARC). I had first heard of the research group several years before, when I was researching mental health, particularly 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 many articles had been published on ayahuasca as a traditional healing practice, not many were written from the perspective of medical anthropology.

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? My research in Catalonia was an attempt to shed more light on these questions, through the fieldwork I conducted in Catalonia and surrounding areas. Part of the research was about ayahuasca and its intersections with science, medicine, and religion, using the case of Catalonia. The question about the effectiveness of ayahuasca rituals was addressed by focusing on cases of former patients who were treated for problems of addiction. The geographic zone selected was 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.

Studying ayahuasca rituals in Catalonia was a great opportunity, because it is one of the most important routes of ayahuasca networks in Europe. I was interested in two particular projects 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. 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.

Health care through the lenses of medical anthropology

After interviewing Fábregas, Fericgla and other therapists/directors of ayahuasca ceremonies, and taking part in some ceremonies in Catalonia, I started to analyze the intersections between medicine and religion. The

results of this part of the research were published in collaboration with my supervisor Oriol Romani. Together we presented some basic concepts of medical anthropology, applying them to the case of psycho-spiritual networks of Catalonia, and for the specific case of ayahuasca, embedded in those networks. Finally, we analyzed the trajectories of some participants, who were the first cases I found during my fieldwork (Apud & Romani, 2017a).

The main idea was to describe ayahuasca rituals as cultural practices in different health care systems, in a pluralistic medical context in which the mainstream biomedical system is only one approach to health problems. From a historical perspective, 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 health practices, and the delegitimization of those traditions that did not fit in the biomedical standards of health care. This historical process did not make other folkloric and religious health practices disappear. It made them operate in informal networks, in constant tension with mainstream biomedical actors and organizations (Martínez Hernández, 2008).

But, first of all, I would like to discuss some important questions about medicine in a broad anthropological sense. Is it a cultural phenomenon that someone invented long ago? Is it a universal aspect of human behavior? Could medicine be traced back to non-human animals? Could it be a cultural practice rooted in natural behaviors and predispositions of human cognition? The answer these questions is not simple. Maybe medicine should be understood as rooted in some human and non-human natural predisposition such as parental care, reciprocal altruism, empathy, sympathy, group cooperation, and so on. Like other social species, we depend on each other, and we tend to care for our relatives and members of the group. A health problem for one member of the in-group is naturally considered as a health problem of the group as a whole.

In a general sense, it could be said that medicine is a universal trait of human behavior. Georges Canguilhem (1991) defined it as "... the living being's spontaneous effort to dominate the environment and organize it according to his values as a living being" (p. 228). This definition may well be too broad and vague, and it covers other non-medical practices. Despite this, it is useful because it illustrates an important anthropological aspect of the tension between universalism and particularism. Canguilhem did

not mention healing as the natural and universal core aspect of medicine. Instead, he mentions a kind of natural effort to organize the environment according to certain values. The struggle of life is to maintain a certain organization. This happens at different levels of life: the cell, the organism, the social group. We could say that medicine is an auto-poietic activity, expressed in our abilities to heal at the different organizational levels. Both our cells and bodies have the ability to self-heal and maintain their homeostatic balance.

At the social level, the medical impulse assumes social cooperation when some members of the group attend others in difficult situations. In mammals and other animals, this behavior involves kin selection (helping close relatives) and reciprocal altruism (“I’ll scratch your back if you scratch mine”). In the particular case of primates, social behavior is a natural disposition, which is even greater in human beings, with their unique social-cognitive skills and motivations for collaboration, communication and social learning (De Waal, 1996; Tomasello, 2009). In the case of human beings, this medical impulse gets involved in the complexity of our social contradictions and cultural differences. It acquires a variety of forms, shaped by different institutions, socio-cultural practices, life styles, religious and secular values, systems of knowledge, social structures, and social power relationships of production and reproduction.

As the medical anthropologist Josep Comelles (1997) points out, the supply and demand of health care is a structural and universal phenomenon, but it is always in constant transformation, through different cultural and historical variations. Each society develops its own methods and interpretations of how to deal with health problems, conforming what Arthur Kleinman (1980) called a health care system. From the perspective of medical anthropology, our modern biomedical system is only one of a variety of possible health care systems. Besides, it is not the only system within our own modern Western societies. In the total medical system of a society, there is always a plurality of health care practices. Some of these are more visible, while others are more or less hidden. They can be formal or informal, legitimated by the state or prohibited. Some of these practices are more efficient, and have a positive effect on the health of their patients, while other have little effect or are even dangerous. For medical anthropology, medical pluralism is the rule and not the exception (Menéndez, 2005; Singer & Baer, 2012).

Our common sense tells us that biomedicine is the only true medicine. This is the result of medicalization, the intervention of the State in the behavior and habits of the population by constructing a dense and extended network of surveillance and normalization (Foucault, 1991). Some of the positive aspects of medicalization were the regulation of medicines and food, at times when there was little control over the contents of the products in the market; the inspection of sanitary conditions in public spaces, hospitals, graveyards, and other places where endemic and epidemic phenomena could originate, and the study and prevention of mortality and morbidity in the general population and in specific urban areas. But there are also negative aspects: for example, the legitimization of the medical profession and the delegitimization of other social actors, which in no few cases contributed and still contribute to health improvement in some sectors of the population; the progressive hegemony of an industrial pharmaceutical industry in detriment of local pharmacopeias and popular recipes, and the promotion of a model of normality that overlapped with social and ideological interests and prejudices.

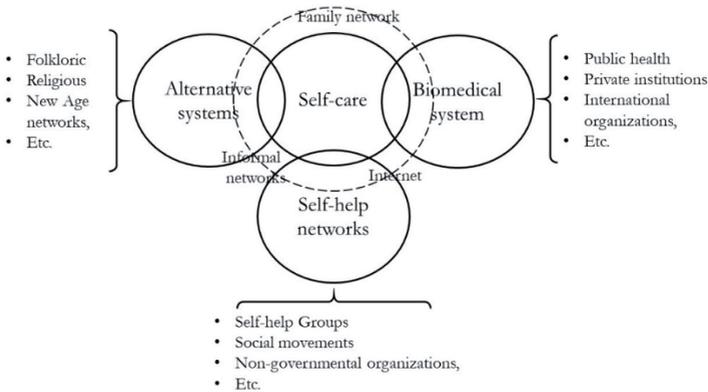


Figure 10. Health care systems in modern Western societies (Haro Encinas, 2000).

Our modern societies have different systems of health care networks. Some institutions are directly or exclusively dedicated to medical issues, while others engage in healing as a secondary practice (for example, religious or spiritual centers). Medical anthropologist Jesús Haro Encinas

(2000) describes four types of health care practices (figure 10): *a*) self-care (individual and domestic group); *b*) professional medical care (the hegemonic biomedical system); *c*) self-help (organized groups with therapeutic aims), and *d*) alternative care (a variety of forms and specialists, such as shamans, midwives, herbalists, holistic therapists).

Almost every medical system is plural, whether it is hegemonic or not. Medical systems can be more or less pluralistic, in the sense that they can be more permissive with a variety of medical strategies. Although in current times most national medical systems focus on biomedicine as the legitimate strategy, there has been a shift to more pluralistic approaches. Some countries are integrating alternative therapies (for example, India, Zaire, Bolivia, Haiti, Japan and even the US) (Baer, 2004). This shift is also related to the WHO's recognition of the importance of a variety of strategies in health care in the Third World countries, and the respect for native traditions (WHO, 2002).

Medicine, religion and ayahuasca

From a medical anthropology perspective, religion can be considered as a kind of health care system that provides a variety of strategies to cope with health problems. Besides, various scientific studies suggest that religion could act as a kind of buffer that prevents the appearance of certain diseases and medical problems.

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, and according to an extensive review made by Koenig et al. (2001), more than a thousand studies on the topic have shown that religion has more positive effects on health than negative ones. Likewise, Newberg & Lee (2006) review various studies about religion and health, in which religious participation usually correlates with decreased morbidity and mortality, better surgical outcomes and breast cancer survival rates, positive behaviors and lifestyles, general well-being, and coping with medical problems in general. They also mention the negative effects of religion, such as opposition to certain health care interventions (e.g. blood transfusion, contraception), prejudice and violent behavior in some groups, cases in which religious leaders abuse church members, and what they call spiritual abuse

(convincing people that they are going to suffer eternally). The authors conclude that 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).

The correlation between religion and health should not be regarded as direct. Rather there are other more specific interacting mechanisms, such as good health behaviors, psychological states, coping strategies, social support, and emotional health – meaning and purpose in life, self-esteem, optimism, hope, gratitude, humility (Hood, Hill, & Spilka, 2009). The relation between suicide and religion is a paradigmatic one. By the end of 19th century, Emile Durkheim recognized social integration and regulation as forces that strongly influence suicide rates, leading to egoistic suicide when social integration is weak, altruistic suicide when integration is strong, anomic suicide when regulation is weak, and fatalistic suicide when regulation is strong (Durkheim, 1952). These forces are shaped to some extent by religion, and depend on the type of beliefs and organization. For example, rates of suicide are lower in Catholics than in Protestants, mainly because of stronger religious integration and regulation.

Nowadays, Durkheim's thesis is supported by several studies. For example, it is clear that the healthy outcome is not related to a particular religion – Catholicism or Protestantism – but the social networks it develops, and how social support and moral regulation is given by these bonds (Pescosolido & Georgianna, 1989). Therefore, we can expect a variety of socio-cultural factors to mediate between religion and suicide, not a direct association. Ning Hsieh (2017) analyzed the association between suicide and religious participation in 42 countries from all over the world, using the WHO Mortality Database, the World Values Survey, and the European Values Survey, from different periods between 1981 and 2007. The study supports Durkheim's general thesis. For example, in Western Europe the weakening of religious communities has an aggravating effect

on suicide rates. In Latin America, the higher levels of religious integration and regulation seem to have a protective effect. The most interesting area is East Asia, where religion does not seem to have a protective effect. The explanation for this has to do with the distinctive features of the religious traditions in the region (e.g. Buddhism, Shinto, Confucianism), which are usually more individualistic and have lower levels of integration and regulation.

Another important religious component that can have an impact on the health of the members is the use of rituals to heal, cure or purify. To regard a ritual as a medical practice, there must be a therapeutic demand from a patient, and the ritual must be performed for his or her condition. So there must be a kind of practitioner-patient relationship. As we have seen, the origin of medicine cannot be reduced to biomedicine as a formalized and separated institution. While in our modern and Western societies there is a distinction between different institutional fields, such as politics, religion, medicine, and art, in other societies it is common to find them all mixed up. In the particular case of medicine, both historically and ethnographically it is usually a part of other religious and spiritual practices.

The particular case of ayahuasca is also embedded in a plurality of medical systems, with different struggles and alliances with hegemonic and alternative institutions and centers. I have already described some of these practices: ayahuasca in the traditional Peruvian Amazon context of *vegetalismo*, the Brazilian churches that use the brew as a sacrament, and ayahuasca in the psycho-spiritual networks of Uruguay.

Vegetalismo consists of a set of practices from the rural population who live in the riverbed of the Amazon – the *riberieños* – and have a hybrid culture that mixes both Western and Indian beliefs and customs – *mestizos*. Ayahuasca is, in this context, one plant among others in the native pharmacopeia, under pluralistic local practices of care that overlap healing with magic and witchcraft. It should be mentioned that in 2008 the government of Peru declared ayahuasca's traditional use to be a cultural heritage of the nation. The legitimation of ayahuasca is both a result and a cause of the growing popularity of shamanic-related practices, most of which are framed in a supply-and-demand relationship where *mestizo* shamans adapt their service to foreign spiritual seekers.

Brazilian churches can be regarded as both religious and medical practices since their beginnings. The first churches date back to the

Amazon rubber boom in the early 20th century, and the migration of a large population of poor Afro-descendant families to the state of Acre, looking for new job opportunities. In a context of extreme poverty and poor sanitary conditions, some rubber workers came into contact with the shamanic practices of the zone, and used ayahuasca to cope with health and social problems. The connection between religion and healing was soon recognized by the Brazilian State, which accused these organizations of practicing illegal medicine (Goulart, 2008). In recent decades and during a tense process involving various governmental, academic and ayahuasca religious actors, the National Council on Drug Policy of Brazil has promulgated regulations that authorize the ritualistic religious use of the brew, but exclude other practices such as commercialization and medical uses.

In the case of ayahuasca in Uruguay, I have also described its medical uses in both Santo Daime and neoshamanic groups. The country has no specific cultural policy or drug regulation of ayahuasca. Like other countries, it adheres to the UN 1971 Convention on Psychotropic Substances through national Act 14.294 of 1974, modified later in Law 17.016 of 1998 (Scuro & Apud, 2015). The UN 1971 Convention considers DMT as a Schedule I controlled substance, but this does not necessarily include ayahuasca which, depending on the country, can be criminalized or recognized for its religious uses. In Uruguay, the government has no explicit position about ayahuasca, and the authorities do not seem to be particularly concerned about its uses. The centers using ayahuasca carry out their activities with no major problems, despite a few controversial cases in the media, and the confiscation of a few liters of the brew on the frontier with Brazil (Scuro, Sánchez Petrone, & Apud, 2013).

Medical pluralism and ayahuasca in Catalonia

Like Uruguay, Spain also underwent major changes between the end of Francisco Franco's dictatorship and the end of the 1970s. In the particular case of Catalonia, there was a process of relative secularization, in which the Catholic Church lost popularity, and new religious movements and alternative therapeutic practices came into being (García Jorba, 1999; Perdiguero, 2004; Prat et al., 2012). Prat et al. (2012) describe these practices as "new cultural imaginaries," and identified three main types: *a*) oriental

spiritualities such as yoga, and tai chi; *b*) natural/holistic therapies such as homeopathy and reflexology, and *c*) esoteric knowledge such as occultism and neoshamanism. Like other psycho-spiritual networks in the world, the audience for these new cultural imaginaries comes from the middle and middle-upper classes, with a variety of demands that turn on healing and self-help. The practices usually involve a mix of local and global healing strategies, under the holistic umbrella of the New Age for the case of alternative medicines (Riccó, 2017) and pan-Indian cosmologies for the case of neoshamanism (Rodrigo, 2016). Joan Prat (2017) distinguishes three kinds of neoshamans in Catalonia: academics converted to shamans, Indian shamans who have come to the country, and alternative therapists interested in neoshamanism as a new modality of treatment.

Ayahuasca arrived in Spain in the late 1980s, when Claudio Naranjo – a follower of Firtz Perls’ Gestalt School – organized ayahuasca sessions together with Céu do Mar, a Santo Daime group from Rio de Janeiro (López-Pavillard, 2008; Naranjo, 2012). After these joint activities, Naranjo separated from the church, but Santo Daime had already taken its first step in Spain. The church started to expand to different parts of the country: Barcelona, Lleida, Girona, Logroño, Madrid and Mallorca (López-Pavillard & De las Casas, 2011). Another scholar important to the initial steps of ayahuasca in Spain is the anthropologist Josep Maria Fericgla, who went to Ecuador to contact the Shuar (Fericgla, 1994). After his return to Catalonia, he founded a center, later called Societat d’Etnopsicologia Aplicada i Estudis Cognitius (the Society of Applied Ethnopsychology and Cognitive Studies) (Fericgla, 2000). Also important to the popularization of ayahuasca in the country was the Instituto de Etnopsicologia Amazónica Aplicada (the IDEAA, Institute of Applied Amazonian Ethnopsychology) founded by the psychiatrist Josep Maria Fábregas. The project consisted of taking patients with problems of addictions from Spain to the Amazon forest, where the treatment center was located. I will describe the center and its activities in greater detail later.

In Catalonia, Corbera (2012) identified 17 groups using ayahuasca in different settings and from different traditions, including shamanic and neoshamanic groups (e.g. Camino Rojo, shamans from the Amazon rainforest), Brazilian churches (Santo Daime and UDV) and alternative therapies (e.g. holistic centers). Elsewhere, we have described other kinds of group which 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’” (Apud & Romani, 2017b, p. 31). All these groups share the same phenomenon of double assimilation that I described earlier in Uruguayan neoshamanic practices. There is a cultural shift of native cosmologies to psychological and spiritual terms, and a ritual redesign in which traditional elements are changed or rearranged, in accordance with the possibilities of the local context.

The participants in ayahuasca sessions have a profile that is similar to that of other seekers drifting in the psycho-spiritual networks. Some of them are spiritual seekers who are disappointed in biomedicine and are searching for a holistic treatment that matches their beliefs and expectations. Other participants are not necessarily spiritual seekers, but health seekers. They have therapeutic demands that have not been solved by conventional procedures, and they have ended up attending ayahuasca sessions after a long journey through different treatments in different health care systems, without finding a solution to their condition. This kind of medical itinerary is common in our modern societies, especially when dealing with such medical problems as mental illnesses or chronic pain.

Ayahuasca shares the same legal uncertainty in Spain and Uruguay. The Spanish constitution recognizes the freedom of religious practice, but ayahuasca is neither prohibited nor authorized. As in Uruguay, on some occasions the brew was confiscated when some members of the Santo Daime tried to bring it into the country through Barajas Airport in Madrid. This and other events led to some arrests and judicial processes, but with no important consequences in most cases.

Medicine or religion?

Any analysis of the legitimation of ayahuasca must focus on three main issues: drug policies, religious rights and public health. As far as drug policies are concerned, the main issue is whether the brew is legal because of its close connection to DMT, a controlled and prohibited substance. In terms of religious rights, the question is whether ayahuasca practices are covered by laws that protect religious worship. And in public health, the concern is whether ayahuasca can have a negative impact on its consumers (Feeney & Labate, 2013). The situation of ayahuasca in each country

depends on how these three areas interact, and what tensions, disputes and solutions are generated. Alberto Groisman (2013) describes these three core concepts – health, religion and drugs – as “disputed categories” in the case of ayahuasca. They give rise to conflicts and negotiations, not only in the political and legal arena, but also in the academy, in the mass media, and in society as a whole.

In some countries, a focus on human rights and the protection of freedom of religious practice has paved the way for it to be used. But the medical use of ayahuasca is not so simple. From a medical anthropology perspective, I have shown the difficulties of separating religion from medicine. Ayahuasca is no exception. It is regularly used as a medicine in the shamanic healing practices of Amazon cultures; it is used as a therapeutic and introspective tool in psycho-spirituality networks; and finally it is used for spiritual cleansing in Brazilian churches. Labate and Bouso (2013) make the following point:

...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)

Indeed, the separation between medical and religious uses of ayahuasca is artificial, but also useful when groups and institutions try to find some legal haven for their practice. One of the negative side effects of this, however, is that the haven can prevent ayahuasca and other psychedelics such as peyote from being valued for their medical potential. The case of peyote – a cactus that contains mescaline, a Schedule I substance – is paradigmatic in this sense, and a legal precedent for ayahuasca in the case of US legislation.

In North America, the expansion of the peyote cult has been studied since the late 19th century. Anthropologists regarded it as a cultural movement of native resistance, in conflict with the process of acculturation that the indigenous population was suffering (Aberle, 1957; Kluckhohn & Leghton, 1946; La Barre, 1938; Mooney, 1896). The native groups that used peyote gathered under the same religious institution, the Native American Church (NAC) with the idea of finding protection as a religion under the Western label of “church.” In 1994, they were given full legal protection under the American Indian Religious Freedom Act Amendments (Feeney,

2014). The process acted as a precedent for the use of ayahuasca by the UDV in New Mexico and Santo Daime in Oregon.

But the peyote cult seems to be more a healing practice than a church. For example, the medical anthropologist Joseph Calabrese stresses the centrality of peyote as a native medical practice (Calabrese, 2014). He reports that Native American communities in the U.S. suffer high rates of health problems such as alcoholism, suicide, diabetes and tuberculosis. They also have limited access to conventional health care services. In this situation, the peyote ritual is an important therapeutic strategy for mental health problems such as addictions and depression, because it enables patterns of behavior and thought to be changed by producing profound spiritual experiences. This is especially useful since the native population does not usually separate psychological, medical and spiritual aspects of human experience.

The case of peyote in North America is a paradigmatic one, and can be compared with the case of ayahuasca, both in its native uses in Latin America and in its variations in church and psycho-spiritual settings. We should also consider the therapeutic applications of these substances in a secular and scientific background. I will now go on to analyze the intersections between science and spirituality in general, and in the specific case of psychedelics and ayahuasca.

CHAPTER 5. SCIENCE, SPIRITUALITY AND AYAHUASCA

The demarcation problem

At the beginning of the 20th century, the psychologist James H. Leuba (1916) conducted a study in which US scientists from biology, mathematics, physics and astronomy were asked about their belief in God. The results showed about 40% of the scientific community were believers. 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 US 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 doubtful not only in modern societies, but also in the scientific community.

Why is this so? How does it affect the problem of demarcation between science and non-science? In a series of articles and in my PhD dissertation (Apud, 2017a, 2017b, 2017c), I addressed these problems by starting with the big picture of modern science and then moving on to the case of psychedelic research. I suggested that the demarcation between science and religion is closely connected to the problem of consciousness and experience, and how both must be used to reach a body of reliable knowledge. As I have mentioned in previous chapters, the ontological

status we give to the different states of consciousness is possibly at the core of how religious and spiritual beliefs arise.

The starting point of the modern scientific method is our ordinary waking experience. Of course, not any kind of experience, but the experience of our senses – and the artifacts that amplify those senses – controlled and structured by an empirical method, logic and theory. Our daily subjective ordinary experience occurs spontaneously and asystematically, guided by pragmatic goals, contextual clues and the automatization of behaviors. Science uses experience in a more obsessive, critical, and skeptical way, taking nothing for granted, questioning immediate reality, encouraging dialogue between theory and reality. Religion and spirituality also use experience in a variety of ways, but I would argue that one of the things that characterizes the religious mind is the rationalization of certain ASCs in terms of spiritual ontologies, which can result in a variety of religious belief systems. Both kinds of knowledge – scientific and religious – are not necessarily antagonistic, and different combinations can occur, within both scientific and religious institutions.

Another important thing is that ASC experiences are different from normal waking states. They involve not only aesthetic experiences or visions, but also profound emotional experiences. They often trigger cognitive mechanisms related to social cognition, suggestion and well-being, and so tend to lead to the fixation of ideas or the establishment of personal commitment. In the specific case of psychedelic studies, I will describe how the ASC experiences of researchers generated emotional, intellectual and professional commitments. These experiences do not remain unsolved within the heart of the scientist; they trigger an intellectual conversion that leads to new perspectives, schools and theories.

It is important to mention that spiritual experiences do not necessarily lead to spiritual or religious commitment. In this chapter, I will show that academics from various disciplines have had experiences that some have interpreted spiritually and others secularly. I will argue that, after having a profound experience, researchers will try to find a place for this experience within their biography and worldview. This can be done in different ways, from total conversion to skepticism no matter what.

Taking myself as an example, my first intense experience with ayahuasca was a turning point in my life. Since then, I have seen spirits and all kinds of strange things. I have participated in almost 100 ayahuasca ceremonies, and I have listened to and recorded a variety of supernatural testimonies,

but I still regard myself as a skeptic. After all these experiences my previous nihilistic and disenchanting view of religion turned into agnosticism. I believe that those experiences happened, at least in phenomenological terms. Some aspects of those experiences can be scientifically explained and modelled, and challenge neither my own beliefs or science. But there is always an ineffable core which cannot be explained or even put into words. When something cannot be explained it is healthy to speculate, but it is healthier to accept our intellectual limitations and to distinguish speculation from fact.

Finally, all of us – scientists included – have the right to believe and give ontological status to our subjective personal experiences. Our private beliefs are our own, and they have their own logic of fixation. One can be a skeptical scientist and a true believer at the same time, and decide to maintain both areas of production of knowledge separate. It is a valid option, and one that is chosen by many. But it is not the only one. We often tend to join the different pieces of the puzzle of our lives because we are rarely satisfied with cognitive dissonance.

Scientists are not only scientists. They also have other affiliations, experiences and desires. And these different sides to an individual are not totally disconnected. As post-modern perspectives point out, it is true that identity is to some extent fragmented and heteroglossic. But it is also true that human beings are particularly concerned about 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, privately and/or publicly.

Consciousness as the heart of the matter

Consciousness is a difficult concept to grasp, not only for anthropology but also for such disciplines as psychology, philosophy and neuroscience. From an anthropological point of view, the concept is difficult to operationalize, given the cross-cultural variations, the ambiguities and the complete lack of possible related terms (Throop & Laughlin, 2007). In Spanish, for example, *conciencia* includes awareness, conscience and social consciousness. In neuroscience, there is a general consensus

that it is a tough problem, and that we will need more time to reach a scientific definition (Crick & Koch, 1998). Despite all these difficulties, we can understand some general notions, if we start out by accepting some philosophical, cognitive and neuroscientific ideas.

A good starting point is the philosopher Immanuel Kant, who differentiated between an empirical and a transcendental aspect of consciousness (Berrios & Marková, 2003). The former has to do with the *a priori* foundations of experience, in both its aesthetic and logical aspects. The second is related to the concept of apperception, a spontaneous cognitive act that involves unifying experience beyond the multiplicity of the perceptions (Kant, 2003). It is the highest principle of human cognition, because it allows self-consciousness – we recognize ourselves above and beyond all the experiences we might have had – and the comprehension of the world as a whole to bind and synthesize our experiences into a cogent worldview. Kant's ideas had an influence on such scientific disciplines of the 19th century as anthropology, psychology and sociology.

Nowadays, consciousness, as the sense of oneself, is considered to be an important evolutionary acquisition of human beings. It involves a variety of cognitive mechanisms related to volition, reasoning, autobiographical memory, mental time traveling, social cognition, and so on. Some neuroscientists regard it as the cognitive ability to integrate disparate sources of information (Baars, 1997), or as a kind of CEO, to which every cognitive function reports its activities, without being aware of how these reports are produced (Edelman & Tononi, 2000). Another metaphor is that consciousness is an “online system” that connects up various unconscious subsystems depending on the task to be done (Milner & Goodale, 1995).

I will take a broad, basic definition of consciousness as a starting point under the idea that it is “...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” (Apud, 2017c, p. 102). On this basis, I will define spiritual ontology as the belief in consciousness as ontologically independent of the extended world, including body and brain. From this belief, we can infer several possible logical consequences: *a*) that this independence is difficult to sustain without the existence of a spiritual or supernatural world; *b*) that in the same way that our consciousness is independent from our bodies, so is the consciousness of others, so in the supernatural world we may come into contact with other bodiless spirits; *c*) that ASCs may well be at

the origin of these beliefs or responsible for keeping them alive, since they usually involve a variety of experiences in which the mind is experienced as separate from the body, the physical world and/or connected to an invisible realm.

Now that I have defined consciousness and its relation with spiritual ontologies, I will go on to make a connection with the demarcation problem between science and religion. My proposal is that the demarcation problem is related to how implicitly or explicitly consciousness and experience are assessed and controlled in order to achieve valid and reliable knowledge. In the wake of modern science, natural sciences focused on the extensional faculties of the mind – the physical domain – excluding the intentional faculties – the social domain – because they were too metaphysical. As I have discussed above, social and physical domains are usually experienced as separate instances, in what is called intuitive person-body dualism. What happened in the wake of modern science was that one of these poles – the one related to social consciousness – was rejected.

The rejection was both good and bad news for science. The good news was that it separated science from the scholastic dogmatic worldview. The bad news was that it generated several problems within science, since intentionality is important for the understanding of human beings and other life forms. This particularly affected social sciences, psychology and biology, and led to a wide variety of debates, confrontations, blendings, coalitions and solutions. The rejection of intentionalities was untenable, because the human brain is naturally predisposed to use them, and because they are essential to understand life, the mind, society, culture, and religion.

From an intentional onion to a mechanical universe

Scholastic Aristotelian cosmology consisted of five elements: earth, water, fire, air and ether, all of which were located in different layers of the universe (Aristotle, 2007). The universe was like an onion, with different layers in which each of the elements had a natural place. Earth was at the center, and ether was in the incorruptible sidereal space. The essence of every entity of the universe was to seek its natural place in this onion universe. For example, we throw a stone skywards and it falls back down to the ground because its natural place is the earth. The first movement – throwing the

stone up – is an effective cause, and results in a mechanical explanation. The second is a final cause, and results in a teleological explanation – from Greek, *telos*, meaning “end” or “purpose”. For Scholasticism, the second explanation is the important one because it describes the essence of beings. Teleological thought assumes that there is something within the heart of every being that makes it project onto the world. Identifying a being’s true nature allows us to explain its behaviors. The emergence of modern science changed this situation. Natural sciences focused only on efficient causes because they can be observed and measured, while teleological final causes are qualitative and not directly observed (Boido, 1996; Monod, 1972).

A related problem was the experience of the senses. For Aristotle, experience was not reliable because it was conditioned by personal history and memory (Gómez López, 2002). To this mistrust, scholastics added the importance of the Bible as the *fons et origo* of ultimate truth. Although they left some room for speculation, they were constrained by the limits of the truths of the scriptures. Unlike the scholastics, Galileo put the experience of the senses at the forefront of the scientific method (Galilei, 2008). Modern science was based on the experimental method, observational and controlled procedures designed to measure the properties of the objects in the world, in order to arrive at mathematical laws in terms of cause-and-effect. The correct execution of these procedures led to skepticism displacing dogmas. This initial step was necessary to escape from the dogmatic worldview of the Middle Ages.

But to some extent, this is also the story we told ourselves about how science rejected religion to become entirely secular and naturalistic. This Whig history of science (Mayr, 1990) usually paints the scientific revolution as a two-rival battle between scientific mechanism and scholastic organism, although the reality was more complex than that. For example, leading scientists such as Kepler and Galileo drew on the Neoplatonic mystical tradition. Furthermore, none of these traditions abandoned the idea of God. For scholastic organism, God was the *prima causa* of planetary motion. For neoplatonism, God was the great mathematician behind the laws and the geometry of the universe. For mechanism, God was the engineer who built the universe (Boido, 1996).

Spirits and teleonomies in modern science

The 19th century witnessed the development of biology, psychology, anthropology and sociology. These four disciplines studied living beings with intentions, so the rejection of teleological explanations was a big problem for them. Biology had to study living organisms, with intentions and behaviors that could not be completely reduced to observable cause-and-effect relations. In his classic book *Chance and Necessity* the winner of the Nobel Prize for medicine, Jaques Monod, said the following:

The cornerstone of the scientific method is the postulate that nature is objective. In other words, the systematic denial that “true” knowledge can be got at by interpreting phenomena in terms of final causes – that is to say, of “purpose.” An exact date may be given for the discovery of this canon. The formulation by Galileo and Descartes of the principle of inertia laid the groundwork not only for mechanics but for the epistemology of modern science, by abolishing Aristotelian physics and cosmology [...]

Objectivity nevertheless obliges us to recognize the teleonomic character of living organisms, to admit that in their structure and performance they act projectively, realize and pursue a purpose. Here therefore, at least in appearance, lies a profound epistemological contradiction. In fact the central problem of biology lies with this very contradiction, which, if it is only apparent, must be resolved; or else proven to be utterly insoluble, if that should turn out indeed to be the case. (Monod, 1972, pp. 21–22)

The solution to this contradiction was provided by such discoveries as the cell, the idea that living creatures have an internal organization, DNA, and the general idea of behavior, intentionality, and cognition as an emerging property of the evolutionary history of life (Jacob, 1973; Monod, 1972; Wuketits, 1984a). Meanwhile, biology was regarded as a soft science, and the discipline had to work within a variety of ideas to deal with this contradiction. Some of these were in the middle ground between science and spirituality (for example, vitalism, an enigmatic force hidden within living beings).

Social sciences had similar problems. The experimental method was the standard to follow, and social sciences emerged in an attempt to study social phenomena in the scientific terms of cause and effect. This was of no little interest to modern states, which were fully aware of the need to study the human population in terms of wealth, mortality, morbidity, criminality and so on. Various scientific disciplines emerged with this aim, in what

Michel Foucault referred to as the disciplinary societies (Foucault, 2001). For the study of society, the 17th century witnessed the rise of two main traditions: British Political arithmetic, represented by William Petty and John Graunt, and German Descriptive Statistics by Gottfried Achenwall (Sanchez Carrion, 2001). The idea was to study the correlation between the main demographic variables in order to control, administer and better understand the population.

However, if the scientific study of our modern societies expresses its findings in terms of variables, what is the status of other humanistic, philosophical, theological, civic and historical traditions? German romanticism represented these other approaches, and defended the need for a qualitative understanding of social and human facts. This confrontation was expressed by various dichotomies: explanation (*Erklärung*) vs comprehension (*Verstehen*); natural sciences (*Naturwissenschaften*) vs human sciences (*Geisteswissenschaften*); nomothetic knowledge (scientific laws) vs ideographic knowledge (description of ideas). One of the leading figures of the 19th century, the philosopher Wilhelm Dilthey, wrote the following:

No real blood flows in the veins of the knowing subject constructed by Locke, Hume, and Kant, but rather the diluted extract of reason as a mere activity of thought. A historical as well as psychological approach to whole human beings led me to explain even knowledge and its concepts (such as the external world, time, substance, and cause) in terms of the manifold powers of a being that wills, feels, and thinks; and I do this despite the fact that knowledge seems to be woven of concepts derived from the mere contents of perception, representation, and thought. Therefore, I will use the following method in this book: I will relate every component of contemporary abstract scientific thought to the whole of human nature as it is revealed in experience, in the study of language, and in the study of history, and thus seek the connection of these components. The result is that the most important components of our picture and knowledge of reality –our own personality as a life-unit, the external world, other individuals, their temporal life and their interactions- can be explained in terms of this totality of human nature. (Dilthey, 1989, pp. 50–51)

Dilthey addressed this contradiction between natural and human sciences by proposing a method that considered the whole of human nature, not in objective quantifiable terms, but in terms of experience, language, culture and history. This reaction against an orthodox view of

science was an important milestone in the development of qualitative methods in the social sciences (Hamilton, 1994).

Scholars and traditions handled this tension between qualitative and quantitative approaches in different ways. In the early days of anthropology, most ethnographers did not believe that this contradiction between methods was unresolvable (Apud, 2013d; Bernard, 2011; Mora Nawarh, 2010). For example, by the end of the 19th century, the Cambridge Torres Strait Expedition used a variety of techniques, including tests for color vision, and visual illusions (Haddon, 1901). The same can be said of the French tradition (Griaule, 1969; Mauss, 2006), and even of Franz Boas, who often used statistical data (for example, in his analysis of the impact of the American social environment on the physical health of immigrants) (Boas, 1912). It was in the 1960s that the polarization between qualitative and quantitative approaches deepened, under a general criticism of Western culture and modern science. In this milieu, ethnography became a paradigmatic qualitative method for a large number of the social scientists. Furthermore, a variety of new qualitative perspectives appeared: constructionism, ethnomethodology, post-structuralism, symbolic anthropology, post-modernism and interpretive anthropology, among others.

In the particular case of psychology, the routes have not been straightforward. At the beginnings of the discipline at the end of the 19th century, Wilhelm Wundt distinguished between experimental psychology, interested in the elemental sensations, and descriptive folk psychology, which studied higher psychological functions such as language and culture (Wundt, 2007). In Wundt's project, there was room for both methods, but there was also a gap to overcome in the future of the discipline. While some European psychologists embraced Wundt's challenge (e.g. Jean Piaget, Lev Vigotsky), the US tradition opted to reject mentalism for behaviorism (Vázquez, Ruiz, & Apud, 2015). The situation in the US changed in the second half of the 20th century with the cognitive revolution, and the metaphor of the mind as a computer (Gardner, 1985). In some way, mechanism and intentionality became reconciled in the cognitive revolution, although the model of the computer meant that qualitative approaches were excluded. However, the cognitive agenda progressively included those approaches, thanks to innovations such as narrative models, cognitive ethnographies, and distributed and situated cognitive approaches (Apud, 2013a). In the particular case of social psychology, the mainstream methodological

approach was experimental, but, during the 1970s, new critical currents made an appearance, influenced by the interpretive and rhetorical turn of social sciences: hermeneutical approaches, discourse analysis, interpretive analysis, and many others (Brown, 2008). In psychoanalysis, although Freud did not believe there to be any contradiction between interpretation and neurology, some of his followers came into conflict with the natural sciences, mainly after psychoanalysis' loss of power during the neo-Kraepelinian revolution (de Leon, 2013).

So far I have been describing the problem of intentionalities in academic disciplines that have produced a body of knowledge mostly in secular terms. But this does not mean religion was not also present. The 19th century embraced various spiritual ontologies, in both the academic world and the general public. One classic example was the "discovery" of animal magnetism by the physician Franz Anton Mesmer in the late 18th century. Mesmer was treating Fraulein Oesterlin, a 27 year-old patient with a variety of symptoms. After hearing that English colleagues were using magnets to treat some diseases, he decided to use them on her. He made his patient drink a preparation of iron, and then attached some magnets to her body. Oesterlin started to feel a mysterious fluid running through her. After a few hours her aches and pains disappeared almost completely. Mesmer concluded that a subtle magnetic force had made the marvelous cure possible. For Mesmer, magnetism was a kind of invisible fluid that was present throughout the universe and connected every being. Its unequal distribution was the cause of almost all diseases, so its manipulation was presented as a kind of panacea. Mesmer developed various methods to heal his patients, becoming famous not only among regular people but in scientific circles too. Finally, Mesmer was discredited.

In March 1784, as a result of the agitation around Mesmer, the King appointed a commission of inquiry consisting of members of the Academie des Sciences and the Academie de Medecine, and another commission consisting of members of the Société Royale. These commissions comprised the foremost scientists of their day: the astronomer Bailly, the chemist Lavoisier, the physician Guillotin, and the American ambassador Benjamin Franklin. The program of experiments had been devised by Lavoisier and was a model of the application of the experimental method. The litigious point was not whether Mesmer cured his patients but rather his contention to have discovered a new physical fluid. The commissions' conclusion was that no evidence could be found of the physical existence of a "magnetic fluid." Possible therapeutic effects were not denied, but were ascribed to "imagination." A supplementary

and secret report was drafted for the King and pointed to the dangers resulting from the erotic attraction of the magnetized female patient to her male magnetizer. (Ellenberger, 1994, pp. 65–66)

In Henri Ellenberger's view, although Mesmer was theoretically wrong about what was producing the therapeutic effect, he can be regarded as the forerunner of hypnotism, and therefore of dynamic psychiatry and psychoanalysis. For us, the important thing is that magnetism was a kind of bridge, built between the physical and the psychological world. The idea of an invisible fluid connecting both worlds was present not only in magnetism, but also in other currents such as Vitalism and Spiritualism.

Although some Christians suspiciously looked on Spiritualism as a profane practice, it can be regarded as a spin-off of Christian interest in the afterlife and the nature of the soul (for example, in Ralph Waldo Emerson, Emanuel Swedenborg or Andrew Jackson Davis). Before it was popularized in the second half of the 19th century, several theologians and scientist were already interested in the matter. One example is the German physician Justinus Krener, and his study of the famous seeress of Prevorst (Kerner, 1845). Mediums, seers, spiritual healing and communication with the spiritual world were already of interest to popular, religious and academic circles. Despite this, the beginning of the spiritualist movement is located in the year 1847, in a small village near New York named Hydesville, where the Fox sisters started to hear strange sounds with no apparent source. The sisters decided to respond with a communication method involving rapping and movements. Interest in communicating with the supernatural started to gain popularity and, after a few years, spiritualism spread all over the US and Europe, and in different academic circles. Various methods were developed ranging from tiptology (communication using rapping) and pneumatography (writings left by spirits during the sessions) to psychography (automatic writing, influenced by the spirits), Ouija boards and table-turning.

The tension with science oscillated from confrontation to the search for common ground. One example of this tension is the Theosophical Society, founded in New York in the year 1875. The society functioned as a movement interested in finding the core of all religions, the secrets of nature, and the universality of the human spirit. One of its members, the Russian immigrant Helena P. Blavatsky, considered science as an avatar of different ancient and esoteric traditions, such as Egyptian religion and

Indian vedas, and the astral forces of spiritualism to have the same status as the discoveries of electricity and magnetism by science (Blavatsky, 2006). Like Mesmer's magnetism, Spiritualism identified the spiritual makeup of the material world, through substances such as perispirit and ectoplasm. One of the leaders of the movement, Allan Kardec, said the following:

The link, or perispirit, which unites the body and the spirit, is a sort of semi-material envelope. Death is the destruction of the material body, which is the grossest of man's two envelopes; but the spirit preserves his other envelope, viz., the perispirit, which constitutes for him an ethereal body, invisible to us in its normal state, but which he can render occasionally visible, and even tangible, as is the case in apparitions. (Kardec, 1996, p. 32)

Spiritualism spread the belief that consciousness was both a spiritual and natural mysterious energy (Albanese, 2005). Societies, organizations, journals, and academic currents were founded. In the United Kingdom, the Society for Psychical Research was created in the year 1882. In Germany, *parapsychologie* was first mentioned by the philosopher Max Dessoir in the occultist journal *Sphinx*, in 1889. In France, the physician Charles Richet introduced the term *métapsychique* at the beginning of the 20th century. In Scotland in 1888, and under the influence of Ralph W. Emerson's natural theology, Lord Adam Gifford started the famous Gifford Lectures, in which renowned scientists such as William James, Henri Bergson, Alfred Whitehead, Niels Bohr and Werner Heisenberg spoke on science and spirituality.

Interest in the paranormal and spiritual world continued throughout the 20th century, despite general skepticism in the academy. One of the first blows struck against psychic principles was the study by the psychologist John Edgar Coover, who ran over 10,000 experiments with 100 experimental subjects, including self-declared psychics, and a control group. He used playing cards to test if telepathy really worked, and the conclusion was that the effect was nothing but pure chance (Coover, 1917). Despite this, the first parapsychology laboratory was founded in the 1930s by Joseph Banks Rhine at Duke University. But the discipline could not deal with the fragmentation of perspectives, its methodological problems or its critics within the academy (Asprem, 2014).

The spiritual perspectives of the 19th century were important precursors of the new spiritualities of the second half of the 20th century, including the academic ones. Anthropology and psychology played an important role in establishing spiritual perspectives within the academy.

Furthermore, the theoretical perspectives of both disciplines had a considerable influence on the religious social landscape, and were largely responsible for the emergence of novel religious and spiritual practices. In psychology, Carl Gustav Jung, after breaking with Freud, took the important first step of developing a new school in psychology, which gave a positive and therapeutic role to religion, numinous experiences, and the symbolic archetypes of which they usually consist. Another important scholar was Abraham Maslow, founder of humanistic psychology. These and other psychological schools were important influences for the psychological schools of the second half of the 20th century, interested in spiritual, mystical and transpersonal experiences.

As I have mentioned in previous chapters, Western culture underwent a profound crisis in the 1960s. Common topics were the irresolvable social inequalities worldwide, the Damocles' sword of nuclear weapons in the Cold War, a harsh criticism of modern Western emancipation projects, the environmental problems of industrialization and technological progress, the cyclical economic crises of capitalism, the perceived failures of communism, the involvement of science in the arms race, the mercantilist style and the inequalities of the biomedical system, and others. Countercultural movements rose up against all these problems; it was clear that the whole world was walking a dangerous path. The search for new alternatives included the idea of "getting back to nature," by recovering Eastern and native paradigms of health and emancipation. As I have already said, the popularization of neoshamanism started here, as one alternative created by anthropologists themselves.

Anthropology was only one piece of the puzzle. The crisis spread to other disciplines too, as one effect of the disenchantment with the standard view of science, and the collapse of the "orthodox consensus" of what science is and how it works (Giddens, 1976). In the philosophy of science, a major milestone in this shift is the classic book *The Structure of Scientific Revolutions*, in which Thomas Kuhn describes scientific progress in daring new terms. For Kuhn, science is not based on rational procedures and accumulative findings, but on a community that socially legitimizes its status as true knowledge (Kuhn, 2004). The idea was popularized within the disciplines and subdisciplines of the social sciences. It also opened the door for new perspectives on the ontological and political value of spirituality.

In psychology, spirituality gained strength when Abraham Maslow decided to focus the discipline on what he called peak experiences,

which included those states of consciousness that are usually regarded as mystical and sacred by their participants (Maslow, 1964). Together with other scholars such as Stanislav Grof and Viktor Frankl, he finally created the transpersonal school, expanding the scope of his initial humanistic approach. Transpersonal psychology embraced spiritual ontologies, arguing that ASC techniques are essential tools to access the higher wisdom of these realms (Walsh & Grob, 2005). The school did not reject science but wanted to extend its scope, by adding a new spiritual layer. Using Kuhn's terms, the idea was to produce a "paradigm shift" (Tart, 1977) by adding the evolution of consciousness to the equation, not as a biological progress, but as part of the spiritual development of humankind (Walsh, 1994).

The idea of adding a big new layer to the scientific understanding of the universe is a good metaphor for understanding the transpersonal perspective. For example, Stanislav Grof considered different layers of human experience in his work and analysis of the LSD experiences of his patients. He coined the term COEX systems (CONdensed EXperience systems) to refer to the psychodynamic experiences that classic psychotherapists are interested in: biographical memories, unsolved and repressed conflicts, unconscious fantasies, etc.

A COEX system can be defined as a specific constellation of memories (and associated fantasies) from different life periods of the individual. The memories belonging to a particular COEX system have a similar basic theme or contain similar elements, and are accompanied by a strong emotional charge of the same quality. (Grof, 2008, p. 68)

A COEX system is the summation of different layers under the same frame of emotions, memories, defense mechanisms and clinical symptoms. The deepest psychodynamic layers are from early childhood, while surface layers are closer to present times. LSD can be considered a good tool for accessing and reflecting about the content of these layers. But we can also access deeper layers of the individual: for example, those related to "perinatal experiences," biological birth, physical pain, disease, aging and death. Finally, there are the "transpersonal experiences:" cellular consciousness, memories from ancestors, collective unconscious experiences, completely identifying with other beings (e.g. humans, animals, plants, or even objects), out-of-body experiences, telepathy, precognition, clairvoyance, and others. The common denominator of all

these experiences is “...the subject’s feeling that his or her consciousness has expanded beyond the usual ego boundaries and has transcended the limitations of time and space” (Grof, 2008, p. 85). Like other researchers, Grof started to use LSD because of his interest in the first kind of layers, the psychodynamic ones. In a psychoanalytic framework, psychedelics seemed to be faster ways of accessing the unconscious. When other layers started to emerge in the clinical setting, Grof considered the importance of including them in the analysis, too.

The case of psychedelic studies. A pharmacology of spirituality?

After the discovery of LSD and within a psychoanalytic psychiatric milieu, there was a growing interest in the clinical applications of psychedelics, in what Grof (2014) calls a pharmacology of consciousness. The approach was not like current psychopharmacology, which leaves the main therapeutic effect to the pharmacological properties of the substance. On the contrary, the main idea was to use these substances as fast ways to access the unconscious. One key element was the experience during ASCs. The other key element was the analysis of the unrepressed material obtained through those experiences. Freud’s dictum of “remembering, repeating, and working” was still the main method, with a little help from a substance. However, after a few years, the situation took a spiritual twist when psychiatrists turned their interest to ASC peak experiences, using them as catalysts for therapeutic changes. This new perspective can be referred to in various ways: the psychedelic model (Osmond, 1957), pharmatheology (Roberts, 2006), neurospirituality (Langlitz, 2013), the pharmacology of spirituality (Apud, 2017c), or the filtration theory (Swanson, 2018).

Initially the idea was that these substances were “psychotomimetics” – *psychoto*, psychosis; *mimesis*, to imitate. They were regarded as inducers of a reversible psychosis, a safe and secure method that a psychiatrist could use to better understand their patients’ subjective experiences and feelings. The idea had already been formulated in the 19th century, when Kraepelin and other psychiatrists hypothesized about the existence of an endogenous toxin responsible for all mental illnesses (Yensen, 1998). The first substance used for this purpose was not a classic psychedelic but hashish. It was the idea of the French psychiatrist Jacques-Joseph

Moreau de Tours, who founded Le Club des Haschichins in 1835, together with Gérard de Nerval, Alexandre Dumas, Honoré de Balzac, Charles Baudelaire, and others. Later, the model was applied to mescaline, by scientists such as Louis Lewin, Weir Mitchell, Havelock Ellis, Ernst Späth, Henrich Klüver, Kurt Beringer and G. Taylor Stockings (Swanson, 2018).

When Albert Hofmann discovered LSD-25 in 1943, the psychotomimetic concept was already a popular idea. The model was not in contradiction with the use of these substances as a psychotherapeutic tool, at least under the psychoanalytic framework. First, because Freud himself considered psychosis to be the raw expression of the language of the unconscious, in what he called primary process (Freud, 1992). Inducing a transient toxic psychosis in non-psychotic patients could be a good idea for quick access to unrepressed material. Second, if the psychoanalytic method was about accessing the unconscious during non-ordinary states in which the barrier of repression is weakened – e.g. dreams, hypnotherapy or free association – then the idea of using a substance to induce them did not seem so odd (Apud, 2017a).

Several studies have been conducted within this framework, in what is usually called the psycholytic model (*psycho*, mind; *lysis*, dissolution). For example, in an early report, Anthony K. Busch & Warren C. Johnson (1950) described the effect of LSD as a transitory toxic state that weakens the barriers of repression, and can be helpful to shorten psychotherapy. Sandison, Spencer & Whitelaw (1954) considered LSD as a way to reach repressed memories and produce abreactions in the patient. Walter Frederking (1955) regarded these substances as inducers of dream-like states, in which the patient evokes childhood memories, and situations related to their psychological condition. Delay, Pichot & Lempériere (1963) called the treatment oneiranalysis, stressing not only quick access to the unconscious, but also the biological positive impact on the patient's mood. By the 1960s, over 18 centers were conducting psycholytic therapy in Europe (Passie, 1997).

The Ibero American psychotherapists were also experimenting with these substances. In Argentina, the psychoanalysts Enrique Pichon-Riviere, José Bleger, Alberto Fontana and Gela Rosenthal had been experimenting with LSD since the beginnings of the 1950s, a practice that produced different conflicts within the Argentinian Psychoanalytic Association during the 1960s (Domínguez Alquicira, 2012). At the same time, in Uruguay, Mario Berta, Ariel Duarte Troitíño, Hugo Silvera

Galasso, Juan Pedro Severino and Esteban Gaspar, combined LSD with Robert Desoille's "Directed Waking Dream method," which they called "Directed Psycholysis" (Berta, Duarte Troitiño, Severino, Silvera Galasso & Gaspar, 1961, 1965). In the case of Spain, psychedelics were used by several physicians: Ramón Sarró experimented with LSD, Marti Granell used psilocybin to treat obsessive neurosis, and Juan José López Ibor researched with LSD (Usó, 2001). As in Argentina and Uruguay, these studies were suspended after the 1970s "war on drugs." Besides, a large part of the psychoanalytic community refused to use these substances. As Stanislav Grof says:

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 change from a pharmacology of consciousness to a pharmacology of spirituality started when Humphry Osmond (1957) proposed a new name for these substances: psychedelics (*psycho*, mind; *deloun*, reveal), a term that stressed their mind-manifesting properties. The idea was to confront the psychotomimetic model, which was not entirely capable of explaining the therapeutic aspects of these substances. Osmond was influenced by his friend Aldous Huxley who, after an experience with mescaline he had been given by Osmond himself, proposed that the substance was an inhibitor of the normal self's filter mechanisms. For Huxley, the brain acted as a cerebral reducing valve, narrowing the potential experiences of the mind, in order to interact with reality. Normal consciousness was therefore a result of that filter, and ASCs were the result of reducing this filtration. Huxley's explanation had a mystical component. For him, ASCs were a door to unseen realities. Unlike Huxley, Osmond used the idea with caution. As Link Swanson points out,

Huxley seems to favor a position that psychedelic experience reveals a wider ontological reality and grants epistemic access to greater truth. Osmond's view, on which these drugs reveal normally hidden aspects of mind, seems

less radical, more compatible with materialist science, and less epistemically and ontologically committed. (Swanson, 2018, p. 9)

The psychedelic model was also a result of Osmond's clinical work at the University Hospital in Saskatoon, Canada. In those times, Osmond and his colleagues were using large doses of LSD to treat alcoholism. Initially, the idea was to provoke a kind of shock therapy that would mimic the *delirium tremens*, so the patients, after this "hitting bottom experience" would recognize the negative consequences of their addiction (Hoffer & Osmond, 1967). However, what Osmond and his team discovered was that the most therapeutic experiences were not frightening but mystical. One of the psychiatrists working in Saskatoon was Colin Smith, who reported three recurrent experiences with LSD: *delirium tremens*-like experiences, repressed psychological material, and experiences similar to those reported during religious conversion.

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)

The recognition of the therapeutic properties of these conversion-like experiences was an important reason for a shift from a mere pharmacology of consciousness to a pharmacology of spirituality. Now interest focused not only on psychodynamic material (e.g. repressed memories and traumas, emotions and conflicts, psychological insights about maladaptive patterns of behavior), but also on mystical experiences (e.g. sense of unity, awe, unconditional love, joy, ego dissolution and contact with divinity).

The idea of using large doses of psychedelics to force a therapeutic change through strong mystical experiences gained popularity in the US. Various academics started to use this approach: Timothy Leary and Richard Alpert at Harvard University, with the controversial Psilocybin Project; Sidney Cohen and Oscar Janiger and the psychedelic therapy center in California; Eric Kast and collaborators at the Chicago Medical

School; Stanislav Grof, William Richards, Albert Kurland and others at Spring Grove State Hospital in Baltimore. The conversion-like quality of psychedelics brought back William James' old idea of the noetic quality of religious experience, expressed in a variety of ways (e.g. illumination, revelation, existential inquiries), and usually involved in the process of religious conversion (James, 1902). As William Richards said:

...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 connection between psychedelic therapy and AA was not only conceptual, but also part of history. Bill Wilson – co-founder of AA – had experimented with LSD, and believed it could be used as a therapeutic medicine to treat alcoholism because of properties to induce spiritual epiphanies (Grob & Bravo, 2005).

The growing interest in psychedelics was boosted by the 1960s countercultural milieu, in which spiritual traditions were being rescued as alternatives to the Western materialistic worldview. The psychedelic model entered a synergic relationship with the transpersonal paradigm in an attempt to access spiritual phenomena using a variety of ASC techniques (Ferrer, 2014; Puente, 2014). The transpersonal paradigm was not only seeking an individual psychotherapeutic change, but an academic "paradigm shift" (Tart, 1977), and a social and cultural "revolution of consciousness" (Méndez López, 2013). The real concern of Richard Nixon's "war on drugs" was not the danger of hallucinogens to public health, but their connection with the general countercultural background (Escotado, 1992).

The 1971 United Nations Convention on Psychotropic Substances labelled psychedelics as a Schedule I substance, which led to the research agenda being suspended. While in 1966 there had been 70 research projects on the subject, by 1970 there were only 6, and by the 1980s there was almost none (Nichols & Chemel, 2006). After the prohibition,

transpersonal therapists did not abandon the exploration of spirituality, but had to consider other non-chemical ASC techniques: Grof developed Holotropic Breathwork, Leuner Guided Affective Imagery, Ralph Metzner explored Eastern and shamanic techniques, and a variety of experiential techniques were developed in various Gestalt, transpersonal, and bio-energetic psychological schools.

In the 1980s, the prohibition paradigm faced important health emergencies such as the epidemics of HIV-AIDS, heroin, and hepatitis-C. New alternative ways of dealing with drug use, such as harm reduction programs, started to gain popularity in countries like Holland, the UK and Spain (Funes & Romani, 1985). Progressively, the inconsistency of prohibitionism became clear. For example, in the case of combating drug-trafficking, it produces the same clandestine networks that it is trying to excise (Miró, 2014). In its legal aspects, prohibitionist strategies usually infringe on basic human rights (e.g. right to privacy, ethical treatment), and the principle of proportionality between punishment and crime (Boiteux, Peluzio Chernicharo, & Souza Alves, 2014; Uprimmy Yepes, Guzmán, & Parra Norato, 2013). Countries such as Spain, Holland, Portugal, US, and Uruguay, started to consider new policies on drugs.

Some new psychedelic clinical uses emerged in the 1980s: in Russia the psychiatrist Evgeny Krupitsky's Ketamine Psychedelic Therapy focused on rehabilitating heroin and alcohol addicts (Krupitsky, 1992), and in the Netherlands Endabuse, founded by Howard Lotsof, focused on treating addictions using iboga (Donnelly, 2011). But it was in the 1990s that there was a real Renaissance of psychedelic studies in countries like Germany, the UK, the Netherlands, Israel, Brazil, Spain and Peru (Sessa, 2012). Universities started to support studies, with old-school and new researchers: Rick Strassman (University of New Mexico), William Richards (Johns Hopkins University), Charles Grob (University of California, Los Angeles), Stephen Ross and Anthony Bossis (New York University's Medical School), Jordi Riba (Hospital de la Santa Creu i Sant Pau in Barcelona), Felix Hasler (University of Zurich), and Gerald Thomas (University of British Columbia). New centers sprang up to treat addictions with psychotherapeutic approaches that combine traditional medicines with Western science. Takiwasi in Peru, and especially IDEAA in Spain, are examples I will discuss below.

Ayahuasca experiences and the founders of two centers

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. The comparison of these two cases will help us to better understand how personal experiences play their part in the permeability between science and religion for the case of psychedelics in general and of ayahuasca in particular.

As has been mentioned above, Mabit is a French psychiatrist who founded the first center to use ayahuasca as a medicine for addictions. But there is also another Mabit with different personal experiences in dialogue and confrontation: he trained as a scientist and a doctor, he has a vocation to be a healer, and he has a 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 various 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 awakened (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, heroin... 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 of addictions and the positive ones of 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 because he was interested in the effects of the substance, at a time when 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 Ferigla, with whom we organized very interesting meetings, inviting people like Ott, Hofmann and others. (*ibidem*)

The cultural background against 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. 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 (Apud, 2017c). This is not a consequence of the absence of a spiritualist movement which, despite never having been institutionalized, has been present in Spain since at least 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. (*ibidem*)

After this first visit, Fábregas started to go regularly to Brazil and Mapiá, trips that were to lead to 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. (*ibidem*)

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. (*ibidem*)

Fábregas's 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 (*ibidem*).

As we will see in the following chapters, 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 work 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 are involved, and who will set up centers and hold ceremonies in Catalonia, after IDEAA has closed.

The cultural transmission of science and religion

We wish to pursue the truth no matter where it leads, but to find the truth we need imagination and scepticism both. We will not be afraid to speculate, but we will be careful to distinguish speculation from fact.

Carl Sagan, *The Shores of the Cosmic Ocean* (Sagan, Druyan & Soter, 1980).

The cases presented are good examples of how the personal trajectories of the physicians had a strong influence on the style of the centers they founded. Both Mabit and Fábregas show us the importance of their cultural and personal trajectories for understanding the experiences they had during psychedelic ASCs, the commitments those experiences triggered in them, and how these experiences led them to found their respective centers. My belief is that it was not only the researchers' recognition of those experiences as therapeutic catalysts that produced this spiritual twist to the pharmacology of spirituality but also the personal ASC experiences of the researchers. Their profound experiences produced in them different kinds of commitment, and prompted some of them to support spiritual ontologies. This is not a minor issue when considering the therapeutic assessment of the psychedelics. As Genís Ona (2018) points out, these personal experiences can result in confirmation bias, which cannot be underestimated in the context of clinical studies. But it is also true that those experiences were the driving force that impelled the researchers to new theories and studies.

As I have mentioned above, I was intrigued about this permeability of science to spirituality, and one of my interests was to shed more light on why this is so. As I discuss in this chapter, the phenomenon is not exclusive to psychedelic studies, but involves various disciplines and research areas. I suggest that this happens because science, like any other cultural system of ideas, works not only by strong rational criteria for producing knowledge, but also by different mechanisms of cultural transmission, social commitment and different cognitive biases. Charles Peirce (1877) was perhaps 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 the interplay between logic and

facts). As the Argentinian epistemologist Juan Samaja pointed out (1998), Peirce did not regard these methods as acting in totally separate ways, but at different hierarchical levels and with possible interactions. Scientists do not stop using 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. For example, scientists are not immune to believing in something because someone important in the field says so, in what can be regarded as an authority or prestige bias. This and other mechanisms are essential for cultural transmission and learning.

From cognitive anthropology, Dan Sperber (1975) proposed an epidemiology of ideas to understand cultural transmission, and answer the question of why some mental representations spread more than others in human populations. According to the author, there are important factors waiting to be discovered to explain the success and contagious quality of some representations. The regularities in the spread of ideas are related to two kinds of “attractor.” First, the psychological attractors, which consist of cognitive and affective features of the mind, developed during biological evolution. These include both constrictions and capabilities of the mind. Second, the ecological attractors, which are imposed by the cultural, social and natural environment. The success and recurrence of cultural ideas and practices is determined by cognitive and ecological biases, in a selection process whose mechanisms and features are different from those of natural selection. This selective model does not need supra-individual entities such as culture and society to account for the spread of representations and beliefs.

Let’s take the spread of religious ideas as an example. In CSR, the anthropologist Pascal Boyer proposes a model to explain why religious ideas are so successful at propagating and surviving. Boyer bases his argument on Frank C. Keil’s work on developmental psychology, in which he describes how, at an early stage, children naturally develop certain intuitive domain-specific assumptions. The three domains are intuitive physics, intuitive biology and intuitive psychology. The ontological representations derived from these assumptions are characterized as intuitive, nonschematic, nonobservable and spontaneously formed, so they do not need cultural learning to be acquired (Boyer, 1994). The domains are hierarchically embedded, and they all make certain “ontological assumptions” (figure 11). For example, we automatically infer and recognize certain qualities of physical objects and their mutual interaction. When we are faced with

a living creature, we continue using these qualities to understand it, but we add other qualities, such as intentionality and agency. When we are faced with a human being, we add more qualities related to how we read our human peer's mind. Boyer argues that these domains are a natural cognitive phenomenon, hardwired into the brain, despite the multiplicity of forms that manifest under the veil of different cultures.

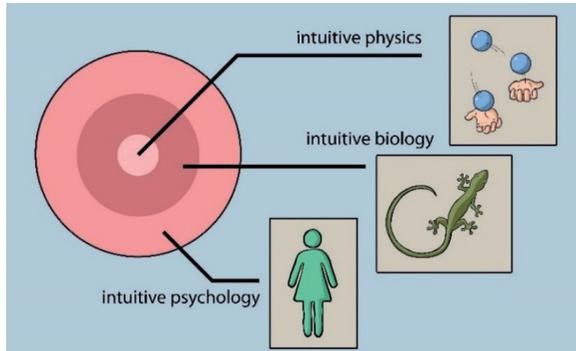


Figure 11. Three cognitive domains (picture by Nicolás Peruzzo)

Using this cognitive background and the general idea of an epidemiology of beliefs, Boyer understands religious ideas as a special kind of representation, which propagate more easily because they violate the ontological assumptions of these three domains, becoming more salient, attention-demanding and, therefore, more memorable. Boyer called this violation counterintuitiveness, which can be expressed in different ways: a violation of physical expectations (e.g. a stone floating in the air), biological expectations (e.g. a human who does not get older), or psychological expectations (an omniscient mind). To be successful and contagious, the representation should not be too overloaded by counterintuitiveness; otherwise, it will be difficult to catch and the idea loses its advantage over others. There must be equilibrium between ontological assumptions and their violations, which Boyer calls minimal counterintuitiveness (from now on, MCI).

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)

For Boyer, the interplay between intuitive ontologies and their violation is essential to understanding the vast presence of religious ideas in epidemiological terms. Although the MCI of religious ideas does not include the idea of superhuman agency as a core aspect, Boyer considers them to be an important and recurrent phenomenon, related to modular and natural aspects of human cognition, mainly social cognition and moral intuitions (Boyer, 2001).

Boyer's MCI is central to CSR, and was followed by various studies supporting, amending, or disclaiming it. What is important to us is that MCI only explains why religious ideas are more memorable, not how a person makes a personal commitment as a result of true belief. It is a "content bias" that relates only to the semantic quality of the idea, so it falls short of explaining how a person gives ontological status to an idea or belief. 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 ontological division between humans and other non-human animals by transferring human features to a mouse. Mickey is an MCI character but we do not have a special commitment to him as a moral legislator, as a creator, or as a character that really exists. For a religious idea to be believed we must consider other cognitive processes related to our ability to establish personal commitments to ideas and values. Some of these mechanisms are related to what is called "context biases."

Context biases can be regarded as ecological attractors that give memorability and commitment to cultural representations and practices. They are context dependent, but they are possible because of particular cognitive natural abilities, related to social cognitive dispositions that help in the process of commitment and adherence to a particular cultural and social context. Creanza et al. (2017) describe four main mechanisms (figure 12): *a*) conformist bias (the learner copies the most common trait); *b*) novelty bias (the learner copies the newest trait); *c*) prestige bias (the learner copies a member of the group because of his/her high status), and *d*) success bias (the learner copies the most successful member).

Likewise, Henrich & McElreath (2003) distinguish between model-based biases (prestige, success, similarity, others), and frequency-dependent biases (conformity and rarity). Religious rituals and the experiences they produce play their part too; they are cultural techniques used for transmitting, memorizing, transforming and enhancing commitment to a belief or an idea. In the ritual, both context and content biases can be displayed in a dramatic performance that can induce commitment, help in the memorization of a liturgy or cause ASC experiences with different effects on the participant (I will tackle this problem in the next chapter).

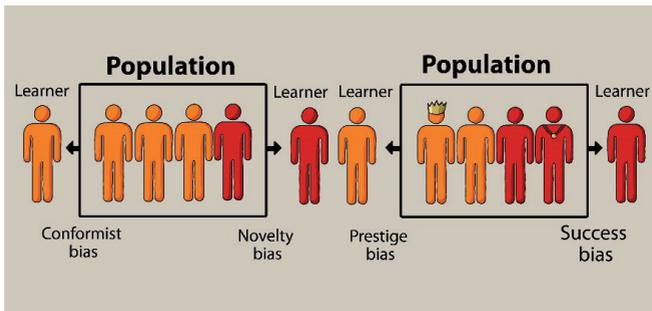


Figure 12. Four different context biases (picture by Nicolás Peruzo, adapted from Creanza *et alii*, 2017)

Acquiring knowledge not only involves remembering and believing: it also involves reflecting, questioning and innovating. Otherwise, the production of knowledge would be impossible and culture would not exist at all. Moreover, every culture and society uses rationality and imagination, both for speculation and for the production of empirical knowledge. Modern science has a special place for both, trying to use logical thinking and experimentation under explicit and controlled procedures, which are supposed to assure a certain neutrality and coherence. In philosophy of science, the validity of scientific knowledge is usually related to 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 within the scientific community they must prove the idea by using a specific methodological protocol related to the context of justification. This assumes that the idea must be tested, exposed rationally and empirically to the scientific community, so others

can replicate the procedure. Within the context of discovery, anything goes: hunches, analogies, metaphors, daydreaming and – why not? – inspirations during ASCs. But after the idea has been formulated, it has to be tested in accordance with the methodological standards of the discipline. Therefore, science needs both the art of speculation and the construction of rational facts, or, using Sperber's terms, scientists use both symbolic and rational processing.

Sperber distinguished between a rational device and a symbolic device, making a shift in the understanding of symbolism. Symbols are not signs; they are not part of a code structure. Symbolic information is provided by all of the senses, has no systematic properties and varies from individual to individual,

Symbolism is, in large part, individual, which is doubly incomprehensible from the semiological point of view. Firstly, a system of communication works only to the extent that the underlying code is essentially the same for all; secondly, a code exhaustively defines all its messages. Symbolism, which is a non-semiological cognitive system, is not subject to these restrictions. (Sperber, 1975, p. 87)

For Sperber, there are two different reasoning strategies. First, an intuitive one that uses fast, associative and emotionally colored thinking. It is related to personal experience, fantasy, creativity, imagination, visual recognition, associative memory, and the use of analogies and abductions. Second, a rational strategy that seeks a logical, hierarchical and causal-mechanical structure in its environment. The idea can also be traced back to Freud's distinction between primary and secondary processes, the first of which is related to condensation and displacement (metonymic and metaphoric thinking), and the second to logical reasoning (Freud, 1992). In the case of science, and following Juan Samaja (1998), while the art of scientific discovery could be related to the creativity of analogic and abductive thinking, the art of scientific justification could be related to the sophistication of inductive and deductive reasoning. Scientific methodological norms of the context of justification act like a grid that depurates knowledge using rational parameters and empirical testing.

In history and 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 and technology studies.

Although I myself subscribe to an evolutionary epistemological perspective, in the sense that I regard science to be not just one of many kinds of knowledge but, thanks to our evolutionary and cognitive abilities, the most solid and reliable (Wuketits, 1984b), I also think that things are not crystal clear within the internal context of justification. First, 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). Second, the distinctions between justification and discovery, or internalism and externalism, do not fit well into the qualitative methods of social sciences, where theorizing and testing occur in a feedback loop, and external history must be included as an essential internal force in what is usually regarded as reflexivity analysis.

Third, for a community to exist and function, it is impossible to avoid the mechanisms of cultural transmission discussed above, even if the community is a scientific one. Cultural transmission needs tradition, authority, prestige and also metaphors acting as a catching content. When we are students we listen to professors, whose authority and prestige assure us they are not cheating us. As researchers, we deposit our trust in journals, research centers and scientific authorities. The transmission of knowledge would be impossible without context clues from which we can infer the trustworthiness and factuality of the information we are receiving. Science is also about communication to the masses, with long chains of cultural translation, and the use of metaphors, illustrations and myths. Science is not circumscribed only to a laboratory or to researchers. Finally, the naïve idea of a disinterested and neutral science is nowadays difficult to support, no matter what academic tradition we come from. 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.

Beliefs can be more or less factual, and can have different degrees of rational criteria. The individual may or may not be aware of this, and most of the time we do not reflect on the whys and hows of our beliefs and ideas. We take them for granted, or we assume they are true, on the basis of the different biases mentioned. In the particular case of the scientific community, we find a similar picture, despite the fact that there is a special instance of production of factual beliefs, through a method that ensures some validity and reliability. Of course science should always be the result of a clear, logical, empirical and justified method. It should also be practiced 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 working behind the stage of the academic production and transmission of knowledge.

Now, after all these considerations, we can ask how the spread of religious and spiritual ideas in science and academia involves the content and context biases mentioned. I will also propose one more bias in the spread of ideas, especially when they are spiritual or religious in content. This bias is the subjective spiritual experience that produces different kinds of commitment. In science, the relevance of these experiences can depend on the discipline and the research area, but in the case of anthropologists interested in shamanic and religious practices, or in the case of psychedelic studies, they have played an important role because the methods and approaches to the practices and substances studied involved participation and/or self-experimentation.

Table 2. Hierarchical levels in the transmission of ideas

Methods of fixation	Cultural transmission	Examples in religious systems	Examples in scientific systems
Efficacy	Practical knowledge	Religious experimentation	Scientific research; context of justification (facts)
Rationality	Rational thinking; symbolic thinking	Theological inquiry; religious symbolism	Philosophical inquiry; context of discovery (speculation)
Authority	Ecological attractors; context biases	Charismatic authority	Academic prestige
Tenacity	Psychological attractors; content bias	MCI	Confirmation bias, individual subjective experiences

In anthropology, participation in shamanic rituals has led many anthropologists to accept a spiritual realm, and found neoshamanic centers. And psychiatrists and psychologists experimenting with psychotomimetics have had first-hand ASC experiences that have prompted them to shift from a mere pharmacology of consciousness to a pharmacology of spirituality. In both cases, the experiences were a major factor in producing personal, intellectual and professional commitments to a spiritual ontology. One example is the psychiatrist Claudio Naranjo, and his own mystical experience with ayahuasca.

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, 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. Moreover, as I owe yage this great leap into my long process of healing, I must use it in the healing of others. (2012, pp. 28–29 translated from Spanish)

Researchers were experimenting with themselves so it is not surprising that they underwent a variety of psychological changes and spiritual conversions. Besides, the concern of the transpersonal paradigm was not only to heal patients, but also to cure the whole of Western materialistic culture, including researchers themselves. The spiritual experiences of the researchers triggered different attitudes towards the ontology of the spiritual world, and not only in psychology but in other disciplines, too. Classical examples are the experiences in the Colombian Amazon rainforest by the brothers Terence and Dennis McKenna, an ethnobotanist and an ethnopharmacologist, respectively, and Michael Harner's frightening experiences with the Jivaros in Ecuador (Harner, 1980; McKenna & McKenna, 1994). And the same goes for Mabit, Fábregas and myself. My first peak experience with the brew produced in me a strong interest in the world of ayahuasca. I did not go native but from that moment on I accepted the ineffability of those ceremonies. Nowadays, I am agnostic about the ontological status of those experiences. I do not know if there is something beyond those experiences, or if I was really interacting with the plant all those years. From my personal point of view, I accept my cognoscitive limitations as a finite human being. As a

researcher, I try to explain as much as I can, using my background as a psychologist and anthropologist.

But why do some researchers not go native while others embrace different spiritual ontologies? Like counterintuitiveness, spiritual experiences do not ensure commitment or conversion *per se*. First, because ASCs include a broad variety of subjective experiences, altering consciousness and cognitive processes. Second, because it is not only the experience that is relevant to personal change, but how the memory is stored, evoked and resignified after the ritual. Below I will discuss the patients studied and I will show that these “memories of the experience” (Czachesz, 2015a) depend on social and cultural factors related to the context where the experiences took place. And third, because they depend on the personal trajectory of the participants, and their different beliefs, whether these be religious or scientific.

From a psychological perspective, the individual, as a cognitive, subjective and psychological unit, acts as a node, where different cultural trajectories intersect. Sometimes, or for certain periods, these trajectories can more or less be kept isolated from each other. But human beings have the tendency to construct a cogent and coherent image of themselves and their world, especially when they perceive cognitive dissonance. It is true that individuals are heterogenic social agents, but is also true that we are born as a psychological unit and, as such, we try to synthesize our own trajectories as scientists, therapists, and/or religious/spiritual practitioners. This observation may sound obvious to the reader, but not to those who are familiar with the rejection of “psychologism” by some academic traditions. This rejection, usually by the social sciences, is based not only on the individual mind as a *locus* of cultural identity, but also on the psychologically innate predispositions that, as I have already mentioned, explain the recurrences and variations in the spread of ideas.

CHAPTER 6. RITUAL HEALING FROM A MULTI-LEVEL PERSPECTIVE

As I have shown in previous chapters, medical anthropology allows us to understand health care systems from a broad perspective, far beyond the narrow conception of Western biomedicine. Health care networks, therapeutic processes and healing techniques can be found in different cultural practices. In these networks, some healing techniques explicitly address medical issues (e.g. shamanic healing), while others only address these issues implicitly or sporadically because they have other main concerns (e.g. formal religious institutions). Besides, particularly in the case of formal religions, networks usually promote healthy lifestyles, give social support to their members and provide an ordered and meaningful worldview, which is useful for coping with personal problems.

But health care systems are one thing, and the efficacy of health care practices is quite another. I shall now go on to discuss an interdisciplinary model that considers different dimensions of ritual and spiritual healing. In a strict sense, the model I present is not about how ritual heals. I will describe religious ritual as a cultural technique with different goals, which can produce a range of psychological changes and have a variety of outcomes. Some of these effects are related to well-being and health, but others can be harmful, or have other goals, such as the induction of social commitment or the memorization of a doctrine. Nevertheless, there is no doubt that religious rituals are commonly used so that individuals can cope with physiological, psychological and social problems.

In a general sense, rituals can be defined as a kind of behavior that consists of a structured, repetitive, rigid, segmented and invariant chain of action, and which requires scrupulous respect of the rules (Boyer & Liénard, 2006; Hobson, Schroeder, Risen, Xygalatas, & Inzlicht, 2018). From a psychological point of view, they tend to appear in stressful situations so that people can regain control and stability in the face of

unknown or dangerous situations. Religious ritual can be defined as a kind of ritual that is connected to superhuman agents (McCauley & Lawson, 2002), and sacred things, experiences and/or events (Taves, 2009). Finally, ritual healing refers to behavior that involves a cluster of techniques and procedures, organized in a therapeutic setting and designed to solve a medical demand.

Compared with modern biomedical treatments, religious rituals are not concerned with separating subjective, social and cultural elements from biologically active ones. The case of ayahuasca rituals in *vegetalismo* is a paradigmatic one. As the anthropologist Marlene Dobkin de Rios described decades ago, Peruvian shamans can be considered as astute psychotherapists, skillful spiritual travelers, recognized healers in their communities and experts in folk pharmacopeia (Dobkin de Rios, 1973, 1992, 2009). *Curanderos*, she says, are specialists in working with a “biology of hope,” a process in which – thanks to the mind-body integrality – beliefs, expectations and cultural values produce immunological, psychological and physiological changes.

Opening the black box of placebo

From a biomedical perspective, the biology of hope is related to what is called placebo response: that is, a medical outcome that is not to the result of specific medical treatment, but of a wide range of “unspecific factors” to which patients subjectively respond, causing positive changes in mood, expectations and hope. In biomedicine, placebo’s function is to please patients rather than offer a real solution to their condition. The positive response is called placebo, which means “I shall please,” while the negative response is called nocebo, or “I will harm.” This latter phenomenon was soon recognized by the physician Walter Cannon, who explained voodoo death in Haiti as a maladaptive and prolonged “fight or flight” response of the sympathetic nervous system (Cannon, 1942). Two decades later, the physician Walter Kennedy (1961) coined the term nocebo reaction, as the inverse counterpart of the placebo response.

According to de Craen et al. (1999), during the 19th century physicians used placebos in a variety of presentations: bread pills, drops of colored water, powders of hickory ashes, sugar pills, etc. Most physicians regarded them as necessary deceptions to bring some comfort to patients. In the

second half of the 20th century, placebos started to be a key element in medical research, in what is nowadays known as Randomized Controlled Trials (RCTs) (Dehue, 1997; Meldrum, 2000). A variety of procedures involving placebo started to be used (e.g. placebo pills, sham surgery) in order to discriminate between the effects caused by the “specific factors” of the treatment and those caused by the nonspecific ones.

RCTs are designed to discriminate where the therapeutic improvement comes from. First, we establish both the cause – in experimental terms, the independent variable – and its effect –the dependent variable. Second, we manipulate the independent variable (e.g. by giving an antidepressant to the patient), and then we measure the changes produced in the dependent variable (e.g. assessing how the treatment has affected the symptoms of the patient). But, how can we be sure that the effect was really produced by the substance itself and not by other factors such as the placebo response of the patient to the therapeutic context? As is well known, the setting surrounding the medical procedure is in itself therapeutic. For example, the simple action of receiving careful and empathic treatment, or the expectations of the patient of a socially legitimized treatment. In RCTs, these phenomena are confounding variables that must be controlled in order to discriminate what is related to the effect of the substance, and what to a psychological response to the environmental conditions. To this end, we need a control group, which mimics the exact procedure of the experimental group (figure 13). The only difference between both groups is that in the control group we give the patient a placebo treatment. This is usually done in a double-blind procedure (that is, neither the patient nor the practitioner know which treatment is taking place).

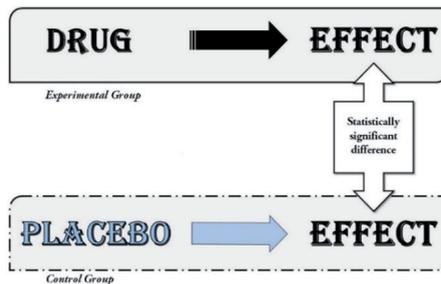


Figure 13. Randomized Controlled Trial (RCT)

Methodologically speaking, this is a valid and useful procedure, which allows certain variables to be isolated so that the relations between them can be studied better. The selection of the variables depends on the theories, hypotheses and objectives of the research. Therefore, variables are independent, dependent and confounding in relation to the research design and the theory behind it. They are abstract and interchangeable positions, and a variable considered independent in one study can be confounding in another.

However, in the classical biomedical conception of RCTs, placebos are not regarded only as a methodological component, but also as a substantive delusional effect, with no objective specific activity on the condition treated. The real effects are those studied at the biochemical level, while those effects related to placebo are not. They are a kind of “noise” to be controlled so that true and objective treatments can be identified and developed. From this perspective, the variety of unspecific factors labelled as placebo are discarded into a single dustbin of “untruthfulness” (Kaptchuk, 2002). The main problem of this perspective is that it is contradictory in its own materialistic terms. As pointed out by the medical anthropologist Daniel Moerman (1979), there is an implicit mind-body dualism lying behind the idea that the placebo response is not real, which contradicts materialistic biomedical monism.

After RCTs had been established as a standard procedure in biomedical research, scientists from various disciplines started to study the unspecific factors in an attempt to open up the black box of placebo. One of the first physicians to do this was the anesthesiologist Henry Beecher, who during World War II attended American soldiers in Harvard. After running out of morphine, Beecher's nursing assistant started to inject the patients with saline solution, telling them it was a painkiller. To their surprise, the trick worked and the soldiers felt better. In a subsequent famous article, Beecher reviewed the literature on the topic (Beecher, 1955). The article is a controversial one – e.g. most of the studies reviewed had no control group – but sparked considerable interest from a range of disciplines.

At a physiological level, placebo response involves heterogenic and complex interactions between body systems and brain networks. There are various theories, addressing different “placebo analgesia.” The idea began with the classic paper by Levine *et alii* (1978), which described how placebo pain reduction can be blocked with the opioid antagonist naloxone. The discovery suggested that endogenous opioids could be

involved in the placebo effect. Psychoneuroimmunology also made its entrance, initially with Ader & Cohen (1975), who paired a saccharine solution of water with an injection of cytoxan to produce a conditioned immunosuppression response. This discovery was consistent with the discovery of neuropeptide mechanisms as connectors of the immune and nervous system (Pert, Ruff, Weber, & Herkenham, 1985; Williams et al., 1981).

Nowadays, placebo response includes other interactions, mediators and effects (Benedetti, Mayberg, Wager, Stohler, & Zubieta, 2005). In general neuroscientific terms, it can be understood as a top-down effect, which modulates neural circuits and areas that can be similarly treated with drugs in a bottom-up direction (Lieberman et al., 2004). These areas seem to depend on the diseases that are nowadays considered to be especially sensitive to placebos: for example, depression, irritable bowel syndrome, skin diseases, cancer, HIV and wound healing (see Goodkin & Visser, 2000 for a review). Finally, placebo and nocebo responses seem to act in opposite directions. Usually placebo increases dopaminergic and/or endogenous opioid activity, while nocebo deactivates it (Scott et al., 2008).

At a psychological level, there are two main explanations: conditioning and expectancy theory. Conditioning theory analyzes placebo using a classic Pavlovian conditioning paradigm: that is, placebo is a conditioned stimulus paired to an unconditioned pharmacological one. The idea can be traced back to the late 1950s when various researchers explicitly considered placebo response in Pavlovian terms (Gliedman, Gantt, & Teitelbaum, 1957; Kurland, 1957). Years later, and in a study with rats, Herrnstein (1962) showed that a saline solution paired with scopolamine mimicked the psychoactive effects when given alone. Expectancy theory comes from social psychology, and considers placebo response as an effect of the subjective positive expectation of the patient to the treatment, while nocebo is the negative expectation. Theories of expectancy began to attract interest after Albert Bandura's work on how personal efficacy expectations influence medical outcome or pain relief (Bandura, 1977). According to expectancy theory, the brain produces expectations in order to manage the ambiguity of the information it receives from the world. In psychological terms, these expectancies are self-confirming, producing a variety of positive and negative effects in the health of the individual (Kirsch, 1985).

Although not directly related to the placebo agenda, psychoanalysis is also relevant as psychosomatic theory suggests that the mind can affect the body through the musculoskeletal, cardiovascular, gastrointestinal, genitourinary and endocrine organs. Psychosomatic theory assumes that certain bodily ailments have a connection with psychological effects and problems so they can be treated using psychotherapy. The phenomenon was initially labelled as “psycho-physiological autonomic and visceral disorders,” explicitly introduced in the first edition of the DSM in the 1950s. With the decline of psychoanalysis in American psychiatry, the idea of mental illness as psychological reaction was progressively abandoned (Oken, 2009). Nowadays, the DSM-V includes this kind of phenomenon under the category of “Somatic symptom and related disorders” (APA, 2013, pp. 309–328).

At a social and cultural level, placebo response may be related to the various contextual elements that make up the treatment setting: the social and cultural place that both patient and physician occupy, the patient’s attitude (e.g. adherence to the treatment), the context in which the interaction takes place (e.g. a hospital, the doctor’s office), the packaging and general presentation of the medicine. All of these elements produce what Daniel Moerman called meaning response, which is “...the physiological or psychological effects of meaning in the treatment of illness” (Moerman, 2002, p. 78). From a medical anthropology perspective, this response can be found in medical systems of different cultures, including folk medicine and Western biomedicine, which also explicitly or implicitly manipulate meanings.

Most elements of medicine *are* meaningful, even if practitioners do not intend them to be so. The doctor’s costume (the white coat with stethoscope hanging out of the pocket), manner (“enthusiastic” or not), style (“therapeutic” or “experimental”), and language are all meaningful and can be shown to affect the outcome; it has been argued that diagnosis itself is an important form of treatment. (Moerman, 2002, p. 81)

Eaves, Nichter and Ritenbaugh (2016) discuss not only meaning response but also different kinds of emotional, embodied and performative experiences. For these authors, the key concept is “hope,” understood as an intellectual, emotional and cultural phenomenon. Hope requires that “...individuals [...] navigate multiple contradictions between reality and possibility, embrace cultural notions of what is deemed acceptable to hope for, and be attentive to the hopes and concerns of significant others” (p. 37).

All the levels of analysis mentioned – neurological, psychological, social and cultural – should be considered in their multiple interactions, under a hierarchical and nested model of levels of organization. For example, the label, presentation, description of side effects and price of an inert medical product can trigger a variety of placebo analgesia and/or nocebo hyperalgesia responses (Colloca, 2017). This means that the cultural presentation of the product influences the psychological expectations of the patients, and affects different brain areas associated to the sensation of pain, such as the periaqueductal gray and the rostral anterior cingulate cortex. It could be considered as a cascade of top-down effects, in which cultural, social, psychological and neurological levels interact.

Medical anthropology and ritual healing

In some ways, the interaction between patient and physician in the doctor's office can be considered as a kind of ritual, with procedures, beliefs, rules and goals. This does not mean, however, that all the therapeutic outcomes of the biomedical treatment can be explained in terms of meaning or placebo responses. From a multi-level perspective, placebo can be considered as a top-down mechanism, which synergistically interacts with other procedures, thus contributing to the final total medical outcome. The same could be said for any ritual that has the goal of curing a patient of a particular illness.

For the case of shamanic ritual effectiveness, I traced back the origin of the analogy between the psychotherapist and the shaman to the seminal work by Claude Lévi-Strauss. The case of Quesalid was a good example of how the shaman produces a meaning response in the patient. Another important story published in “The Effectiveness of Symbols” is about a shamanic performance that occurred in the Cuna native people of Panama. Again, the story is not an ethnographic account by Lévi-Strauss himself, but a text of a shamanic song collected by Nils M. Holmer and Henry Wassén years before. The song was sung by a shaman while treating a parturient woman who was having childbirth difficulties.

The song begins with a picture of the midwife's confusion and describes her visit to the shaman, the latter's departure for the hut of the woman in labor, his arrival, and his preparations— consisting of fumigations of burnt cocoa-nibs, invocations, and the making of sacred figures, or *nuchu*. These images, carved

from prescribed kinds of wood which lend them their effectiveness, represent tutelary spirits whom the shaman makes his assistants and whom he leads to the abode of *Muu*, the power responsible for the formation of the fetus. A difficult childbirth results when *Muu* has exceeded her functions and captured the *purba*, or “soul,” of the mother-to-be. Thus the song expresses a quest: the quest for the lost *purba*, which will be restored after many vicissitudes, such as the overcoming of obstacles, a victory over wild beasts, and, finally, a great contest waged by the shaman and his tutelary spirits against *Muu* and her daughters, with the help of magical hats whose weight the latter are not able to bear. *Muu*, once she has been defeated, allows the *purba* of the ailing woman to be discovered and freed. The delivery takes place, and the song ends with a statement of the precautions taken so that *Muu* will not escape and pursue her visitors. The fight is not waged against *Muu* herself, who is indispensable to procreation, but only against her abuses of power. Once these have been corrected, relations become friendly, and *Muu*’s parting words to the shaman almost correspond to an invitation: “Friend *nele*, when do you think to visit me again?” (Lévi-Strauss, 1963, p. 187)

While in Quesalid’s story the symbolic effectiveness was related to a dramatic performance with tricks, in this case the performance involves the story of a challenge, sung by the shaman. The song describes why the woman is having troubles with her birth (the diagnosis), and how the problem will be solved (the treatment). It describes the shaman traveling through *Muu-Igala*, the way of *Muu*, and arriving at *Muu*’s abode with the goal of rescuing the lost *purba* and allowing the childbirth to take place. But the journey refers not only to mythical places but to real ones. *Muu-Igala* and *Muu*’s mansion are literally the vagina and the uterus of the parturient woman, so the shaman is travelling through the woman’s organ to rescue her spirit and allow the childbirth. The shaman never touches the woman, and gives her no drugs or medicine. According to Lévi-Strauss, the myth acts as a “psychological medication” that induces the birth; the shaman is doing a “psychological manipulation” of the diseased organ. The cure comes about through the shaman’s ability to give meaning to a chaotic and stressful situation. The shaman induces an abreaction in the patient, giving her an explanation for her problem and also a solution.

After Lévi-Strauss, several anthropologists continued working on the idea of an effectiveness of symbols, making major adjustments to Lévi-Strauss’ initial description. Two important and interconnected developments were: *a*) the idea that there is no need of a shared mythical structure between patient and healer for the cure to happen; *b*) the escape

from a constricted symbolic view of culture, and the integration of other modes of cultural transmission, such as performances, subtle signs, gestures, emotions, postures and perceptions. For example, Victor Turner stressed the ritual process instead of its structure. For the anthropologist, ritual is a temporal sequence that makes up a social drama. Turner took Arnold Van Gennep's idea of liminality, a threshold phase in which participants go through a paradoxical and ambiguous anti-structure state (V. Turner, 1977). During this stage of the ritual, social boundaries and identity are suspended and renegotiated in order to come back to the social structure again, this time with a new revitalized identity (Turner 1985). Another example is the anthropologist Thomas Csordas who introduced the idea of embodiment, which considered ritual healing to be more than just the manipulation of symbols. He analyzed religious healing practice as a cultural performance that includes body and symbols in a whole experience that introduces the participant into a new phenomenological world (Csordas, 2008). Finally, Michael Taussig regarded shamanic ritual as the joining of shaman and patient imaginaries and the alternation of miscellaneous fragments of symbols and gestures (Taussig, 1993).

Multi-level perspectives also influenced the effectiveness of symbols by combining culture, neurology and psychology. Despite the differences between culturalist and multi-level perspectives, the two ways of understanding ritual healing had some common features. For example, both approaches consider there is no need of a shared myth for a cure to be produced and that the ritual's performance is not constricted to symbols but includes various non-verbal and implicit sets of actions. In addition, multi-level perspectives do not stay within the boundaries of cultural explanation, but try to connect different levels of analysis. If ritual healing really works, then we should address the cascade of events that goes from the contextual and cultural level where the ritual is taking place, to the cognitive, neuronal and physiological effects on its participants. This idea also goes beyond the classic biomedical view of placebo as an inert, delusional and unspecific effect. Daniel Moerman (1979) was one of the first to discuss this issue by stressing the implicit Cartesian dualism of biomedicine when dealing with placebo response. As an alternative, he suggested studying "symbolic healing" from an integrative perspective that assumes the psychological and physiological levels to be indivisible, and the interactions between the psychosocial and neuroendocrine systems. Moerman's insights were in tune with what was happening in the 1970s and provided various explanations for opening the black box of placebo.

A few years later, the anthropologist James Dow (1986) proposed a universal structure of symbolic healing. The structure consists of a healer-patient relationship in which the former persuades the latter that the therapeutic demand can be defined in terms of a general myth. The healer uses transactional symbols – the particularization of the general myth – to manipulate a patient’s emotions, and produce changes at the different nested levels of a hierarchical organization of living systems.

*Table 3. Nested hierarchical levels of organization
(adapted from Dow, 1986)*

Level of the system	Unit of the system
Ecological	Populations
Social	Individuals
Self	Somatic systems
Somatic	Cells
Molecular	Molecules

First, transactional symbols are particularized from the general myth to the social system. This can be done in a variety of ways, depending on the culturally established mythical world. Using the example of his fieldwork with the Otomi people of Mexico, Dow mentions that shamans use different paper figures to particularize the general myth of the life force. In this case, the transactional symbol is related to an animistic force, but in other cases transactional symbols can be secular (e.g. libido), metaphysical (e.g. soul) or religious (e.g. salvation). Transactional symbols are mediators, considered valid for the local culture, which have the effect of persuading the patient.

Second, transactional symbols are used by the healer to bring about changes in the self-system of the patient, mainly via emotions, which, evolutionarily speaking, preceded symbols and language as a means of communication. Through this manipulation, the healer produces a significant experience for the patient that triggers changes, not only in the self, but also in the somatic system.

Effective symbolic healing starts with a generalized symbolic medium in the social system particularized in such a way that it is able to affect the transaction of emotion in the self system. Thus, symbolic healing allows unconscious and

somatic processes to be controlled by symbolic communication occurring two levels higher in the social system. The two-level linking process is possibly aided by certain types of altered states of consciousness in which the patient tries to abandon the self-transaction of emotion and allows emotions to be transacted directly by the linked transactional symbols. Obviously the social setting for such altered states is critical, for it is there that the linking with the transactional symbols in the social system is set up. Self-transaction of emotion can be described as ego defense [...], and so abandoning self-transaction lowers defenses. (Dow, 1986, p. 64)

The quote above condenses important elements of symbolic healing and psychedelic experiences too: the emotional quality, the weakening of ego defenses, the production of ASCs, the permeability to transactional symbols from the shaman and the cultural settings, the abandonment of self-transaction, etc. For Dow, one important aspect of symbolic healing is an emotional experience in which self-transaction is suspended and displaced by the transactional symbols of the shaman and of the cultural mythical world.

Other multi-level perspectives were subsequently developed by various medical anthropologists. For example, James McClenon's placebo health hypothesis (1997) regards religious healing practices as the natural consequence of evolution. For McClenon, dissociative rituals gave hominins an evolutionary advantage in terms of health – through psychoneuroimmunological interconnections – and social cohesion – through hypnotism and suggestion. These adaptive advantages led to the considerable presence of genes related to suggestion and dissociation, which are the psychological bases of the belief in spirits, life after death, magical thinking and religions in general (McClenon, 2006). Similarly, Michael Winkelman considers ritual practices as ways of producing “integrative modes of consciousness,” which were favored by natural selection because of their ability to generate physiological, psychological and social homeostasis (Winkelman, 2010).

Laurence Kirmayer (2004) explains both placebo and ritual healing using different levels of organization: physiological (e.g. autonomic, endocrine, immune systems), psychological (e.g. emotions, attributions, meaning) and social (e.g. family, community, medical systems, religious rituals). The idea is similar to Dow's model, but instead of transactional symbols, Kirmayer uses the idea of metaphors, connecting sensations, emotions and concepts, and triggering new interpretations of illness.

Metaphors of healing extract narratives and images from cultural myths, and bring about changes in the patient's experience. They can trigger various physiological effects (e.g. activation of the pain control system, regulation of immune functions), psychological outcomes (e.g. suggestion, expectation) and social changes (e.g. the social role of the participant within the community).

Ritual in cognitive science of religion

As a subdiscipline devoted to the study of health, medical anthropology attempts to explain the medical aspects of ritual. The theories mentioned earlier have the common feature of understanding ritual as producing or manipulating meanings, and using these meanings to induce a therapeutic effect. But rituals do not necessarily have a medical aim. In fact, religious rituals are frequently used for other purposes, such as transmitting, memorizing, transforming and enhancing commitment to a religious belief or community. This idea is not new and can be traced back to such scholars as Durkheim, Weber, Geertz, Sperber and Turner. Emile Durkheim considered religious rituals to promote social cohesion, cooperation and the enhancement of belongingness (Durkheim, 1968). For Durkheim, religious rituals and beliefs induce social conformity by using stereotyped shared movements and shared sacred values. The idea remained popular over the decades, and various researchers tested it in different ways with both positive and negative results.

Dan Sperber described the innovative side of the ritual, in contrast to the classic view of ritual as a practice used for the reproduction and transmission of religious beliefs. According to Sperber, ritual does not necessarily have a hidden symbolic interpretation that we need to figure out in order to understand its true meaning and purpose. In fact, he says, it is the other way around: rituals are devices that encourage different symbolic interpretations and local exegeses. Any definitive interpretation of the ritual will never fully explain what the ritual is because it does not have a ultimate meaning at all (Sperber, 1975).

These two sides of the ritual (Durkheim's conformism and Sperber's innovation) will be influential for later perspectives. CSR usually addresses both sides. Besides, although ritual healing is not a main line of research in this interdisciplinary field, its theories about ritual tackle the subject

in different indirect ways. For example, CSR scholars analyze how rituals affect memory, self-identity, emotions, meanings and social commitment, and how they have certain cognitive effects on their participants. As I have described for medical anthropology, the problem of meaning is central to understanding ritual healing, so CSR theories are useful for a better explanation of how a ritual can produce a certain medical outcome.

One of the theories that most influenced the emergence of CSR was the theory of the divergent modes of religiosity by the anthropologist Harvey Whitehouse (1995). He describes two kinds of religious modes with their respective rituals which are designed to elicit different cognitive processes. First, the imagistic mode, common in small-scale and simple societies, where there are no formal and systematic religious worldviews. In the ayahuasca religions, a good example of this kind of mode is the shamanic practice of *vegetalismo* in Peru. The imagistic ritual activates episodic memory, uses iconic multivocal imagery, emotional stimulation and cognitive shock. The frequency of the practice is usually low, but the sensory stimulation is high. The second mode of religiosity is the doctrinal mode, common in large-scale and complex societies, with religious ideological standardized systems of beliefs. The doctrinal rituals activate semantic memory in a more proselytized style. Emphasis is put on frequency and repetition, which are used to induce in the participants the memorization of, and commitment to, certain canons and values. Routinization is higher and arousal lower than in imagistic rituals. One example from the ayahuasca religions is the Santo Daime Church.

Each mode of religiosity leads to different ways of cultural transmission, each with its respective cognitive style. The high frequency of doctrinal modes facilitates the cultural learning of doctrines and narratives expressed as semantic memory. The high arousal imagistic rituals facilitate personal inspiration and revelations through episodic memory. This usually involves the search for new meanings through multivalent experiences and images, which prevent a centralized ideology from becoming established. Its highly emotional rituals encourage socially intimate bonds, which are more necessary in simple, small groups. On the conformity-innovation gradient, the doctrinal modes are closer to the first pole, while the imagistic rituals are closer to the second one.

Another important theory in CSR is E. Thomas Lawson & Robert McCauley's ritual form hypothesis (1990). This theory considers ritual to be an action-representation system, a natural competence of the human

mind. It consists of three main elements: agent, patient/object, and an action by the first on the second. Like all representations of agency, it involves someone doing something. In this respect, there is no difference between ritual and any other kind of action-representation system. What makes religious ritual different is its connection with a “culturally postulated superhuman agent” through what the authors call enabling actions. For the authors, every religious action must be connected sooner or later with a superhuman agent (figure 14). If there is no immediate connection, there must be a connection with some ritual connected to a superhuman agency or to a chain of rituals that are eventually connected to it. I will not discuss Lawson & McCauley’s theory in detail, but I will mention the importance of the connection to a superhuman agency for ritual effectiveness, in what the authors call the superpermanent effects of the ritual.

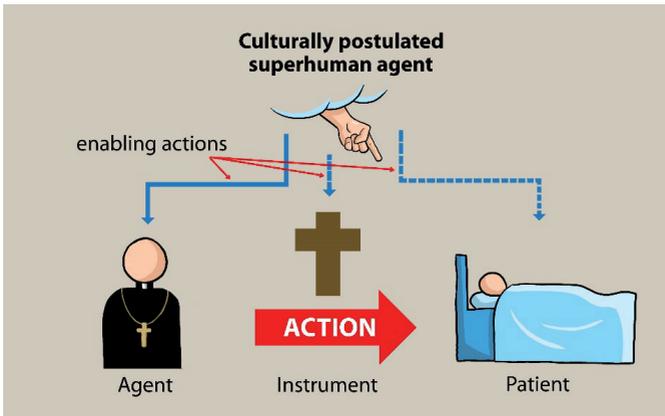


Figure 14. Ritual form theory by Lawson & McCauley (picture by Nicolás Peruzzo)

After Durkheim, social psychology and then CSR, were more interested in studying the conformity side of the ritual. From this perspective, the main question is whether or not the religion promotes prosocial behavior. In studies that use self-administered questionnaires, the results tend to support the prosocial quality of religion, while the results of behavioral studies are sometimes positive, but also neutral or even negative. In the specific case of religious ritual, the ritual has a priming effect that usually

stimulates prosocial behavior after participants leave the practice. For example, Deepak Malhotra (2010) studied how religious individuals are more likely to be charitable after worship, in what he called the Sunday effect. On the other days of the week, there is no difference between religious and secular groups, so prosocial behavior does not seem to be related to the individual's religious values, but to the salience of religious setting and norms. The same effect was described by Dimitris Xygalatas (2012), who used an economic game during his fieldwork in Mauritius, in the Indian Ocean. The priming effect of the temple setting was more important than a restaurant setting for the display of cooperative behavior. The effect was independent of individual religiosity, which supports the idea that it is not intrinsic religiosity that promotes prosociality but contextual ritual cues. In a study in New Zealand, Fisher et al. (2013) administered psychometric scales and public goods games before and after nine types of naturally ritual that use a variety of synchronous body movements and sacred values. The results showed a positive correlation between ritual and prosocial behavior. Shariff & Norenzayan (2007) used an economic game to show that it is the priming of being observed by God that makes people more prosocial.

In recent years the big gods hypothesis has become popular. It proposes that omniscient and powerful moral gods are a surveillance strategy. This aspect of religion seems to be important for the transition from small communities to large-scale societies. In the first kind of society, there is direct control by the in-group members, so society is regulated by face-to-face and kinship relations. However, when the population increased and large-scale societies started to spread, anonymity between society members became common, and new strategies for social control emerged. One of these strategies was the creation of moral precepts, founded and guarded by big gods, who watch everyone from above (Norenzayan et al., 2016).

Finally, for some authors religion is not moral *per se*, only a by-product of morality and not necessary for prosociality to emerge. For Pascal Boyer (2001), religion is not the foundation of morality, it only parasites moral intuitions, which have a natural foundation, and are prior to any religion. In the same way, other authors state that "...rituals themselves do not promote prosocial behaviour, but they are surrounded by actions that bring people together (such as eating together), and situations that expose them to effective primes" (Mitkidis & Levy, 2015).

As I was saying, the innovative side of the ritual is usually underrated, maybe because religion is usually considered in its classical church-like definition, which is related to doctrinal modes and not imagistic ones, which are usually more creative and less constrained to a formal liturgy. Despite this, in CSR there are several models that explore both reproductive and innovative sides. Influenced by Sperber's ideas, Jesper Sørensen (2003) describes ritual not in its symbolic language-like aspects, but as a type of action meant to do something. Adapting Boyer's idea of MCI, Sørensen differentiates ritual action from ordinary actions because of its counterintuitiveness. While ordinary action responds to our intuitive ontological assumptions about how the world works, in ritual action those assumptions are suspended or violated, so the participants feel compelled to create new interpretations of what is happening.

...rituals not only enable the construction of symbolic interpretation, but also facilitate the dissolution and deconstruction of already established interpretations. Rituals can in this respect be understood as generators of symbolic meaning, not because rituals have symbolic meaning by themselves, but because they are actions that violate intuitive expectations and deconstruct established symbolic reference and thereby give rise to alternative hermeneutic strategies used to construct representations of meaning and function. (Sørensen, 2003, p. 219)

This quality gives rituals both a conservative and an innovative social function. Rituals exploit the violation of expectations, thus triggering the search for clues and meanings through two possible strategies: iconic/indexical relations (perceptual clues, a more easily and automatically processing level of categorization), and symbolic interpretations (higher and more complex cognitive processing, related to background knowledge of cultural myths and doctrines). According to Sørensen (2007), in non-ritual action, the connections between the sequence of sub-actions of the agents and the intention of those actions are clearly identified. On the contrary, during ritual action, the disconnection between the elements of the action forces the participants to explain the sequence of sub-actions and proximate the intentions of the agents involved. The lack of causal transparency makes the participants search for meaning through the two hermeneutical strategies mentioned.

Uffe Schjødt *et alii* (2013) develop a similar perspective in what they call a resource model of ritual cognition. The model enables the cognitive effects of collective rituals to be identified and analyzed, with the idea that

they deplete cognitive resources and make participants more susceptible to accepting collective ideas. During ordinary experience, the brain works to make sense of the world by top-down predictive models, which are continuously compared and updated according to bottom-up sensory information. However, if there is a mismatch between predictions and sensory output, the prediction's errors must be redefined. Rituals exploit this by reducing the top-down executive control of the brain. Cognitive resources are depleted mainly by the manipulation of attention and the impairment of executive functions. Various features of the ritual make this possible, such as goal demotion, causal opaqueness, stereotyping, formality, redundancy, and/or the presence of a charismatic authority. These features limit the participant's comprehension of the ritual action, creating an attributional gap in which individual attributions are displaced by collective ones during the post-ritual reconstruction. Cognitive resource depletion makes the participants more suggestible, and therefore more permeable to collective memories, narratives and ideas.

Our model points to a different understanding of the cognitive dynamics of ritual compared to the majority of ritual theories, which claim that features like arousal and ritualized behavior directly improve participants' acquisition of religious knowledge. According to the resource model it is the absence of sense-making in these contexts that makes ritual so effective for transmission when combined with authoritative narratives [...] Religions seem to employ a host of sophisticated technologies that exploit the limitations of human cognition in order to transmit collective ideas, norms, and traditions. (Schjødt *et alii*, 2013, p. 52)

Hobson et al. (2018) propose a framework of ritual that integrates bottom-up processes (e.g. recruitment of perceptual, attentional and memory stimulus; sensorimotor elements of the ritual) and top-down processes (e.g. narratives, appraisals, interpretations). The model includes not only religious rituals, but also rituals in general. Using a cybernetic approach that considers ritual as a monitoring control system, the authors propose that rituals have three regulatory functions.

First, emotional regulation such as anxiety, uncertainty and stress. In this regard, rituals provide a set of behaviors for coping with chaos and disorder. On the one hand, they offer bottom-up strategies related to distraction (e.g. focusing attention away from negative emotions and intrusive thoughts), the need for order (e.g. through the successful realization of a sequence of actions), and the general effect of the reduction

of anxiety. On the other hand, they display top-down processing strategies, such as the transfer of meaning to abstract concepts connected to positive and self-transcendent emotions such as awe and gratitude. These appraisals provide comfort by connecting the past, present and future of individuals with something bigger than they are, which can be God, but also the community, the nation or the universe.

Second, goal regulation, since rituals seem to play a leading role in motivating and preparing people for certain tasks and activities (e.g. pre-performance rituals used by athletes, or rituals used by students before an exam). From this point of view, ritual is described as a device that helps to close the gap between the current state and the ideal state that the person is trying to reach, making her/him more focused. As bottom-up processing strategies, rituals can heighten the focus on the goal context through a sequence of segmented and repetitive actions. As top-down strategies, the successful completion of the ritual generates positive feelings of confidence, control and personal mastery.

The third function is social regulation, which is especially important in large-scale groups where there is a need for enhancing cooperation and obedience. Collective rituals can be regarded as devices to enhance social affiliation and commitment, and also as hard-to-fake signals that display loyalty and trust. As bottom-up strategies, the authors mention the capture of joint attention, and the synchrony of shared physical action. As top-down strategies, the sacredness and/or meaningfulness of the ritual produce more cooperation and feelings of oneness (for a more detailed description of mechanisms and strategies, see table 4).

The general idea proposed by the authors is that every ritual uses a combination of different bottom-up (sensory and motor), and top-down (conceptual and narrative) mental processing, in accordance with certain cybernetic regulatory functions.

We can look at the behavior of a ritualistic prayer as an example of a combination of bottom-up (i.e., biased attention and physical movement) and top-down (i.e., value signaling and meaning transference) psychological processing. A person who prostrates during the Islamic Salat at precisely timed moments is engaging in rigid, fixed physical actions. The stereotyped, repeated movements segment the prayer event and automatically grab the person's attention, focusing his or her experience on the precise completion of the correct sequences. In other words, the bottom-up sensorimotor processing of the controlled segmented ritual actions leads to biased attention. At the same time, doing the ritual correctly signals to the person, and perhaps to others,

that he or she is a devoted Muslim who prays the right way according to the Quranic scripture. In this way, when done properly, the basic movements that comprise the prayer become much more than mere physical movements; they are imbued with sanctity and meaning, each time they are performed. This enhances the value of the ritual experience. (Hobson *et alii*, 2018, p. 264)

Table 4. Ritual organizing framework of Hobson and collaborators (2018)

Processes	Emotional regulation	Goal regulation	Social regulation
<i>Bottom-up: Biased attention</i>	Distraction; block of anxiety and intrusive thoughts.	Immersion and involvement in the goal context.	Joint attention, emotional synchrony; facilitates memorization and learning.
<i>Physical movements</i>	Feel of control and order.	Embodies the motivational features of the goal.	Perception of unity and cohesiveness; facilitates automatic imitation and normative behaviors.
<i>Top-down: Social/self-signaling</i>	Feelings of agency control and personal order.	Boosts confidence and the belief in success.	Promotes loyalty, trust, affiliation.
<i>Meaning creation and transference</i>	Feelings of self-transcendence; escape from ego-based thoughts and anxiety.	Increases value and motivation for the task.	Transfers and reinforces the value of cultural knowledge.

Conversion and experience

Both medical anthropology and CSR show how rituals can trigger a variety of effects in their participants at different physiological, psychological and socio-cultural levels. While medical anthropology focuses on the healing aspects of ritual, CSR's explanations turn on bottom-up and/or top-down cognitive effects. The results of ritual action can, among other things, be the transmission of knowledge, the evocation of memories, the display and/or enhancement of social commitment and cooperation, and the reduction of anxiety and stress. These cognitive, affective and social effects can be directly or indirectly used for health purposes. Both (multi-level) medical anthropology and CSR regard ritual as a cultural device that has a range of psychological effects, and which can eventually produce a therapeutic outcome.

In both areas of research, ritual is a dramatic performance that usually works with memories, emotions and meanings, so its role in the process

of religious conversion is no surprise. In general terms, we could say that ritual is the space par excellence where religious experiences appear, where religious conversion is stimulated, and where religious healing usually comes about. These three phenomena are strongly intertwined. This is why narratives of healing are common narratives of conversion too, and the reason why they are both related to profound experiences of transformation.

Before describing theories from conversion studies, I would like to make an observation. Although some scholars have distinguished spiritual transformation and religious conversion, I consider both as psychologically the same phenomenon. Spiritual transformation is usually a process that ends up with adscription to nonconventional religions, while conversion is to traditional religions with doctrine, organized practices and an institutional structure. I will use both concepts indistinctly for two reasons. First, because I define religion in a broad sense, as the belief in spiritual ontologies, no matter what the characteristics and variations of practices, experiences and beliefs are that surround this core intuitive belief. Second, because I consider this separation to be an artificial distinction between the traditionally studied religions – the church-like great religions – and the emerging spiritualities of the second half of the 20th century, usually labelled as new religious movements (from now on, NRMs).

Studies on conversion and religious experience have a long tradition in psychology and the social sciences, and can be traced back to the origins of the disciplines at the end of the 19th century. At the beginnings of the psychology of religion, the classical approaches to conversion were concerned with North American Protestantism, especially the Great Awakening of evangelical groups with different millenarian, prophetic and utopic worldviews. The classical model of conversion focused on intra-individual processes, defining them as a radical alteration of the self. They were based on the “Pauline experience” – that is, Paul’s conversion on the road to Damascus – which was a radical and sudden shift in beliefs after a profound and divine experience (Czachesz, 2017; Hood *et alii*, 2009; Prat, 1997; Taves, 2005). The first theories of conversion followed William James’ ideas, put forward in his Gifford Lectures of 1901-1902, and later published in the classical book *The Varieties of Religious Experience*. James distinguished between institutional religion, with its norms, beliefs, and

organization, and a personal religion, related to the subjective feelings, beliefs and experiences of individuals in their relation with the divinity. In James' theory, conversion was a psychological process in which religious experience produces a radical and positive change in the person's view of the world and the self.

To be converted, to be regenerated, to receive grace, to experience religion, to gain an assurance, are so many phrases which denote the process, gradual or sudden, by which a self hitherto divided, and consciously wrong, inferior and unhappy, becomes unified and consciously right, superior and happy, in consequence of its firmer hold upon religious realities. This at least is what conversion signifies in general terms, whether or not we believe that a direct divine operation is needed to bring such a moral change about. (James, 2002, p. 150)

First, this is possible because the self is not exempt from incoherence and dispersion. An important psychological aspect of the construction of the self is that it is not once and for all cogently built, so it is not exempt from contradictions. James calls this the divided self. For him, religious conversion is a process that permits the unification of the self. Second, the process of conversion involves a subjective religious personal experience, a submissive and graceful state of the mind in which the self is redeemed, revived and reunited. This movement from an unsolved state of the mind to a liberation through the connection with higher powers is for James a universal experience that can be observed across different religions. James considered this contact with a spiritual realm a phenomenological experience but also an ontological reality.

Summing up in the broadest possible way the characteristics of the religious life, as we have found them, it includes the following beliefs:

1. That the visible world is part of a more spiritual universe from which it draws its chief significance;
2. That union or harmonious relation with that higher universe is our true end;
3. That prayer or inner communion with the spirit thereof — be that spirit "God" or "law" — is a process wherein work is really done, and spiritual energy flows in and produces effects, psychological or material, within the phenomenal world. Religion includes also the following psychological characteristics: —

4. A new zest which adds itself like a gift to life, and takes the form either of lyrical enchantment or of appeal to earnestness and heroism.
5. An assurance of safety and a temper of peace, and, in relation to others, a preponderance of loving affections. (James, 2002, p. 375)

This affirmation of the ontological nature of spiritual experiences is not odd, if we consider William James' interest in spiritualism and psychical research. James' successors continued the psychological study of religion, mainly of how conversion can be analyzed as an adaptive response to identity construction and the search for a new life during adolescence (Hall, 1907; Starbuck, 1911).

In the 1960s, the model of conversion would make various twists and turns, partly because of the appearance of new perspectives in social sciences, but also because of the emergence of NRMs, such as the Unification Church of Sun Myung Moon, the Church of Scientology and the New Age Movement. James T. Richardson (1985) may have been the first person to analyze these changes, describing a paradigm shift from the Pauline model of sudden conversion, to a new gradual and active model. In the old paradigm, conversion was sudden, dramatic, emotional and irrational; a powerful external agent was the cause of the change, and the convert was a passive subject. In the new paradigm, conversion is more gradual, intellectual, and rational. The convert is an active subject in search of new meanings for his/her life (table 5). John Lofland & Rodney Stark's "Becoming a World-Saver: A Theory of Conversion to a Deviant Perspective" (1965) is an important hallmark in the transition from the old to the new paradigm. After studying the first followers of the Korean leader Sun Myun Moon in California, the authors proposed a causal and processual model of conversion that includes two types of factor: *a*) predisposing conditions (background factors, prior to contact with the group; e.g. tensions between ideal state and actual circumstances), and *b*) situational contingencies (contextual conditions of the recruitment, e.g. the management of cult and extra-cult affective bonds).

Table 5. Old and new paradigms of conversion, according to Richardson (1985)

Classical paradigm	Contemporary paradigm
Sudden emotional conversion	Gradual intellectual conversion
Passive convert	Active convert
Salvation and release from sin	Search of new meanings
Adolescence	Adulthood
Intrapsychological process	Interpsychological process

In the 1970s there was a popularization of the concept of cult, associated to a special and negative kind of conversion, regarded as “brainwashing” (García Jorba, 1999; Prat, 1997). In James’ model, conversion was a passive but positive thing; in anti-cult perspectives, the passivity was a negative state that allowed a process of brainwashing and coercion. These ideas came from various anti-cult groups and associations. Sometimes they targeted truly dangerous religious groups. For example, one of the first anti-cult associations was Free Our Children from the Children of God, founded in 1972 by Ted Patrick in San Diego, California. The association was set up to combat the Children of God, a cult founded by Davide Berg, a prophetic leader accused of sexual misconduct on several occasions. Another controversial cult was the People’s Temple, led by Jim Jones, the man primarily responsible for a collective suicide in 1978 in a community he founded and called Jonestown, in Guyana. The tragedy of Jonestown gave considerable impetus to the popularization of the anti-cult perspective in social media and academic circles within psychiatry, psychology, medicine and criminology. The paranoia towards those destructive cults generalized the term to a wide variety of NRMs, which were then analyzed through biased and ethnocentric ideas.

To counterbalance this perspective, academic researchers criticized anti-cult perspective by unveiling the pseudoscientific nature of concepts such as brainwashing (Robbins & Anthony, 1982) and stressing the importance of more impartial perspectives (Stark & Brainbridge, 1985). While anti-cult perspectives remained influential in the mass media, they cast major doubts on the academic world. Scientific perspectives kept a critical distance from the biased and mediatic anti-cult perspectives, and opted for more complex, diverse and comprehensive models. In sociology,

John Lofland & Norman Skonovd (1981) classified the types of conversion into six motifs and five major dimensions (table 6), which revealed the varieties of processes beneath the idea of conversion.

Table 6. Lofland & Skonovd's conversion motifs (1981)

VARIABLES	MOTIFS					
	-1- Intellectual	-2- Mystical	-3- Experimental	-4- Affectional	-5- Revivalist	-6- Coercive
Social pressure	Low/none	Low/none	Low	Medium	High	High
Temporal Duration	Medium	Short	Long	Long	Short	Long
Affective arousal	Medium	High	Low	Medium	High	High
Affective content	Illumination	Awe, love, fear	Curiosity	Affection	Love, fear	Fear, love
Belief-participation sequence	Belief-participation	Belief-participation	Participation-belief	Participation-belief	Participation-belief	Participation-belief

In cultural anthropology, narratives of conversion were described as a process of finding an identity and establishing a social commitment to a particular group, with its positive and negative effects (Cantón Delgado, 1996; Garma, 1985; Vallverdú, 2010). Anthropology analyzed conversion as a kind of rite of passage, in which participants do not completely break away from their previous lives, but create new narratives that negotiate past and present worldviews in different ways to produce new syncretic biographical identities (Austin-Broos, 2003). Ethnographic accounts of conversion provided important descriptions of the relation between religion and meaning, particularly when individuals are confronted by a crisis or an ambiguous situation. Along the same lines, social psychology, and particularly attributional theories, have shown that although most people use naturalistic explanations for daily problems it is highly likely they will use supernatural/religious attributions when meaning, control or self-esteem is compromised (Hood *et alii*, 2009). In this regard, and in comparison with secular meaning systems, religion is usually more comprehensive because it provides a better framework for giving meaning to suffering, death, tragedy and injustice (Park, 2005).

In neurosciences, Patrick McNamara (2009) uses William James' old idea of the unification of the divided self, brought up to date with the latest findings from neurosciences, cognitive sciences and religious studies. For

McNamara, the solution religion offers for the problem of the divided self is the enlargement of the sense of self that occurs during religious experience, in what the author calls “decentering.” He describes four different stages in the process of decentering. In stage I, there is an inhibition of the sense of agency and volition (usually induced by techniques such as fasting, rituals or hallucinogenic drugs). During stage II, the self is placed in the “possible world box,” a suppositional logical space that, during stage III, enables individuals to navigate – engage in a “semantic memory search –” through different ideal selves, which in religious contexts are expressed in the form of mythological figures, supernatural agents, heroic characters and others. Stage IV is the final integration of the old self and the new ideal self into a new biographical narrative.

Decentering reconciles the inner divisions of the self by constructing new narratives of the self, an operation that is important for self-regulation. During decentering, the current executive control over the self is “offline,” so imaginative mental processing dominates the scenery. At a neurological level, according to McNamara, the self is related to the right prefrontal and anterior temporal cortices as key nodes of the neural network of the self. This area is more densely connected to the serotonergic and noradrenergic nuclei of the brain stem, so it is also key to understanding how both religious and psychedelic decentering acts.

The raphe nucleus manufactures serotonin – a neurotransmitter crucially involved in religious experience. A role for the serotonin system in relation to spiritual experiences is supported by observations of drugs that act on the serotonin system, such as lysergic acid diethylamide (LSD), psilocybin, N,N-dimethyltryptamine, mescaline, and 3,4- methylenedioxymethamphetamine. On a behavioral level, these drugs (in susceptible individuals) elicit perceptual distortions, changes in the sense of Self, a sense of insight, spiritual awareness, mystical experiences, and religious ecstasy. They do so by decreasing firing in the raphe system, which then removes the ability of the person to screen out large amounts of incoming sensory information. The person is then inundated with “meaningful” and vivid images. A decrease in serotonin also leads to an increase in firing of dopamine neurons in the circuit. Dopamine is the other neurotransmitter repeatedly implicated in religious experiences. Relatively high levels of dopamine in the circuit create a pleasurable and positive mood. When low serotonin is combined with high dopamine levels in the circuit, the feeling of being inundated with meaningful images and impressions is associated with positive affect, and you are much more likely to get religious experiences. (McNamara, 2009, p. 128)

For McNamara there is a common neurological pattern between religious experience and psychedelics, which is of particular significance for us. Besides, in accordance with CSR theories of ritual, religious experience usually involves the reduction of volition and agency, if we consider “[t]he fact that participants perform acts in a ritual that were not formulated by themselves suggests that participants temporarily suspend their own identities, including their volitional and intentional states” (McNamara, 2009, p. 219). This suspension of volition leads to a cascade of possible events: for example, identification with the deity for the construction of new versions of the self; the enhancement of historical consciousness for the appreciation of historical tradition; the repetition of certain patterns of actions for emotional regulation, cooperation and cohesion. The result of the process can be either positive or negative. Positive consequences include the integration of cognitive and emotional contents, and the stimulation of the healing capacities of the organism. Some of the negative consequences mentioned by McNamara are the production of fanaticism, psychotic episodes and delusional states.

McNamara’s conception of religious experience is not only rooted in William James, but in a general *sui generis* model of religious experience as a special and unique phenomenon. For this model, religious experience has a reiterative and common structure, both phenomenologically and neurologically speaking. McNamara tries to reveal the underpinnings of an extreme, peak and *sui generis* religious experience, which can be set apart from ordinary ones. His ideas resemble a psychedelic model of mystical experience, so it is not unusual for McNamara to explicitly address this connection. However, as various authors have pointed out, the model excludes a wide variety of other experiences, more moderate and ordinary, but no less religious for their participants.

Uffe Schjødt (2009) claims that there is no common neurological correlate of religious experience that could fit all its possible varieties. He also claims that religious practices often recruit the same neurocognitive mechanisms used by normal cultural activities, so there is no intrinsic unique quality to reveal. For example, Schjødt et al. (2009) used fMRI to study different forms of praying in a group of Lutheran practitioners and a control group of non-believers. The results show that in the group of believers the neuronal paths activate normally in terms of social cognition and reward, which shows that praying to God is a speech act similar to daily social interactions. The core idea of the authors is that religious

practice recruits various normal functions of cognitive processing. In the case of personal praying to God, the experience is similar to normal social interactions, both in terms of social cognition and reward mechanisms (Schjødt, Stødkilde-Jørgensen, Geertz, & Roepstorff, 2008).

In CSR, the historian of religion István Czachesz (2013) criticizes the idea of a unique extreme or great experience. He stresses the need to consider moderate experiences too, on a continuum that goes from the more volitional (e.g. Buddhist meditation) to the more resonant (e.g. glossolalia) kind of practices. Most religious practitioners have had in their lives some kind of religious experience on this gradient; not the great religious experience, but mild versions, related to the regular practice of praying, meditation or ritual performances. The practices also vary in accordance with the elements that make up and surround the ritual: the techniques of stimulation, the beliefs and the literary genres of interpretation of those experiences (Czachesz, 2015b).

In the field of neuroscience, Nina Azari and collaborators propose religious experience not as a pure experience but as a composition of both feeling and thinking (Azari & Birnbacher, 2004). The main idea is that religious experience is always an “emotional attitude,” where feelings and beliefs interact, and where cultural and social interpretations play an important role. To test this idea, Azari et al. (2001) used PET to study the recitation of Biblical passages by six evangelical practitioners and six control subjects. They reported greater activation of the right dorsolateral prefrontal cortex and the dorsomedial frontal cortex in the practitioners, as well as lower activation of the limbic system. These findings are interpreted as supporting evidence that religious experience is a mediated process, with the prefrontal cortex triggering religious attributions.

In the field of the history of religions, Ann Taves (2009) talks about “experiences deemed religious.” These are not one but many experiences, which can be labelled as religious in a particular social and cultural context, not forgetting that some experiences are in themselves more likely to become religious (e.g. those related to ASCs). Taves’ ideas are influenced by Emile Durkheim, who defined sacredness as the quality of things set apart from the profane world, labelled and usually protected by certain rules (Durkheim, 1968). The idea is that an object, an event or even an experience is not religious in itself; rather, its religious nature depends on how it is classified by the culture and the group. Social psychology continued this approach through the theory of attribution (that is, how

people attribute certain qualities to objects, subjects and events). In the particular case of religion, supernatural attributions are triggered particularly in critical situations, when the worldview of the subject is challenged, and the need for explanation cannot be fulfilled using natural attributions (Hood *et alii*, 2009).

Ritual, cognition and culture. A final synthesis

So far, I have presented various explanations and theories directly or indirectly related to ritual healing. Medical anthropology has developed different multi-level models in an attempt to explain ritual as a cultural practice that affects mental and physical health by triggering both placebo and nocebo responses. CSR has constructed a variety of theories to explain how ritual interacts with memory, the search for meaning, social cognition, prosocial behavior and cognitive processes, some of which are related to mental health. Studies on religious conversion and religious experience have shown that religious practice is involved in constructing new narratives of the self, which help the individual to find new meanings for coping with and managing existential crisis.

One of the main problems with all these perspectives is whether a general model can be found to explain how ritual works, or whether practices are so heterogeneous that different outcomes are inevitable. On the placebo agenda, although some authors describe a general structure of how healing might work, the placebo response is triggered by a variety of mechanisms. CSR proposes different kinds of ritual, with their respective variety of effects, from Whitehouse's theory of two modes of religiosity to the model of Hobson et al with its variety of top-down and bottom-up effects. The study of religious conversions and experiences reveals the same picture: a variety of conversion motifs and variables, and experiences that range from the mild to the extreme. Psychedelic studies often claim that the variety of experiences is caused by differences in the set and setting (the individual's mindset and the ritual context, respectively). Besides, as I have discussed in previous chapters, psychedelic studies show how hallucinogens cause ASCs whose mild – psycholytic – manifestations help to break down resistance, express repressed emotions and access forgotten memories, while their extreme – psychedelic – manifestations can cause such considerable changes in the subject that they might seem to be religious conversions.

In summary, there is a wide variety of ritual designs, all of which have their subsequent experiences and effects. In my research in Latin America, I analyzed variations in ritual by integrating both cultural and cognitive perspectives (Apud, 2013b, 2015b). The model disaggregated the ritual into several elements: 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 during the specific ritual), cognitive artefacts (set of instruments and techniques used to stimulate and manipulate the states of consciousness of the participants). Later, in my research in Catalonia, I expanded the model, disaggregating not only the ritual and its variables, but also the cognitive functions that are usually manipulated. The framework proposed describes how the cultural techniques of the ritual manipulate cognitive variables to produce a medical outcome in the patient or participant.

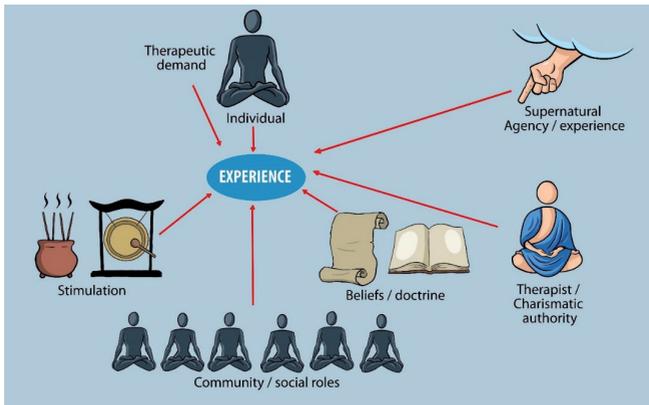


Figure 15. Ritual setting (picture by Nicolás Peruzzo)

The model is 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. Despite its cultural variations, the structure of this dramatic performance is grounded in modular dispositions of the mind, which explains why the patient does not need to understand the nuances of what is happening in terms of

religious doctrine or cultural myth. First, ritual is a universal structure based on an action-representation system, as some authors from medical anthropology and CSR have described. This means that, during the ritual, the patient automatically recognizes someone (an agent) doing something (an action), and has no need to be explicitly instructed about what is going on. Second, as the patient is there for health reasons, the action representation system automatically incorporates a “medical impulse” that organizes itself into a therapeutic plot. This medical impulse is also rooted in natural cognitive dispositions to altruism and cooperation, as they are described in evolutionary theory (De Waal, 1996; Tomasello, 2009), and perhaps in other cognitive dispositions to contamination avoidance and purification, as they are described by developmental psychology (Raman & Gelman, 2005), cross-cultural studies (Haidt, Rozin, McCauley, & Imada, 1997) and CSR (Cohen, 2008).

Practitioners can be therapists, charismatic authorities or shamans. They usually manipulate mythological healing symbols and beliefs (Dow, 1986). They are also connected in different ways to a supernatural realm and/or a superhuman agent that guarantees a particular effect (Lawson & McCauley, 1990). From a multi-level perspective, the classic Weberian notion of charisma can be disaggregated into the manifold components that produce its effect: religious legitimacy is related to the connection with a superhuman agent, the direct access to a supernatural realm, or a prestige bias within the community; the messianic aspect of charisma is related to novelty bias and/or success bias; the hypersuggestivity of charisma is related to context biases, different magical procedures, cognitive depletion, placebo healing responses and social abilities to enhance the regulation of emotions, goals and prosociality. Practitioners can also be in charge of the stimulation procedures, the variations in which determine what effects the ritual has on cognitive functions and emotional states. 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. During the ritual, other members of the community can be present, and not necessarily as mere spectators; they can play a variety of roles. But even when only patient and healer are present, the community is there in other indirect or imaginary ways (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).

The ritual style affects 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 Whitehouse's sense). There is a calendar of weekly sessions throughout the 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 engage the participants with their community, which has its own sense of morality, worldview, history, charismatic figures, spiritual beings and religious goals. In contrast, Peruvian ceremonies are more imagistic. They are unscheduled, less frequent, highly emotional and by no means uniform. Stimulation techniques are used by the *curandero* to guide and intensify the effects of the brew.

Rituals are 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 kinesthesia. 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 is also facilitated or obstructed by individual psychological predispositions to these techniques, which explains why experiences in the same ritual can vary from person to person. 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.

The final experience is the result of an ASC produced by changes in cognitive functions. It is not possible to identify one core model – a *sui generis* experience, a universal diachronic chain of stages or a unique placebo mechanism – underlying those changes. The model I present here is, therefore, analytical and descriptive. It only disaggregates the ritual set and setting into the variables that are usually considered important in the theories I have described (figures 15 and 16).

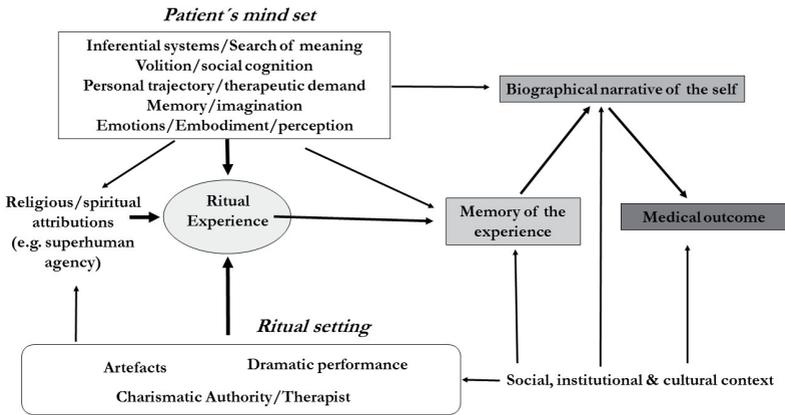


Figure 16. Ritual mind's set

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, 2015a). From an attributional perspective, the ritual's out-of-ordinary experience triggers the search for meaning both during the session and after it. In this regard, although ASC experiences are important turning points for the potential healing effect of

the ritual, subsequent narratives and biographical resignifications are also needed for a therapeutic outcome. The reflexive processes occurring before, during and after the intervention play a major role in both religious rituals and folkloric medical practices, something that is usually underrated by modern biomedical practices (Kleinman & Sung, 1979).

Psychedelics, rituals and healing

In the particular case of the traditional uses of psychedelics, 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 a highly symbolic ritual that produce in the participants strong and culturally meaningful experiences.

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 an omniscient spirit. The moon on the altar symbolizes the life course. The mescaline, together with the rhythmic beating of the drums and the focus on the central altar, produces a state of suggestion that cognitively opens the participants up 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 to the native population of North America, which has high rates of alcoholism, suicide and death.

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 ambiguous to one extent or another, 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 meaning responses – in Moerman’s sense. When the ritual is over, inferential symbolic activity does not necessarily finish, but it has been 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 narratives of the self 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 dialogically 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 with 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) and mental time travel (the capacity to reconstruct specific events of the past, or engage in alternative mental simulations of future events) (Skowronski & Sedikides, 2007).

As I have mentioned above, the construction of narrative and meaning does not necessarily require the participant and the healer to share a cogent myth or doctrine. The only pre-requisite are the conditions that allow 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 patient and healer sharing meaning (Dobkin de Ríos, 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 Ríos, 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 synesthetic 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, the mother of the jungle) or the *yacumama* (a big anaconda, the mother of water), *tunchis* (lost souls), dolphins and sirens (Beyer, 2009; Luna, 1986).

These examples of traditional uses of psychedelics such as ayahuasca and peyote illustrate that the therapeutic effects of these substances cannot be divorced from the cultural context and the ritual setting in which they are used. In terms of the model I presented in this chapter, psychedelics are just one more element in the ritual design. They can be considered as a tool for stimulation, which in conjunction with other techniques (e.g. music, synchronic dances, religious symbols), agents (e.g. a shaman, the community), and beliefs (e.g. spirits, ancestors, cosmological worldviews) produce certain kinds of experience, with different aims. The final experience will not depend only on the cultural context of the group and the immediate ritual design, but also on the patient's mindset, with her/his personal trajectory, personality and cognitive biases.

The same analysis for traditional uses of psychedelics can be applied to modern clinical studies and applications. When the therapeutic properties of a psychedelic are tested in a RCT, we assess how the substance works in a specific clinical setting. This is not a minor issue, if we consider that in other contexts, they can be used for different purposes and with different effects, some of which can be negative. So when a study concludes that a psychedelic has a positive medical outcome, we should add that it worked under particular clinical conditions which, if altered, could result in other effects. Moreover, psychedelics are not easy to assess in double-blind studies. For example, the breaking blind phenomenon is more likely to occur because the effects are easier and faster for the experimental subjects to recognize. During the first period of psychedelic research in the 1950s and 1960s, psychopharmaceutical treatments and RCTs were just emerging. The studies conducted by the psycholytic and psychedelic approaches

mentioned in previous chapters were not designed in the same fashion as today (that is, with a control arm and double-blind procedure).

The historic trials were conducted at the very early stages of the pharmacological revolution that ushered in new methods for evaluating efficacy and safety, culminating in the randomized controlled trial. Prior to standardizing that approach, however, most pharmacological experiments relied on case reports and data accumulation that did not necessarily involve blinded or comparative techniques. The thousands of experiences conducted in laboratory or clinical contexts captured qualitative and quantitative information about doses, experiences, reactions, and insights: valuable information for understanding the nature of the experience, but not necessarily conducive to current experimental protocols. This information was also generated using handwritten documents, not computer-generated datasets, nor readily comparable outcomes using databases, nor even simple statistical analyses. (Dyck, 2018, p. 13)

The advent of the prohibitionist paradigm resulted in the stagnation of psychedelic agenda for several decades. In the 1990s, and with the renaissance of psychedelic studies, the methods of clinical research had changed and RCTs were now the gold standard for assessing the therapeutic effects of a substance. In this context, psychedelic researchers encountered several difficulties, especially in the double blind procedure, since it is difficult to mask the active compound and its notorious effects on conscious experience and behavior (Hendy, 2018; Ona, 2018).

Since the renaissance of the psychedelic agenda, RCTs have been conducted, mainly for studying *a*) LSD and psilocybin in the treatment of depression and/or anxiety in the context of life-threatening diseases (Gasser *et alii*, 2014; Griffiths *et alii*, 2016; Grob *et alii*, 2011; Ross *et alii*, 2016); *b*) the use of MDMA for social anxiety and in post-traumatic stress disorder (Danforth *et alii*, 2018; Mithoefer, Wagner, Mithoefer, Jerome, & Doblin, 2010; Oehen, Traber, Widmer, & Schnyder, 2013), and *c*) the use of psilocybin in Obsessive-Compulsive Disorder (Moreno, Wiegand, Taitano, & Delgado, 2006). Open label – not blinded and without a control arm – clinical research has also been conducted on the use of psilocybin for addiction disorders and depression (Bogenschutz *et alii*, 2015; Carhart-Harris *et alii*, 2018; Johnson, Garcia-Romeu, Cosimano, & Griffiths, 2014), and the use of ayahuasca in depression (Osório *et alii*, 2015; Palhano-Fontes *et alii*, 2018).

In the specific case of ayahuasca, various observational and non-clinical research studies describe no negative effects, and some positive therapeutic ones (Barbosa, Cazorla, Giglio, & Strassman, 2009; Barbosa, Giglio, & Dalgalarondo, 2005; Bouso *et alii*, 2012; Da Silveira *et alii*, 2005; Dobkin de Rios *et alii*, 2005; Franquesa *et alii*, 2018; Grob *et alii*, 1996; Halpern, Sherwood, Passie, Blackwell, & Ruttenber, 2008; Riba, Rodríguez-Fornells, Urbano, *et alii*, 2001; Uthaug *et alii*, 2018). As José Carlos Bouso (2012) points out, these studies are usually conducted within a religious or therapeutic community, where confounding variables make it difficult to discriminate which effects are related to ayahuasca as a substance, and which to the social and cultural aspects of community life. Ayahuasca is used in a variety of therapeutic approaches that implicitly or explicitly combine pharmacological, psychological, communal and/or spiritual/religious elements, so it is difficult to isolate its use from those settings. In this regard, the positive outcome of the treatment may not be exclusively due to the use of ayahuasca, and 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. So the varieties of religious, spiritual and therapeutic practices related to ayahuasca it make difficult to generalize a single model because both set and setting are important to ritual healing.

Despite these limitations, researchers have described ayahuasca's potential positive effects in such specific conditions as depression, grief, anxiety, eating disorders and addictions (e.g. Bouso & Riba, 2014; Domínguez-Clavé *et alii*, 2016; dos Santos, Osório, Crippa, Riba, *et alii*, 2016; dos Santos, Osório, Crippa, & Hallak, 2016; Fábregas *et alii*, 2010; Gonzalez, Carvalho, Cantillo, Aixala, & Farre, 2017; Halpern *et alii*, 2008; Lafrance *et alii*, 2017; Lawn *et alii*, 2017; Loizaga-Velder & Verres, 2014; Mercante, 2013; Nunes *et alii*, 2016; Thomas, Lucas, Capler, Tupper, & Martin, 2013; Tófoli & de Araújo, 2016; Villaescusa & Villaescusa, 2002; Winkelman, 2014). Reactions can also be adverse, especially when the brew is ingested by participants with medical conditions (e.g. hypertension, cardiovascular dysfunctions, pregnancy), mental health disorders (psychoses, patients on antidepressants, which can lead to the "serotonergic syndrome"), and other problems related to the setting and care surrounding the intake (de Oliveira, Moreira, Spinosa, & Yonamine, 2011; dos Santos, 2013b, 2013a; Gable, 2006; de Oliveira, Moreira, De Sá, Spinosa, & Yonamine, 2010; Pic-Taylor *et alii*, 2015).

Classic psychedelics, such as psilocybin, LSD and the DMT of ayahuasca, act as serotonin receptor 5-HT₂ agonists, although some reports have discussed the interaction between other 5-HT receptors, and found more complex interactions (Glennon, 1994; Tófoli & de Araújo, 2016). Link Swanson (2018) mentions five major gaps in the understanding of classic psychedelics: *a)* the problem of the diversity of subjective effects; *b)* the difficulties of understanding how pharmacological interactions at neuronal receptors lead to large-scale changes in the activity of neural populations; *c)* the lack of explanation about how psychedelics induce changes in perception, emotion, cognition and sense of self; *d)* the problem of their effects and how similar they are to the symptoms of psychoses; *e)* the lack of clinical understanding of how psychedelic-assisted therapies act on mental health. The author stresses the need to connect neuroscientific findings with phenomenological descriptions, in order to shed light on some of these gaps. He also analyzes how the psychedelic experience is extremely sensitive to the drug dosage, the set (personality traits, pre-dose mood) and the setting (drug session environment, external stimuli, etc.) (see figure 17). This second cluster of factors is unspecific and extra-pharmacological, but involves a wide variety of processes that we have already mentioned.

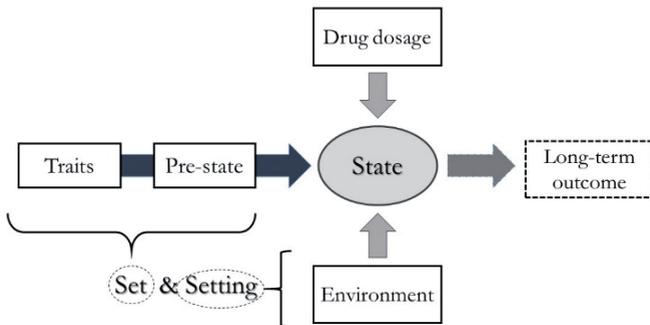


Figure 17. Extra-pharmacological model
(adapted from Carhart-Harris & Nutt, 2017; Swanson, 2018).

Despite these variations, there are common patterns that provide some insight into how classic psychedelics may act in the brain. For the general case of ASCs, Arne Dietrich (2003) proposes the transient

hypofrontality hypothesis. He claims that during ASCs there is a transient weakening of prefrontal executive functions (e.g. working memory, social regulation, abstract thinking, inhibitory control, organization of perceptual information). ASCs are the result of top-down activity being deactivated, the consequence of which is a flood of bottom-up processes. For the case of psychedelics, the author suggests that these "...drugs are not mind-expanding but rather mind-reducing, as they limit the maximum capacity for consciousness" (Dietrich, 2003, p. 248).

An important model in the neuroscience of psychedelics is the entropic brain hypothesis by Robin Carhart-Harris and collaborators. In this model, ordinary cognition is regarded as an ordered system with reduced levels of entropy. This plays a major role in adaptation, since it permits stability, but it also has a negative effect on the flexibility of the system. For the authors, the evolution and development of the human brain included an extended capacity for entropy expansion (a higher repertoire of potential mental states) and for entropy suppression (the development of a mature ego and its associated metacognitive functions). Psychedelic drugs induce the former by interfering with the entropy-suppression brain mechanisms and producing a critical state with higher flexibility that the authors describe in a neo-psychoanalytic fashion as a "primary consciousness" state (Carhart-Harris et al., 2014). The therapeutic effect of these substances is explained by their ability to disrupt stereotyped patterns of behavior and beliefs, although the authors warn that the process should be mediated by a careful therapeutic setting to avoid risks during critical entropic states.

For the specific case of ayahuasca, Jordi Riba and collaborators have been studying the brew in laboratory settings, and they have disclosed important information and models about how it could work. Riba *et alii* (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 bilateral activation of the anterior insula and inferior frontal gyrus – more intense in the right hemisphere – and the activation of the 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 alii*, 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 data from neuroscientific studies, McKenna & Riba (2016) put forward a model for understanding the effects of ayahuasca and other serotonergic psychedelic drugs on the human brain. Current neuroscientific studies have shown that the normal brain processes 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). This second way gives interpretation, knowledge and expectations a leading role in perception (which is important for the theories of attribution and meaning that we mentioned earlier). Interactions from both directions are considered as recursive feed-forward and feed-backward projections in which the incoming information interacts with pre-established constraints, under the control of the executive functions in the frontal cortex. Serotonergic 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 mnemonic, 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 has to respond to if it is 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 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.

The transient hypofrontality hypothesis, the entropic brain model, and McKenna & Riba's ayahuasca model, all share a similar perspective on how the action of the psychedelic produces a non-ordinary state in which executive functions are weakened, emotional and multimodal information emerges, and new interpretations arise, leading to a final rearrangement of the Self. The idea is an inheritor of previous psycholytic and psychedelic models, but adapted and enriched by current neuroscience theories and research methods. However, I would like to add that the characteristics of the psychedelic effects discussed are not straightforwardly therapeutic. They are general cognitive dispositions, which might not necessarily be related to a psychotherapeutic effect. In fact, they may have a negative effect. They may also be involved in a healing process and, at the same time, lead to a full commitment with 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 may depend on the design of the ritual, the individual's mindset, and the cultural, social and institutional context.

To understand this, we need to consider other levels of analysis. 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 with the model presented by McKenna & Riba. But, taking the experience as a whole, Grob remarks how ayahuasca ASCs 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 from the rainforest, visions of distant people 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 and solving crimes. All these uses can also be regarded as medical, 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 specifically part of a psychotherapeutic plot.

In my fieldwork in Latin America, I have interviewed both *curanderos* and Western participants in 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 different forms, depending on cultural, personal and medical factors. So ayahuasca rituals can be regarded as a non-specific way of solving problems, in both the traditional (e.g. witchcraft, cultural syndromes) and the Western context (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 analyze six cases of former addicts treated with ayahuasca.

CHAPTER 7. AYAHUASCA HEALING AND ADDICTIONS IN CATALONIA

During my fieldwork in Latin America, I found that many of the participants in ayahuasca sessions come to the centers and churches with a therapeutic demand. The participants usually mention wanting to find new meanings in life, to understand themselves better, to change certain psychological and behavioral patterns, and to connect with something bigger, both in existential and/or spiritual terms. Recurrent medical conditions are related to mental health issues, especially depression and addiction, which are the two main problems for which psychedelics are considered therapeutically useful. I thought that an interesting next step in my research would be to study some cases of ritual ayahuasca healing, in an attempt to unveil the mechanisms involved, using a multi-level approach. Doing a PhD in Catalonia was a great opportunity, since I was aware of various ventures that treated addiction with ayahuasca. The most important of these was IDEAA, created by Mía Fábregas.

I decided to focus on ayahuasca healing in Catalonia in clinical and religious settings. It is clear that ayahuasca is both a religious and a medical practice in holistic centers and Brazilian churches. Therefore, it was appropriate to analyze the phenomenon from a medical anthropological perspective. From this point of view, the groups that use ayahuasca can be regarded as being embedded in certain health care systems, implicitly and/or explicitly providing a supply of strategies to cope with medical problems. Shamanic practices usually address medical problems under different cultural guises, some of which I have already mentioned for *vegetalismo* (for example, the treatment of different culture-bound syndromes and the combat of witchcraft).

Another medical problem usually addressed by shamans from Latin America is addiction, especially the abuse of alcohol, as the psychiatrist Mario Chiappe pointed out long ago (Chiappe, 1977). The problem of

alcoholism in the indigenous people of Latin America is an important one, and is closely connected to the impact of colonialism, the progressive acculturation of native cultures and the social exclusion of the aboriginal population. In the case of North America, I have already mentioned how the ritual of peyote has been used to cope with medical problems like alcoholism, which are now widespread as a result of Western colonialism. The positive uses of these substances by native people inspired the physician Gabor Maté to use ayahuasca, in a team with Peruvian shamans, to attend addicts from among the aboriginal people of Canada. The results were promising, but the project was later suspended, because of objections by the Canadian government (Thomas *et alii*, 2013).

As I have described in the previous chapter, it is clear that psychedelics act in a wider sense, and not only on mechanisms related to addiction. From a multi-level perspective, they seem to reinforce some of effects usually sought after in rituals, such as the reduction of volition, the enhancement of imagination, the search for new meanings, and forms of social and emotional regulation. They produce changes in self-identity, in social behavior, and in spiritual, cultural and political worldviews and commitments. These changes have an impact on certain medical conditions such as addiction because they are strongly related to cultural contexts.

If we are to understand the use of ayahuasca or peyote in the treatment of addiction, we must not only consider what ayahuasca and ritual are, but also question what addictions are. I will propose a multi-level understanding of addiction. That is, we must analyze addiction not only as a brain condition, but also as a psychological, social and cultural disorder. Below, I will briefly describe various perspectives and integrate all the levels involved in the disorder.

Addiction in its context

The emergence of the concept of addiction cannot be separated from the process of the medicalization of modern societies. As I have already mentioned, this historical process involved the construction of a surveillance network that over the decades became more dense and extended. The regulation of drugs and medicines was part of the process, and some substances that had been used freely started to be controlled:

folk pharmacopeias, home-made remedies and drugs that are nowadays regarded as highly problematical, such as heroin and cocaine (Escohotado, 1992; Romani, 2005; Romani & Comelles, 1991).

Paradoxically, while medicalization was concerned with combating folk and religious superstitions and separating medicine from religious institutions, in the particular case of drug prohibitionism, there was a convergence of interests between religious movements and modern medicine (Apud, 2016). This was a consequence of our Christian cultural matrix. Between the Middle Ages and the Renaissance, substances that induced ASCs were considered to be suspiciously related to paganism. Excesses, lust and intoxication were associated with the Devil, and regarded as forms of subjugating the spirit to the flesh (Escohotado, 1992). This religious concept, based on the old Greek idea of *sophrosyne* (temperance, moderation, self-control), and redefined by Christianity, was the cultural background for the invention of the addict as a “slave” of her/his own passions (Carneiro, 2008). It was from this religious point of view that temperance movements promulgated a crusade against distilled beverages, in alliance with the medical establishment (Levine, 1978). Both groups were particularly concerned with promoting self-control, targeting the excesses of proletarians and immigrants, and defending the social strength of the U.S. middle class.

At the end of the 18th century the physician Benjamin Rush wrote “Inquiry into the Effects of Ardent Spirits upon the Human Body and Mind”. It defined drunkenness as a disease of the will caused by ardent spirits, whose only cure was to “...abstain from them *suddenly* and *entirely*” (Rush, 1823, p. 36). Throughout the 19th century, new descriptions and concepts appeared: Carl von Bruhl’s “dipsomania,” Magnus Huss’ “alcoholismus chronicus,” Norman Kerr’s “narcomania” and Emil Kraepelin and the progressive incorporation of alcoholism, morphinism, cocainism and chronic intoxication into his handbooks (Berridge, 1990; Pascual Pastor, 2008; Room, Hellman, & Stenius, 2015). Alcoholism was the initial model for the construction of the idea of addiction and its features: biological hereditability, toxicity, craving, tolerance, the progressiveness of the disease, loss of control over consumption, and the general idea of addiction as a brain disease (Levine, 1978; White, 2000).

Initially, the concept of addiction as a disease of the brain was a speculative idea, supported by no empirical evidence and based mainly on psychological observations and intuitions. During the first half of the 20th

century, various experimental animal models were developed in order to provide a more scientific explanation (Planeta, 2013). But it was not until the 1980s and the advent of neuroimaging studies that it became possible to study the underpinnings of addiction in the brain (Llanero Luque & Pedrero Pérez, 2014). The fall of psychoanalysis as the mainstream school and the popularization of a biological perspective in psychiatry led to the suspension of previous “soft” methodologies and a greater focus on evidence-based medicine. A renewed framework came to prominence in the biomedical explanandum in an attempt to respond to the evolutionary question of why addiction is so common, considering that it is a non-adaptive behavior that leads to sickness and eventually death.

Two central ideas in the biomedical model are neuroplasticity and the reward neural circuit. Neuroplasticity is the extraordinary capacity of the human nervous system to adapt itself to new environmental situations, allowing human beings to alter their behavior and survival strategies much faster than genetic mechanisms. Neural networks undergo changes in such things as the number of synapses; the shape, structure and functions of neurons; the number of neurotransmitters; the number of receptors on a postsynaptic cell; the signal molecules; gene expression and epigenetic mechanisms (Kuhar, 2012).

But the mechanisms that give this advantage to the human brain are the same ones that make addiction possible. This is particularly the case of the reward pathways of the brain, which are responsible for promoting and appraising such adaptive behaviors as feeding and reproduction. To promote adaptive behaviors, the brain uses hedonistic rewards processed by the dopaminergic system via the mesolimbic pathway (ventral tegmental area of the midbrain, and the projections of its axons through various structures of the limbic system, such as the nucleus accumbens, septum, amygdala and hippocampus), the mesocortical dopamine pathway (ventral tegmental area and its projections to the cerebral cortex, especially the prefrontal area), and the emotional regulation of the prefrontal cortex (de Sola Gutiérrez, Rubio Valladolid, & Rodríguez de Fonseca, 2013; Meyer & Quenzer, 2013; Rodríguez de Fonseca, del Arco, & Ferrer, 2003). Drugs are “false messengers” that act on the neuroplasticity of these circuits, standing between the reward and the adaptive behavior, and replacing the latter with pleasure itself (Friedman & Rusche, 1999). Addiction can be understood as a disease that “...hijacks valuation systems in the brain, resulting in behavioral patterns that no longer optimize biological fitness” (Platt, Watson, Hayden, Shepherd, & Klein, 2010, p. 209).

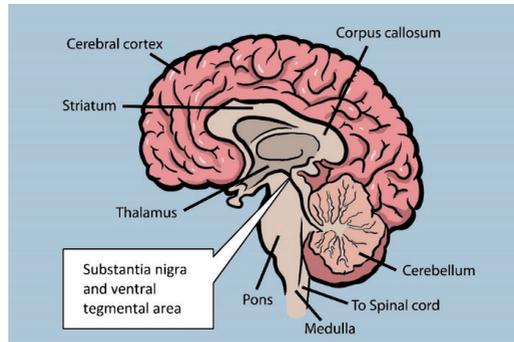


Figure 18. Medial section of the brain (picture by Nicolás Peruzzo)

The craving for the drug is similar to the natural feelings of hunger and thirst, but is produced in an artificial way. The power of the drug lies in the fact that it has a greater effect than natural neurotransmitters. During prolonged exposure to the drug, the brain adapts to higher levels of dopamine by decreasing the number of dopamine receptors. This creates the need for higher doses of the drug to reach the desired effect (tolerance), the unpleasant effects when the drug is not acting in the brain (withdrawal syndrome) and the overall self-destructive cycle of physical dependence (Becoña Iglesias & Cortés Tomás, 2010; Koob, Sanna, & Bloom, 1998; Stoehr, 2006).

But the problem of addiction as a brain disease is that physical dependence cannot explain the variety of drug uses already classified as being addictions. For example, in the case of cannabis and hallucinogens, subjects show a pattern of compulsive consumption without signs of tolerance or withdrawal symptoms; inversely, post-surgical patients treated with opiates can show both tolerance and withdrawal symptoms, but not patterns of compulsion (APA, 1995, p. 184). Physical dependence is not a necessary and/or sufficient condition for addiction. To solve this problem, biomedical perspectives have created another category: psychological dependence. For some authors, this concept was the result of mainstream political and biomedical ideology being unable to classify as addictive several substances that were already regarded as problematic (Escohotado, 1992; Peele, 1990; Room, 1998). Amongst these were marijuana and hallucinogens, which in the 1960s were making trouble in a countercultural milieu.

The biomedical model that regarded addiction as a disease of the brain shifted to a bio-psycho-social model of addiction, which some authors consider to be a kind of paradigm shift (Pedrero Pérez & Ruiz Sanchez de León, 2014). The new model improved the classical model at various levels of analysis: *a*) at a neurological level it included not only the reward paths, but also other brain areas (e.g. the hippocampus for declarative memory, the amygdala for negative emotional appraisal); *b*) at a psychological level, addiction was considered to be a learned behavior, which involved motivation, conditioning, and implicit and explicit knowledge; *c*) at a social level, the learning process was related to a context in which objects, people and the general environment facilitate or obstruct the development of the maladaptive behavior (Apud & Romani, 2016; Barrondo Lakarra & Callado Hernando, 2006; Kilts, 2006).

From a psychological perspective, the idea of addiction as a learning process assumes a sequence of behaviors, mediated by operant and classical conditioning that stimulates the craving. The learning also involves both implicit and explicit knowledge, so the addict learns how to be one, both consciously and unconsciously. One example is Robinson & Berridge's model, which considers reward to be a mix of three psychological components – emotion, motivation and learning – and not a single hot spot in a particular part of the brain. The authors distinguish between the euphoric feeling of the drug (“liking”) and the craving (“wanting”). The latter involves what they call incentive salience, a process in which some stimuli became salient, capturing attention and acquiring incentive properties (Berridge & Robinson, 2003; Robinson & Berridge, 1993).

In the 1970s, several investigations showed that the social and cultural context can play a major role in the development of an addiction. For example, the psychiatrist Norman Zinberg studied the use of heroin by US soldiers during and after the Vietnam War, and showed that the use and abuse of the drug was influenced by the context of war (Zinberg, 1972, 1984). For the author, addiction does not depend only on the pharmacological properties of the drug, but also on the set and setting where the use takes place. In the same decade, Bruce Alexander and collaborators reached the same conclusion, but under laboratory conditions. Their initial hunch was that the addictive behavior observed in laboratory rats was strongly influenced by the deleterious experimental conditions of Skinner's Box. To test this assumption, the authors designed a Rat Park, where the rodents could play and interact with each other (figure 19). In this new setting, the

rats showed lower levels of drug consumption than the rats in Skinner's box (Alexander, Coombs, & Hadaway, 1978).

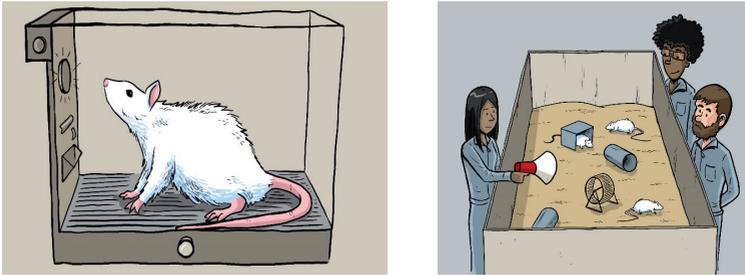


Figure 19. Skinner's Box and the Rat Park (pictures by Nicolás Peruzzo)

The psychologist Stanton Peele proposes a similar social and cultural approach, according to which the addict abnormally exploits normal mechanisms of evasion, gratification and relief that we all use to reduce anxiety in our daily lives. Addiction is exceptional behavior, triggered by social and cultural circumstances. Peele claims that addiction does not exist as a pure biological entity, and physical dependence is only a homeostatic maladjustment of the organism, which cannot explain by itself the complexity of addiction (Peele, 1978, 1990).

In social sciences, the use and abuse of drugs has been studied from perspectives that focus on the relations between substances, consumers and contexts (Romaní, 2007). These perspectives can be grouped into a socio-cultural model of drug use and drug addiction (Apud & Romaní, 2016). The Chicago School made the first contributions to the ethnographic study of the use of opium (Dai, 1937), heroin (Lindesmith, 1947), marijuana (Becker, 1953) and other drugs. In the particular case of Spain, the first urban ethnographies of drugs were written in the 1980s (Funes & Romaní, 1985; Gamella, 1990; Romaní, 1983). Nowadays, ethnographies of drugs have studied cultures and subcultures of the drug; the relation between addiction, anomy and deviation; the study of the social and urban niches of drug culture and trafficking; the stigmatization of the drug addict under a theory of social labelling; the trajectories of addictions in terms of narratives of illness and healing, and the traditional, medical and religious uses of psychedelics (Page & Singer, 2010; Raikhel & Garriot, 2013).

Qualitative methods in social sciences have made important contributions by focusing on the problem from the perspective of the consumers, and the context that surrounds the use of drugs, with its hows and whys. These approaches allow us to study drugs in their “natural” and “spontaneous” social settings, and make a variety of phenomena visible which cannot be recorded in the “artificial” setting of a laboratory. Qualitative research has expanded the study of both drug uses and abuses to the broad cultural context in which the practices are taking place, and how they involve different lifestyles and identities (Romaní, 2000).

Qualitative methods also have the advantage that they can facilitate the study of a population that is difficult to access. The field of drugs and addictions is difficult to enter for reasons of illegality and stigmatization. Ethnography is particularly useful to by-pass these difficulties, since it is sensitive to the daily practices of the consumers, their points of view, common slang, and their trusts and mistrusts. The ethnographic method has constructed various strategies to negotiate trust and confidence so that scholars can access the field. Moreover, *in situ* observation of the various drug uses and ritual practices makes it possible to observe a variety of consumptions, discriminate use and abuse, and determine how possible changes in practices can lead to harm reduction strategies that mitigate associated health problems, such as overdoses, HIV and hepatitis C (Romaní, 1999).

Various authors from the socio-cultural model claim that the classic biomedical idea of addiction as a brain disease is biased by social, religious, economic and political backgrounds, which led to prohibitionism and the subsequent “war on drugs” in the 1970s (Escobotado, 1992; Peele, 1990; Romaní, 1999; Room, 1998; Szasz, 1974). The involvement of different social and political powers makes studying drugs a difficult task. It is easy for researchers to be influenced by certain aprioristic and ungrounded ideas about addiction, drugs, and their related policies. As I have said above, although reward mechanisms play a leading role in addiction, they are only one piece of the puzzle, together with other psychological processes and the context that makes addiction possible. The perspectives mentioned have decentered the old paradigm of addiction as a disease of the brain. Addiction, like all disorders, has a neural correlate, but this does not mean that addictive behavior can be reduced to it. Even if we manage to draw up a precise model of how addiction works within the brain, the problem will still remain in the complex interplay of the neurological,

psychological, social and psychological factors that surround, trigger and maintain the maladaptive behavior. This complexity is recognized to some extent in current perspectives on addiction, which include different kinds of vulnerability factors: genetic predisposition, age at which the subject is first exposed to the drugs, family background, the employment and social situation, and others (NIDA, 2012; Robison & Nestler, 2012).

Nowadays the diversification of clinical strategies shows the complexity and variety of ways to approach addictions. Classical treatments usually involve an initial detoxification, and subsequent therapy, which can range from pharmacological to psychological and communal strategies. Pharmacological treatments include medication such as methadone for heroin and opioid addicts, nicotine patches for smokers and naltrexone for alcoholics. There is a wide variety of psychotherapeutic treatments: relapse prevention, psycho-educational therapies, relaxation techniques, role-playing, development of social abilities, family therapy, group therapy, community reinforcement, training in the management of stress, coping strategies, organization of values and goals, mindfulness, cognitive-behavioral therapies, motivational therapies, psychodynamic therapies, systemic psychotherapy (Becoña Iglesias *et alii*, 2008).

Some approaches fall into a territory between science and spirituality. A paradigmatic example is Alcoholics Anonymous (AA), founded in 1935 by Bill Wilson and Bob Smith. As Eduardo L. Menéndez (1990) points out, AA demonstrated that patient self-support can result in effective treatments. Besides, 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. In his ethnography of AA, Jaume Esteve Blanch (2014) describes their sessions as religious rituals with strong symbolic features. He regards the ritual as a symbolically effective liminal space, with a profound sense of *communitas*. For example, all AA groups must follow a schedule, which determines the passages of AA literature that 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 and addictions

Pricket & Liester (2014) proposed a neurological model to explain how ayahuasca could work as a treatment for addiction. As I have said, dependence is strongly related to the mesolimbic dopamine reward pathway, as drugs of abuse act in the circuit. This circuit involves 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, dopamine as a pleasure neurotransmitter). When released it causes pleasure; when depleted, anhedonia. Although the immediate effect of drugs is to cause pleasure, chronic use leads to dopaminergic depletion, resulting in anhedonia and craving. As the circuit is also connected with areas related to the response to environmental clues, explanations for addictive behavior also include the learning hypothesis, the idea that addiction is a reinforcing reward-related learning.

Pricket & Liester's main interest is to relate the dopaminergic reward system with the serotonergic system, which originates in the midbrain raphe nuclei, sending axons to the ventral tegmental area, the nucleus accumbens and the 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 respect, they regard ayahuasca as an ideal biochemical treatment since it normalizes the reward pathway. 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).

Pricket & Liester call this model the biochemical hypothesis. 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). From a multi-level perspective, all these hypotheses can contribute to the understanding of how ayahuasca can help treat addiction.

The use of ayahuasca to treat addiction is well documented in both Western and local people. The psychiatrist Mario Chiappe (1977) was one of the first to describe how Peruvian shamans used ayahuasca for the treatment of alcoholism. Testimonies of recovery have been reported even in researchers themselves. François Demange, for example, travelled to Peru to cure himself from an addiction to cocaine and heroin. After nine months of recovery, he became a shaman and published his research on Peruvian *vegetalismo* (Demange, 2002). The ayahuasca ritual as a strategy for coping with addiction was also recognized by Jacques Mabit, who created Takiwasi at the end of the 1980s. As in other centers, Takiwasi combines various native and Western strategies for the treatment of addictions: rituals using ayahuasca, fire and water; masses; Peruvian *dietas* and the use of purgative and emetic plants; and alternative Western therapies, such as gestalt and family constellations (Cárcamo & Obreque, 2008; Del Bosque, 2011; Horak, 2013; Mabit Bonicard & González Mariscal, 2013).

Centers that use ayahuasca to treat addictions can be found not only in Peru, but also in Brazil, some of which are supported by the Brazilian churches. Marcelo Mercante (2013) mentions some of them: the Centro de Recuperação Caminho de Luz, founded by a member of UDV in the city of Rio Branco (state of Acre) and the Centro Espiritual Céu Sagrado which belongs to Santo Daime, founded in 2003 in Sao Paulo. These are cases that specifically and explicitly focus on the treatment of addiction, in the setting of a church organization, with its hierarchies, doctrine, rituals, calendar and sacred values. We have also seen that religion generally has a positive impact on the health of its members because of mediating factors such as social support, emotional health, the promotion of healthy lifestyles, a special context that consolidates purpose in life, optimism, hope and self-esteem. So it is not unusual that people with addiction problems often resort to religious institutions to cope with their problem.

One of the first studies to show the potential clinical effects of ayahuasca was conducted by Grob *et alii* (1996) in Manaus in 1993. The aim of the project was to assess the psychological and biochemical effects

of the *hoasca* as it is used by the UDV. The study involved 15 subjects who had been members for 10 years, and 15 control subjects. A variety of techniques were used: psychological and psychiatric scales (Composite International Diagnostic Interview, Cloninger's Tridimensional Personality Questionnaire, Hallucinogen Rating Scale), a neuropsychological test (the WHO-UCLA Auditory Verbal Learning Test) and life story interviews. The analysis of the quantitative data showed not only the absence of health problems, but also a high functional status and the remission of pathologies in the UDV group, compared to the control group. The study reported that the problems with alcohol the patients had had prior to their entry to the UDV remitted afterwards. And the subjects mentioned that the main reason for their recovery was the profound experience of the rituals, which led them to radically restructure their worldviews. This was reflected in the qualitative interviews of all the participants.

All 15 of the UDV subjects reported that their experience with ritual use of hoasca as a psychoactive ritual sacrament had had a profound impact on the course of their lives. For many of them, the critical juncture was their first experience under the influence of the hoasca. A common theme was the perceived belief while in the induced altered state of consciousness that they were on a self-destructive path that would inevitably lead to their ruin and even demise unless they embarked on a radical change in their personal conduct and orientation. (Grob *et alii*, 1996, p. 93)

After the study by Grob and collaborators, other studies assessed addictive problems in ayahuasca groups and showed positive results for the UDV (Da Silveira *et alii*, 2005). Recently, a qualitative study by Talin and Sanabria (2017) analyzed the trajectories of seven Italian members of Santo Daime, cured of their addictions. Using an ethnographic approach, the authors conclude that the central element of the cure is the conversion to a new semiotic world and introduction into the community.

In a qualitative research study, Loizaga-Velder & Verres (2014) interviewed 14 subjects who had an addiction disorder and went to South America to participate in ayahuasca rituals to recover. The subjects mentioned several subjective experiences that helped them to overcome their disorder: insights into the psychological causes of their addictive behavior, the mobilization of positive resources, the reduction of craving and withdrawal symptoms, and, last but not least, spiritual and transcendental experiences that reinforced the meaning and purpose of their life. Loizaga-Velder & Loizaga Pazzi (2014) propose four categories for

classifying the subjective experiences found in participants with addiction problems: body-oriented (e.g. increased body awareness, detoxification, anti-craving), emotional/social (e.g. release of psychological burdens and traumatic life events, contact with emotions, self-forgiveness), insight oriented/cognitive (e.g. insights into negative psychological patterns, awareness of positive personal resources), and transpersonal (e.g. peak experiences, spiritual healing, sense of meaning and purpose in life).

At the IDEAA, Fernández & Fábregas (2014) analyzed the testimonies of 20 Spanish patients and described six fundamental thematic blocks of experiences: *a*) reviews of the past (e.g. biographical revisions, childhood remembrances, negative events related to the drug abuse, traumatic episodes); *b*) psychological insights (e.g. recognition of personal conflicts and patterns of psychological functioning); *c*) emotions (e.g. grief, rage, shame, forgiveness, feelings of love); *d*) death and rebirth; *e*) nature (e.g. connection with the jungle, reconciliation with nature, projection of human qualities into animal or plants), and *f*) transcendental experiences (e.g. feelings of union with the universe, spiritual experiences, transpersonal experiences). Elsewhere, Fernández et al. (2014) made an observational study of psychological changes in 13 patients treated at IDEAA, nine of whom were drug addicts. Although the authors warn about the methodological limitations of the study (small sample, no control group), the results suggest positive therapeutic effects on the dimensions related to dependence.

As I have mentioned above, Western testimonies about subjective experiences during ayahuasca sessions include cognitive alterations such as change in thoughts, loss of control, changes in meanings, biographical revisions, hypersuggestion, emotional changes, body image distortions, visual-spatial alterations, increased capacity of insight, and increased capacity of empathy (Apud, 2013b; Fericgla, 2000; Grob, 1999; Kjellgren *et alii*, 2009; Loizaga-velder, 2012; Shanon, 2010). Generally speaking, these phenomenological experiences match the findings obtained by Riba and collaborators with SPECT, and also the model presented by McKenna & Riba, the entropic brain model, the transient hypofrontality hypothesis, and other current theories on how psychedelics work in the brain. The reduction of volition and rational thinking, the excitability of various sensory and association areas, the emergence of unrepressed memories, the formation of new associations are all fertile ground for introspection, personal reflection and psychological change. But this does not mean that

the effects necessarily lead to a therapeutic outcome. As I have shown in the ritual model discussed in the previous chapter, the ayahuasca sessions can have other goals and purposes, such as indoctrination, memorization of a liturgy, enhancing or displaying social commitment, fighting witchcraft, healing culture-bound syndromes and acquiring knowledge.

Methodological considerations and qualitative research

The aim of the next chapters is to use the theoretical model presented earlier to explain how ayahuasca ritual healing works in the case of addictions. As I have said, the study was not an assessment of the efficacy of the treatment, but a qualitative analysis that tried to uncover the mechanism that allows ritual healing to achieve its therapeutic goals. In this chapter, I will describe the general picture of the 12 cases I studied, and I will then go on to analyze more deeply the biographical narratives of six cases of addicts who used ayahuasca to recover. Four of these cases were treated by Fábregas in Brazil, and the other two came from the psycho-spiritual networks of Catalonia. Explaining these cases with both cognitive and cultural approaches will help us to see ritual healing in its complexity, and not always with positive outcomes. As the Ancient Greeks knew, a *pharmakos* is a double-edged sword: depending on how it is used, it can heal or harm. I will try to show this tension in one of the cases in which healing took place in a controversial institution.

The method in this part of the research is qualitative: it focuses on the case and adopts a biographical approach. As is well-known, in qualitative research the sample is not taken with the aim of being statistically representative of the whole population, but to describe and analyze the cases chosen in terms of qualitative processes and meanings (Marradi *et alii*, 2007; Samaja, 1998; Valles, 1999) in a feedback loop between theory and the empirical data emerging from the fieldwork (Glaser & Strauss, 1967; Hammersley, 1989). Although the theoretical framework was presented in a section separated 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 Spain but also others from previous studies during my fieldwork in Latin America. As I have mentioned, since the beginning of my fieldwork I have interviewed participants who have found in ayahuasca a positive outcome for their therapeutic demand. This demand includes addictions but also other problems such as depression. 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 were 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 in 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 of whom 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 chapter 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 (figure 20). 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 Chapter 9, I will 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.

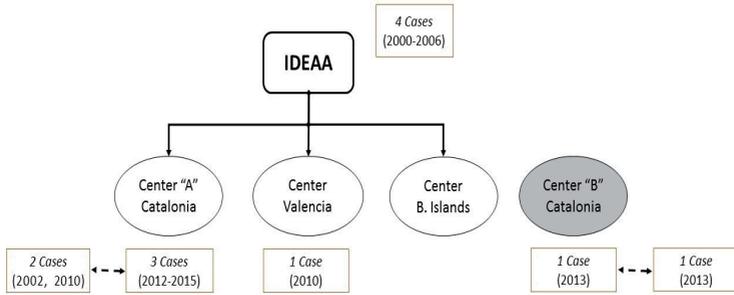


Figure 20. Network of the groups and cases studied

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. 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, it has 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).

Another problem is that dependence sometimes does not have physiological symptoms, only psychological ones. For the ICD-10,

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 (WHO, 2007). 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 tries to avoid stigmatization by using the concept of “substance-related disorder,” instead of the classic concepts of addiction and drug dependence (APA, 2013). 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 11 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 (use causes physically hazardous situations, and 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 they can be said to have recovered. Another difficulty is to evaluate relapses and the role they play in the recovery process (Becoña Iglesias et al., 2008). For example, in most of the cases studied, patients usually consume the substance at least once after the end of the treatment, mostly in response to a traumatic event (e.g. the death of a relative or an important friend), but which they control and subsequently return to complete abstinence. In the light of all these difficulties, the cases were selected for this research in accordance with the following inclusion criteria:

- 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.
- 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.
- 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).
- 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, two females), with a mean age of 41.8 (minimum 22, maximum 57), residing in Catalonia and the surrounding autonomous communities (table 7).

Table 7. Birthplace and residence of the cases studied.

Community	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 with a high educational background (half of them had finished university, and all of them had finished high school). The most common drugs used were cocaine (n=9), followed by heroin (n=5), alcohol (n=5), cocaine paste (n=1), speed (n=1), and hallucinogens (n=1). Four cases are former patients of IDEAA; three cases came from center A in Catalonia, and one case from a center in Valencia. These two centers were founded by therapists who were part of IDEAA. Another case came from center B in Catalonia (see figure 20). 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 gone to those centers.

Ayahuasca's spiritual experiences in the 12 cases studied

No single model could be assigned to all 12 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) report, 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 memories as residing in particular areas within the body. Memories, insights and emotions are usually connected to social dispositions, mainly through experiences of guilt, empathy, self-forgiveness and moral intuitions. This is not a mere coincidental association, 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). When 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 and 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, 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 chapter of 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. In the 12 cases analyzed contact was made with dead or live relatives or friends, animals, God and native people. But the most important, and most often mentioned, is contact with ayahuasca as a teacher plant that 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 takes 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, communicate with it in a variety of ways or experience 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 regard, 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.

However, 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 for meanings that produces a dynamic narrative of the self. As we have seen in the previous chapters, there is an important connection and dialogue between the experience during the ritual, and how the memory of this experience is integrated into the biographic narrative of the self. This integration can

be regarded as 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 8).

Table 8. 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%)	7(58.3%)
Spiritual/Santo Daime	-	3 (25%)
Total	12 (100%)	12 (100%)

As I have proposed in previous chapters, spiritual ontology is an intuitional kind of belief in consciousness being 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 generic to one extent or another, and the interpretations are diverse, particularly in those centers where there is no canonical view or doctrine. This contrast is addressed in the last chapter of this section, which discusses two centers with different styles.

CHAPTER 8. FOUR BIOGRAPHICAL NARRATIVES OF RECOVERY FROM ADDICTION FROM IDEAA

As I have discussed above, the first therapeutic studies with psychedelics in modern psychiatry started in the early 1950s and were abruptly suspended in the 1970s. Decades later, in the 1990s, and with the so-called Renaissance of psychedelic studies, the agenda was restored through different initiatives, both with novel investigations and new clinical applications. In this second period, ayahuasca played an important role. In the case of addiction treatment, the brew started to be used in centers that mixed shamanic, Western and Eastern healing traditions. One of the pioneers was Mabit's Takiwasi. Another leading center was the Institute of Applied Amazonian Ethnopsychology (IDEAA).

IDEAA was founded by Fábregas to treat Spanish cases of addiction that were resistant to conventional therapies. According to Fernández & Fábregas (2013) most of the patients were men, with a mean age of 30 years. Most of these were addicted to cocaine. The center was located near Ceudo Mapia, the headquarters of Santo Daime/CEFLURIS, in the Amazon side of Brazil. The natural and isolated location was in itself therapeutic since – as has been mentioned in chapter 7 – addiction is maintained and developed through the stimuli and context provided by the place where the patient resides daily. The center combined therapeutic strategies from different traditions in a pluralistic and syncretic way: Amazon shamanism, Santo Daime ritual elements, transpersonal psychology, Zen meditation, psychoanalytical ideas, community work, bibliotherapy, breathwork techniques, the use of a personal diary, yoga, psychodrama, individual introspection, among others. All these activities were organized during the week. On Saturday evenings, ayahuasca sessions were held. The ritual was called *chapéu*, which in Portuguese means “hat,” because of the shape of the cottage where it took place. The idea was to organize the other activities

of the week around the ayahuasca sessions, as instances of introspective and integrative work, where patients could reflect about themselves, and especially on what happened during the ceremony, and what could be learned from those experiences.

The *chapéu* was conducted at night, with the participants sitting or lying in a circle on the floor around a humble ornament. The ritual setting was designed with the purpose of inducing self-examination, meditation and introspection. The participants were recommended not to talk or disturb anyone, to close their eyes and to try always to look inwards, to themselves. The ayahuasca was drunk at three different moments, each one of which was followed by a different style of music, designed to induce a particular emotional state.

It was a kind of trip with an ascent, a plateau and a descent, a landing. Each of the intakes has an intention. During the first one, there were mantras, music that produced a particular predisposition, openness, suggestion. During the second one, the music was disruptive, trying to break structures, and [allow psychological contents to] emerge. It was an alternation of disruptive and guiding music. The aim of the third intake was to induce happiness and a good landing... (Interview with Fábregas, 2 December, 2016).

Music was chosen in non-Spanish languages (mainly ethnic and folk music), so as not to transmit explicit messages or dogmas. During the ritual, the therapists acted as “facilitators” and “caregivers,” helping the participants if they had any complications, and holding the setting so that the participants could have their experiences, but without interfering in the content or the personal processing.

After the ayahuasca ritual, there was an “integration” session in which each of the participants could talk about what had happened during the ceremony. The participants were instructed not to judge the others, but they could give their opinion in order to shed light on the other experiences. The therapists also gave their opinions and insights with the same attitude. As Fernández & Fabregas (2014) point out, IDEAA was designed as a pluralistic, flexible and horizontal therapeutic framework. Despite a background of common ideas from perennial philosophy, Santo Daime cosmology, transpersonal psychology and other traditions, the framework of interpretation and analysis was, in their opinion, dynamic and adapted to the personal process and worldview of the participants.

According to Fábregas, the breakdown of structures involved “breaking down defense mechanisms,” and being able to access memories, traumas and emotions. Fábregas’ understanding of how ayahuasca works fits with the general picture of the model presented in Chapter 6: a suspension of ordinary constraints of the self, the emergence of new contents through ASC experiences, and work on the memories of the experience to reorganize the narratives of the self. As I have already mentioned, Fernández & Fábregas (2014) described six fundamental thematic blocks of experiences, including reviews of the past, psychological insights, emotional experiences, death and rebirth experiences, experiences with nature and transcendental experiences. The induction of those experiences through the *chapéu* work was the central element in the therapeutic strategy of IDEAA. All the activities spun around it, as ways of integrating the contents experienced and remembered.

Besides the *chapéu* work, there were other settings in which ayahuasca was used, such as the “cottage work” (drinking the brew alone in the cottage), the “dawn work” (drinking the brew at night, calculating that the effect will start by dawn), the “jungle work” (drinking the brew and walking through the rainforest, in a silent and introspective attitude), rites of passages (a kind of solitary graduation), and occasionally rituals conducted by invited shamans or the participation in works at the Santo Daime church.

I will now go on to describe and analyze four testimonies of former patients of IDEAA who I interviewed in the year 2015. The four cases have already been reported in Spanish in my PhD dissertation and later in the journal *Interdisciplinaria. Revista de Psicología y Ciencias Afines*, under the title “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, from an interdisciplinary perspective” (Apud, 2019). It is important to mention that the names of the subjects were changed in order to respect their privacy. The only exception is the fourth case, Giovanna Valls, who has made her experience public in both the mass media and her book *Aferrada a la vida. Diario de un renacimiento (Hanging on to life. Diary of a revival)* (Valls Galfetti, 2014). For each of the cases, I have selected the most relevant and significant fragments of the interviews. I also used other materials, such as a personal diary in the third case (Rafael), my field notes, and the book by Giovanna Valls. I particularly focused on those

moments of the narratives that were “turning points” in the lives of the subjects (Denzin, 2014), and which, in these cases, are usually related to experiences during ayahuasca sessions.

Case 1. Body and mind

Leonardo is 52 years old, and his problems started when he was a child, with what he describes as “anxiety problems” and a “permanent state of stress” that ended up in an encopresis and, subsequently, a duodenal ulcer.

From an early age, I can't say exactly when it started, I got into a permanent state of... anxiety. I couldn't find myself, I couldn't focus. I was nervous all day long because of what I couldn't do. Because I had things to do but, at the same time, I was blocked, paralyzed. I had a really hard childhood [...] When I was 10 or 11 [years old] I started to... I didn't want to go to class by any means. I was very scared, I had encopresis, which means that I used to shit in my pants. So the only thing I knew when I woke up was that I was going to shit myself... I used to leave home with that burden. And I guess the pressure accumulated, and I was unable to ask for help, and I didn't want to go to classes. What I know is that I didn't want to go to school, so I lay down in my bed, but not because I was ill. And I don't know how to explain this but, in a few months, I had ulcers, in the duodenum, a really strange thing for a kid who was so young, and had never done forced labor. I know it's crazy, but I also know that I stayed in bed because I was afraid, not because I was ill. And nobody can refute me this. It wasn't that I said to myself “I will make this appear,” because I didn't even know what an ulcer was. So, it appeared because of my rigidity, because of the hardness I guess... If you have diarrhea, and if you live all the day with diarrhea, you start to be more rigid to prevent things from happening...

Leonardo connects his permanent state of anxiety and stress with his encopresis and duodenal ulcer, in a style that has a certain resemblance to the old psychoanalytic notion of the “psycho-physiological autonomic and visceral disorders,” nowadays regarded as somatic disorders by the DSM-V (APA, 2013, pp. 309–328). It is worth pointing out that the first thing Leonardo mentioned in the interview was this episode, as if it were a paradigmatic scenario of the other problems that were to come later, related to a personal somatic style of emotional expression. The explanatory model that Leonardo uses to explain this episode of his life is not unfounded; in clinical terms it is quite plausible. First, encopresis is a symptom that may

be related to emotional and behavioral disorders, and can be caused by psycho-social stress (APA, 2013, pp. 357–358), so it is not strange for this to happen to a youngster trying to avoid school. Second, although it is not clear that stress can cause ulcers (Fink, 2011), in Leonardo's case it is by no means odd that the somatization of his stress could be the main cause. We must consider the conjunction of permanent anxiety, psychosocial stress, encopresis and attention deficit hyperactivity disorder (ADHD), which was diagnosed later in Leonardo, and that the DSM-V considers to be a risk factor for “substance related and addictive disorders” (APA, 2013, p. 63). In fact, this was what happened to Leonardo, who looks on his addiction as a kind of strategy to cope with this permanent stress.

This was when I was 17-18 [years old] [...] I started with a friend, [heroin] intravenously [...] And later came the cocaine, and of course, in those times, in the 1980s, I was 18 years old and Spain had just uncorked the bottle. It was a boom, after 40 years of dictatorship. During the 40 years of repression, you had to go to France if you wanted to watch a porn movie, do you realize? And when I found heroin I found the panacea... Heroin was a clear example of self-medication. “This really makes me feel good!” It made my angst disappear, without knowing why. That alertness, the consequence of... consequence of... this disorder [ADHD], that affects me a lot. This is how I explain it to myself, ok? I don't have... it is how I tell it to myself.

[The dependence] was immediate because it was through the vein, which is good, because that way of use doesn't cheat you. The needle gives you a perimeter of one meter. Your body posture is this [he makes the posture when the drug is injected] and your gesture is this... a distance of a meter [...] You are there, bowing your head [...] The first thing you do when you inject yourself is to bow your head, you humiliate yourself to the instrument, and you let yourself go, like a rolling stone, to wherever it takes you... ok?

Leonardo describes his experience with heroin in an embodied style. He attributes strong social connotations to his posture during the self-injection: “bowing your head,” “humiliate yourself to the instrument,” are embodied metaphors.

After finishing high school, and after years of being “hooked” on heroin, Leonardo tried to stop. He went to a rehabilitation center, where he met Fábregas. He managed to recover, and afterwards finished his degree in business administration, and went to work with his father. During the 1990s, the failure of his father's business caused Leonardo to relapse, this time with different physical consequences and accidents.

I had many serious illnesses [...] two double pneumonias... I screwed up my... a heart valve... I broke my spine also... the five lumbar bones. I didn't break the sixth lumbar bone because we only have five! [Laughs]... What else? Ok, Hepatitis and... and... I don't know... traumas, whatever you want, come on! Whatever you want... I dislocated my arm too, it went out from the front... [Accidents] during overdoses... I had... I don't know, I lost count, but these things of going in an ambulance, six, seven times, and saved by a miracle...

Again, Leonardo's story is full of situations in which his body suffers the extreme consequences of his addiction. Leonardo's experiences of illness are strongly embodied, from his earlier psycho-physiological visceral reactions, to his problem with heroin, and the embodied metaphors surrounding his addiction rituals. This embodied style continued after being hooked on heroin, causing him several health problems: two pneumonias, several accidents, broken bones, all during overdoses and blackouts. It is at this point of the story that Fábregas suggests Leonardo should go to Belo Horizonte, just when IDEAA was starting as a pilot project.

I was bad, totally broken... I underwent four sessions [of ayahuasca] before I realized what was happening. I thought that they were giving me nothing at all, because of the dirt I had inside, all the filth, there was no chance that anything could filter inside me, ok? [...] The first year and a half were terrifying for me... like a centrifugation every session. If it had been up to me, I would have quit immediately, because I was... being taken through everything I'd been through, what I had done, the terrible state I was in. Flashbacks of those bad moments, of the decisions that could have taken me one way but I chose the other, and pam, pam! [...] Lots of memories, biographical reviews, about the problem that we were dealing with, ok? Things from my childhood too, but the most important problem was the one that had brought me there [...]

To watch this, re-experience all of it, and take it out of me... the thing that was inside me. I don't know if I'm explaining myself. It was a release [...] In the process you ask for forgiveness [...] And you see things and you release them, you re-experience, remember, and release them [...] These experiences were accompanied by moments of continuous crying, three hours without stopping, for example, and that is a release... [...] and you get rid of all the pain you carry inside... [...] and of course, all these scars [he shows a lot of scars that he has on his arms] make you ask, why? Why are your shoulders like this? And why did you break your backbone? And why are your arms like this?

Leonardo's testimonies about his experiences with ayahuasca have many similarities with those of other participants: the presence of biographical reviews, the increased capacity of insight, the experience of forgiveness as essential to the healing process. But in Leonardo's case there is also a particular recurrence of embodied experiences, expressed in his narrative as body metaphors. As I mentioned in chapter 2, mental states are not amodal and abstract experiences, but are often expressed as grounded cognitive bodily states. In some of their expressions, they may be able to lead to somatic symptoms or autonomic and visceral disorders, all conditions that were expressed through the body. Considering the whole of Leonardo's biographical trajectory, we can hypothesize this could be related to a specific psycho-somatic style of expressing both illness and healing. In the case of ayahuasca experiences, Leonardo's narrative is full of somatic metaphors: being "dirt inside" with no chance "that anything could filter inside" him; to "get rid of all the pain" he "carries inside;" and the body as a mirror of his addiction, expressed in scars, broken backbones and disjointed arms. Although body experiences are not rare during ayahuasca sessions, for Leonardo they played a central role, as metaphors of both illness and healing.

Finally, Leonardo recovered. Meanwhile, IDEAA moved to Prato Raso, and Leonardo, in better health, started to help as a caregiver. This new role was also useful for his recovery, through the logic of the wounded healer, which is a reiterative topic in shamanic and neoshamanic ethnographic studies. Subsequently, Leonardo was to play a leading role in the recovery of other patients at IDEAA, as described in the cases below.

Case 2. Lies and jaguars

Miguel is 51 years old, and comes from a Catholic family, but he never committed to a religious or spiritual tradition. He has three sisters and he describes his childhood as normal and happy.

In those times I used to go to an Opus Dei school [...] And ever since I was a little boy the reports said I was maladjusted [...] We were maladjusted kids because we didn't fit into Opus' discipline. It was a very rigid school, it wasn't that we were... Plainly, we were active kids, that's all the story [...] When I was 13 years old, the Opus school advised my parents to take me to a boarding school. So they took me, to a school in the Pyrenees. And I was there, 13 years old [...] At that time here in Spain Franco died, so all kinds of drugs entered

[the country]. The Pyrenees are on the border [...] So, what happened? When I left [the boarding school] at 15 years old, I had already consumed alcohol, hashish and amphetamines. I came back home, and my friends were still kids...

So I came back when I was 15 years old, and my parents took me to a school that had just opened, hyper modern, and I went there. [...] And there I found heroin [...] First, sniffed, later smoked [...] At 15 I tasted it, at 16 I was already hooked. And I didn't stop until I was 25 years old, in 1988 [...] All my life turned on obtaining heroin. There was nothing else in the whole world [...] But I was going to work, I fulfilled my obligations, and I always did what I had to do. So I spent eight, nine years that... only heroin, heroin, heroin, heroin... until the impairment was dreadful [...] After that, I began a journey through all kinds of psychiatrists, psychologists, miraculous detoxifications, sleeping cures... trying everything. Until I decided to enter a [therapeutic] community. That was in 1988, I was 25 years old. And there I met Josep Maria Fábregas.

Miguel stayed in the therapeutic community for a year and a half and, after leaving, he had a relapse from which he could not recover again, and over the next 14 years he joined various communities and was given several treatments.

And I reached that point of... I was 38 years old when we entered the Ayahuasca zone. I went to visit doctor Fábregas [...] As a last resort, he suggested I try ayahuasca in Brazil [...] And ok, in 2002 I went to Brazil, to the center [...] When I started to drink ayahuasca [...] the first two months [...] during every session I had convulsions. Strong ones. Really serious ones. [Fábregas] told me "those are defense mechanisms," but fuck! I didn't understand, because I was wide open! The plant gave me such shakes! And I didn't understand why [...] The day of my first departure, three months later, when I was coming back to Spain, I drank and [...] during some of these convulsions I saw some of the things I used to do, and some of the scenes from my life... stupid things I had done [...] all really mean and selfish [...] and that was why I convulsed. I was a fool then... well... maybe not a fool... I didn't get it, but [the plant] was giving me all the clues for my process, for my healing. I didn't understand what was what. The plant was giving me clues [...] My way of relating with others was really manipulative, of everything and everyone, even with the substance. I used to manipulate everything according to my needs. Ok, you wanna tell me this? No, you are going to tell me that. I used to manipulate everything.

Miguel came back to Spain and three days later he relapsed again. After a few back and forths between Prato Raso and Spain, and with the same pattern of behavior, Miguel finally decided to stay in IDEAA for more than a year in an attempt to recover.

In my case, and in the case of other drug addicts too, life becomes a continuous lie. Everything was a lie. And the plant showed me that my world was a world of lies. And when I started to pull it all out, it turned out it was all a lie! And this is a critical moment in the process with ayahuasca. It's the moment when you connect with all of that, and it's really difficult to feel happy about that. The most common thing is... feeling so damned scared, because of the void you suddenly see in your life. Fuck! If everything was a lie, then I am a lie. And that is what it's really like. That moment is a delicate one. You have to be aware, and give lot of support to those who are going through this [...] The person who helped me most was called Leonardo. I didn't let myself be helped, you know? That was the problem...

And when I started to feel better, [the plant] showed me in various situations that I had lied to people [...] I started to laugh... ha-ha-ha, you are ridiculous, ha! [...] I laughed at... I couldn't believe that... I thought I was so clever... and I was such an asshole! When I started to heal, I started to laugh, all these things started to happen, and I watched my attitudes and I said to myself, Good God! Have you been like this all your life?! There were moments I couldn't recognize myself! Fuck man, it can't be you! You did this, behaved like that. I believed I was the cleverest guy in the world and I was a clown! I spent a few months laughing in every session [...] And when I felt much better, I started to put my life in order and to forgive myself [...] My work was drinking, drinking and drinking [ayahuasca]. And understanding little by little. For me, there was no peak experience that showed me everything and changed my life. No, no, no... I had to drink a lot, many times, and then to use the information [the plant] gave me, after putting it in order.

Miguel's experiences show us this work of unveiling the unconscious through a process of biographical reviews, deconstructing an old identity built on "lies" that were functional in a drug addicted lifestyle. Miguel then went on to reconstruct a new narrative of himself by giving new meanings to his past memories to fix the broken self and build a new biographical narrative. A repeated vision during Miguel's process of narrative reconstruction was a jaguar, a common mythological figure in traditional and Western ayahuasca visions. Miguel describes this animal as an essential entity during his healing process.

...because it was the jaguar that gave me the shakes [...] I used to stroke him, too... And nowadays I use him as my power animal, and my animal of protection, without any doubt. Because he gave me the shakes, but also consoled me later [...] I interpreted that this jaguar is my inner struggle against the mistaken personality I used to have [...] Now the jaguar has become a part of my life. He is the one that makes me calm. The sort of calm

that comes from experience. I saw my past self as an asshole, unimportant compared to a jaguar, who knows where he is going, what he wants, when to go hunting, when to rest, when to take care of his young [...] At first I didn't know what this jaguar was doing to me... what he was saying was... [he is] the inner force I had inside [...] Now the jaguar is part of me. Because now I'm sure of what I do.

We can regard the jaguar as a symbolic representation whose open and multimodal nature triggered a variety of inferences and interpretations. It produced new meanings and identifications while remembrances and insights flowed through Miguel's consciousness. In his narrative, the jaguar shows Miguel the true meaning of his past and represents a powerful healing force inside him. Finally, he is also an idealized figure of who Miguel should be.

Miguel's healing process finished once and for all during a ceremony, where he promised the plant to help others if it helped him to recover from his addiction. After this covenant, Miguel felt that he was more "soft", "tolerant" "empathic" and "connected with a loving side" of himself. He started to help in the center and, after his arrival in Spain, he became a reference for the rest of IDEAA's patients, through the same logic of the wounded healer mentioned earlier. Nowadays, Miguel has his own center, where he conducts ayahuasca sessions, helping people with their ailments, including addictions. In the next chapter, I will describe one of his patients, who recovered thanks to the help of Miguel and the ayahuasca sessions.

Case 3. Fights and troubles

Rafael is 49 years old, and was born in a family that he defines as "normal", "Catalanist", and "left-wing", where religion was absent. He has a brother, and the whole family used to manage the family business.

I never accepted authority for authority's sake, so to speak. Even when I was a little boy [...] And when I started high school [...] I immediately started with joints, alcohol... I made a group of friends, all of us liked music, mostly Lou Reed, David Bowie, Led Zeppelin, all that stuff [...] I was 15 years old... [the year was] 1980, 1981, approximately. We hung around rock & roll bars in Barcelona, all of them in Chinatown [...] And when I was 17 or 18 more or less, I met a group of people who were dangerous, already in gangs, violence and stuff. There I first tried... I was taking cocaine for a while [...] And one day, I injected myself with heroin. I was around 17 or 18 years old, I don't

remember exactly... I remember that when I got high I said: "This is what I've been looking for all my life!"... My life... I was 16... 17... 18... but... for me, it was a great discovery [...] And, obviously, and with the same obsession as always, I started with heroin, convinced that it was controllable [...] The first year, year and a half, I was doing everything fine [...] And the time came when I lost control of things, and I was using [heroin] every day [...] After that, I joined the others in trafficking... We also committed robberies and other crimes, mainly cash machines and things like that. And things started to get out of hand...

When I was 20 years old I went to Mia's therapeutic community [Fábregas]. Surprisingly, I made a paradigmatic recovery they told me [...] It was a year and a half [...] [After the recovery] I started to work in a rock discotheque. And there things went wild [...] I started with motorcycle gangs, and with parties again [...] I started trafficking drugs [...] There were lots of stories, good times, bad times... lots of meals, parties, hookers, bad thoughts, persecutions, paranoias, policemen, arrests, deaths, everything that comes with [drugs].

During that time, there was a big police investigation [...] Everyone above me was arrested and put in jail. This was an opportunity for me to take control of the business [...] One of the Colombian guys I worked with suggested I go to Colombia with him [...] And while I was trying to organize the trip... I was afraid of being involved in that... my brother called me and said: "Hey man, I had a phone call with a proposal to go [to work] with Josep María Fábregas! Man, come with me so you can meet Mia [Fábregas]." [...] So I [went there] and spoke with [Fábregas], and he showed me where Prato Raso was. It was near the border with Colombia, and I thought, "now, this is my chance." I was under surveillance [by the police], so I thought, "I'll go there for a month, a month and a half, to the clinic of Dr Josep María Fábregas. From there I'll call my family, and they will see that I've retired from everything. Then I'll look for someone to travel with me through the Colombian rainforest. I'll make the deal, I'll return to Brazil, and then I'll return from Brazil [to Spain]."

Finally, I arrived in Prato Raso. The first month there, it was, yes, no, yes, no... And when the deal was more or less closed, the telephone line went down [...] The telephone was out of order for two and a half months. And I was waiting, and drinking, and drinking [ayahuasca]. When the telephone started to work again, I remember I went to an ayahuasca session and, the next day, during the integration, I started to cry. And I told Mia, "I can't do what I used to do anymore. I can't and I don't want to. I'm not capable anymore, after all the things that have been revealed by this story. I can't spend my life on this". It was impossible. I started doing those things when I was 16 years old. And then Mia told me, "What are you going to do?" [Rafael replied] "Now I have nothing else to do but stay here and finish this."

The experiences that Rafael describes during ayahuasca ceremonies are also biographical reviews, but in his case the most important ones involve violent episodes: “fights”, “pain”, “suffering”, “harm”, “violent scenes”, “aggressions”, “atrocities” are all words he commonly mentioned.

I closed my eyes and saw everything: monstrosities, knives, all really macabre. But at the same time I was fully aware of what was happening [...] When we did the integrations... I understood lots of things [...] about what I had done, why I behaved like that, my complexes, my fears [...] What I paid the most attention to was the topic of violence, I understood why I was involved in drug trafficking and all the other stuff...

Rafael describes feeling a “dirty conscience,” and being “disgusted” by what he had done. Psychologically speaking, all these experiences are related to the social aspects of cognition (e.g. empathy, intuitive morality, theory of mind), which are common topics in psychedelic experiences. In this regard, maybe ayahuasca, as well as other psychedelics, acts directly or indirectly on neuropsychological mechanisms related to social cognition, such as empathy, mind reading, social imitation, altruism, self-perception and perception of the others (Winkelman, 2017). Interestingly, substances such as MDMA seem to incite social behavior not only in humans but also in octopuses, which suggests that serotonin could be related to a neurotransmitter system shared by vertebrate and invertebrate species (Edsinger & Dölen, 2018).

Prosociality is an important factor in mental health problems, and especially in addictions, because they always involve social problems. In a broad sense, human beings are naturally 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 healthy development. As Cloninger & Kedia point out, 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 behavior 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).

Besides the effect of psychedelics on social cognition, the continuous social interaction that is part of being in a therapeutic community within the rainforest is in itself an amplifier of social cognitive mechanisms.

During the interviews, and in his personal diary, Rafael describes some people as key figures in his recovery. Among them are Leonardo and Miguel, both of whom were caregivers when Rafael came to IDEAA as a patient.

I was suffering a lot, I was having a really bad time. Mia didn't know what to do because I... I was very sensitive. I was pulling my hair out, making holes in the ground [...] And Mia told me, "Look, you have been here for three months and a half, and we don't know what to do with you." I was suffering like an animal, sweating, crying, I was a mess [...] So he told me, "The only thing we have come up with is that, one day, and by surprise, some of us will go to your cottage at 4 a.m. We will take you to the jungle, to do a day's work [with ayahuasca]. You have to go with one of us, whoever you want, it can be Leonardo, Miguel, or someone else." I told him, "With Miguel, then." [*Fábregas replied*] "And you have to promise me that you will drink everything we give you. We have to go there and break it, because there is no other way. You are resisting and suffering... The secret is trust, and you have to let yourself go." And I told him "Well, then I am in trouble!"

Fábregas advised Rafael to do some "special work" to "break his resistance." To this end, Rafael had to "trust," to "let himself go," which, as has been shown in previous chapters, is at the core of the ritual procedures (the depletion of cognitive resources, the weakening of executive functions, the suspension of self-transaction and the permeability to the transactional symbols of the cultural context, among others). Rafael describes his experience of Mia's "special work" in his personal diary.

Miguel turned up at my cottage at 4:30 in the morning [...] Around 4:45, we had our first drink [of ayahuasca], which is very strong. We watched the sunrise, and talked, mostly about our family, and brothers [...] What I tried to do was to live in the present, enjoy the moment. I managed it, more or less. We went down to the river and I enjoyed it very much. We returned to the cottage, I read a little, the Tao, and I felt comfortable. It left me with a good feeling, but it was not great work.

The second drink was very hard to swallow. It was too much and it was too thick. When it started, the vomiting was so strong that I fell to the ground several times. I stayed there for a while. The noises, the sun, and the insects oppressed me. I realized that I couldn't enjoy the moment, because I was always thinking about the insects, the sun, the noises... I couldn't let myself go, and I fought against it. I had a really bad time. There was a moment when I asked Miguel to stop all of this. I thought that I was unable to walk. But when Miguel started to walk away and told me he was leaving, my fear of

being alone was stronger and I followed him. My movements were extremely clumsy but I could walk.

When we arrived at the hillside, we sat down. I made a real effort to get there. The sun was unbearable at that point [...] We walked along a road that turned into a ravine. Every step I took I thought I was going to die [...] Finally, we arrived at the bottom. I had to sit down for a while, I was restless, uneasy. I felt insecure because we had gone so far. At one point I thought we wouldn't know how to come back [...] We reached the top, sat for a moment on a log, and then continued. The sun was burning, and we discovered a burnt landscape that made me feel bad. It was lifeless [...] I came back really tired. I had worked hard but I wasn't happy. I knew that the only thing I had to do was to trust and accept [...] On our return we rested. I went to the log by the river and I felt good because I had managed it. A tic or a spasm I had in my throat disappeared. For a moment I thought I had a repressed urge to cry or scream. It was like my body wanted to explode, or throw out something locked in.

I thought it was 5 or 6 afternoon, and that we had finished, when Miguel took out another bottle, and told me that it was 1 pm, and reminded me of my promise to drink everything they gave me. This was too much. I held the glass in my hand for more than 20 minutes. I didn't dare to drink it. I invented all kinds of excuses, but Miguel wasn't buying any of them. Several times he told me "drink it!" Finally, and pissed off, I told him: "This is the biggest exercise of trust I've done in my whole life!" And I drank it. I don't know what it was but it was really thick. I was frightened and I was also tired, physically, psychologically and mentally. I was broken, I tried to overcome the fear and give up. I tried to enjoy it. I hung the hammock and thought: "I'll just have to trust in God."

According to Rafael, that was the worst and the best day of his life. That day "Rafael died, and another person was born." It was the old Rafael's last "display of rebellion". Afterwards, the new Rafael wept, but this time his tears were of "joy and plenitude." This episode was a turning point in Rafael's life, and his therapeutic process in IDEAA. On his return to Spain, and with some difficulties, Rafael set up his own center, and decided to affiliate to Santo Daime. He now has his own groups of practitioners.

Case 4. Death and God

The last case from IDEAA will not be anonymous because the patient interviewed, Giovanna Valls, has already shared her experience in the mass media, and has published a book about it (Valls Galfetti, 2014). Giovanna is 50 years old, and considers herself a Catholic. She was born in Paris, in what she describes as an excellent family environment. Her father was a Catalan painter. Her mother a Swiss-Catalan teacher. Her brother is Manuel Valls, a renowned French politician.

I was born in Paris, and I went to a public school [...] My parents had little money and... my father was a man who had to struggle every day in front of a painting, of a canvas, to sustain his family. He was a man of faith, Catholic, and a religious practitioner. But he didn't instill that in us [...] While my brother at 18 decided not to continue believing, and got involved in politics, I never stopped believing... never. I have always been a practitioner, I have never stopped believing... never. I was always a practitioner, I never stopped believing, until my life broke into a thousand pieces. My life was quite normal, full of intellectual wealth, because my house was visited by great geniuses, exiled in Paris, who used to live there... writers... musicians [...] I never had any kind of trouble. But when I was 18 I fell head over heels in love, and it went so badly that it left me fragile, disoriented, humiliated [...] And when I was 20 years old, I was at the home of some people I knew, and they suggested I sniff a line... white... of heroin... I foolishly, naively tasted it [...] and it hooked me, immediately [...] After just two weeks I realized I was hooked, and that I had to face the problem [...] and in 1985 I went to a center for detoxification in Barcelona [...] a therapeutic community [...].

After that, I lived a normal life, more or less, for 10-15 years. Working in tourism, selling books. With my flat, my partners, my life [...] Then disgrace happened to me at thirty-something... It's not that I fell in love, but I met a man [...] who was an alcoholic, abusive, and all that comes with that. For almost a year I endured his abuse, his insults, horrible events. And when I finally got away from him, I felt so... humiliated, that, instead of looking for help, for protection, I let myself go [...] and the first person I met in the street offered me cocaine [...] First, I sniffed... and next I quit cocaine, I detoxed from cocaine [...] But the worst came when... I had just quit cocaine, I hadn't taken heroine for almost 15 years, and suddenly I met someone who asked me "wanna go for a ride?" [...] And I let myself get injected for the first time. And, now that I was over 30 years old, heroin came back into my blood, and it hooked me again [...] And a week after being injected, I got infected with AIDS, and with Hepatitis C [...]. I injected myself for more than 5 or 6 years, I lived the life of a junkie, injecting myself with heroin and cocaine more than 10 times a day [...] stealing, going to jail [...].

Finally, and after hitting bottom at the age of 40 and weighing 38 kilograms, Giovanna decided to enter a therapeutic community with Fábregas. She did a seven-month course of treatment, got detoxed, and remained in abstinence. It was in that point that Fábregas suggested she go to IDEAA in the Amazon rainforest, and finish her treatment once and for all.

I went to Brazil in the spring of 2005. I was already healthy, but my viral load was too high, and my defenses too low [...] I took lots of retroviral drugs, and I went to Brazil with more than 16 pills to take every day [...] I arrived there with a group of 4 or 5 people [...] And during the first week, doctor Fábregas arrived too and we did the first session [of ayahuasca] with him [...] There was a big fire, and I remember I sat there, a little bit dizzy, but ok. And when I was looking at the stars and the sky, I started to shed some tears. And what tears they were! It was a feeling that is... really hard to explain. Because it was like a torrent, but not of sadness. The first time I drank it, ayahuasca did something to me. It taught me, it showed me, it made me realize that it could help me, ok? And as the hours passed it showed me more tools... [...] That was the first of many, there were more... and more... [experiences] of undergoing... suffering... I've vomited many times... many, many, many... many, many, many, many times [laughs]. And I've cried a lot, and I've felt terrible, but... I could put, little by little, feelings and sensations in their place, in each of the boxes. Doors that open, doors that get closed [...]

The experiences that Giovanna describes are mostly biographical reviews, related to family memories, or bad experiences in drug related situations. She also expresses a variety of emotions such as love, guilt and suffering. Giovanna mentions the process of self-forgiveness, and the feeling of being forgiven by her relatives and friends as an important step in her recovery. Giovanna points out that forgiveness and moral values are an essential aspect of all humanity which go beyond any religion. And she also recognizes a connection between them and the reconciliation with her own faith. In that process, an important role was played by one experience in which she felt the presence of God, and the recurrent encounters with Death, in a variety of symbolic manifestations.

I believe in God, and I had a beautiful session, with my eyes closed, and with someone at my side, as if you were there. I felt the presence of God, who came down to my side. But I didn't want to see him, I didn't move like this [she turns her head to the side] and look. I was content just to feel. These

sensations make you feel good in life because they make you stronger. They truly reconcile you with your true self, with what you are.

But most of all, what I fought most during the ayahuasca sessions was death. Death, which I had challenged many times, and of which I was not afraid but... when they told me, when I was 36 or 37 years old, that I was infected with the AIDS virus, and that I did not have much time left if I continued living as I was doing... I believe that what made me react and stop using drugs was my will to live, and my little desire to die. And with ayahuasca, death came to me in thousands of ways. And I say death because I connect with the emotion of death, the meaning of death in the literal sense of the word, not with a world beyond.

Both kinds of experience are relevant to both psychedelic studies and the phenomenology of religious experiences. First, the classic idea of a sentiment of *majestas*, the encounter with a superior being and the feeling of finitude, of being a creature, in both its beauty and sublime aspects (Otto, 2008). Second, the topic of death is common in psychedelic studies, and is usually related to the potential benefits of near-death experiences for inducing changes in the behavior and self-identity of the patient, and also for treating terminal patients with end-of-life distress.

I came back [to Catalonia] from Brazil for the first time, after four months, because the hospital, needed to take some tests to see how I was. And I returned [to Brazil again] because my defenses had gone up by 38%, and the viral load was undetectable in my blood. A miracle? I don't think so. The rainforest climate, the mosquitos, the ayahuasca, the retrovirals, the rage, the solitude, everything, I think, created a kind of shock therapy.

Just as Giovanna analyzes, the psychoneuroimmunological impact of the treatment cannot be ascribed to a single factor, but to a variety of components, of which ayahuasca may be the least important. In fact, research has shown a negative transient immunological effect of ayahuasca (dos Santos et al., 2011), as well as no lasting effects in the long term (Andrade et al., 2004). For the case of HIV, ayahuasca seems to produce a transient reduction of CD3 and CD4 leukocytes, which are involved in the destruction of the infected cells (dos Santos, 2014). Therefore, the pharmacological effect of ayahuasca should be negative, at least during the effects of the substance. But, considering the multi-level perspective presented here, we can hypothesize that this temporary effect is not significant when considering the variety of other non-pharmacological effects, such as the emotional, cognitive and phenomenological aspects

of ayahuasca experiences, the social and ecological context in which the ritual and the therapeutic strategy are held, and the variety of therapeutic strategies displayed before, during and after the ritual.

HIV is a disease that directly affects the immunological system, so we should expect a special psychoneuroimmunological sensitivity to the treatment. Research shows that the progression of the symptoms depends on a variety of factors: physical health (nutrition, exercise, sleep routines), mental health (anxiety, depression, stress) and psychosocial variables, such as the social network of support and life style of the patients (Feaster et al., 2000). All these factors were positively managed in IDEAA. Furthermore, ayahuasca may have a negative pharmacological impact on immunology, but its psychological effects could trigger a variety of positive experiences ranging from the biographical to the spiritual and mystical, which can lead to different placebo responses associated with hope, meaning and self-healing. For the case of religious practice, this effect has been studied in the gay HIV population, in which a positive correlation was found between religion and higher levels of CD4 leukocytes, as well as lower levels of depression and anxiety (Woods, Antoni, Ironson, & Kling, 1999).

Finally, Giovanna and the other cases discussed show that ayahuasca works personally with each of them. As a “teacher plant” and “therapist,” ayahuasca showed Giovanna different experiences, memories and sides of herself. Sometimes, the “plant” showed Giovanna aspects of herself that she had ignored, forgotten or underestimated.

In the sessions with ayahuasca, from time to time, something emerges from behind, telling me, “I’m here!” And there were times when, under the effects of ayahuasca, I sometimes started to cry, or maybe I threw up... That bitch [the drug-addict self of Giovanna] is still there! But ayahuasca is showing me this. Why? Maybe because I had a bad thought, or simply it reminds me of this because I have to keep it in mind.

Final conclusions

The four cases described show the same characteristics as those presented by Fernández & Fábregas (2014), both in content (biographical revisions, insights, emotional and transcendental experiences) and process (initial stages of reviews and cleansing, final stage of conciliation). Biographical reviews and psychological insights were the most common experiences during ayahuasca sessions. And they were also the experiences the patients

considered to have most therapeutic value. These experiences were usually associated with emotional states such as happiness, relief, sadness, grief, rage, shame, forgiveness and love. Remembrances, insights, and emotions are usually connected to social dispositions, mainly through experiences of guilt, empathy, self-forgiveness and moral intuitions. These are not mere coincidental associations, since humans are social beings, so we construct our identity on social interplay. Narratives of the self are always about social agents with intentions, in a social scenery with rules and a sense of what is right and wrong (Bruner, 1986). In the case of drug dependence, patients have no option but to go through the social consequences of the patterns of behavior associated with the drug. 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.

The experiences and effects of ayahuasca rituals cannot be understood without considering the social and cultural background that surrounds them. This includes not only the ritual (the setting), and the individual (the mind's set), but also the activities of "integration" organized during the week, and the social interaction of the members of the therapeutic community. In the particular case of IDEAA, the ritual and the various activities of integration were directed at introspection, in a psycholytic style rather than a psychedelic or spiritual one. But this does not mean that spiritual experiences were excluded. As Fábregas mentioned more than once, spirituality was respected, but not induced. When present, religious experiences were treated as part of a personal material to work with.

The importance of ayahuasca is related to how significant ritual experiences acted as turning points in the patient's biographical construction of the self. But it is not experience itself that produces the changes, but rather what István Czachesz (2017) calls the memory of the experience, that is, how the experience is re-signified later in social interactions, with the help of cultural narrative styles and symbolic tools offered during the psychotherapeutic process. In our cases, the participants called this process "integration," which involved a variety of therapeutic settings that induced reflection. Integration is an important factor in the recovery of patients because it triggers positive changes in the biographic narrative of the self. In the psycholytic-like style of IDEAA, the dialogue between memories of the experience and narratives of the self played a central role in the recovery.

Finally, each of the four cases described has its own particularities: in Leonardo, a somatic style of expressing both illness and healing; in Miguel, the presence of the jaguar as a symbol that triggered new meanings of the self; in Rafael, the central role of social cognition, mostly moral intuitions and empathy; in Giovanna, her experiences about faith and death, and the psychoneuroimmunological response to the treatment. From a classical biomedical perspective, the interplay between memories of the experience and narratives of the self are usually considered under the label of unspecific factors, a placebo response. From an interdisciplinary perspective, such as the one presented in this research, the mechanisms can be identified, using psychological and cultural levels of analysis.

As was described by Fábregas, the integration process in IDEAA was eclectic and pluralistic, and involved a minimum of indoctrination. IDEAA was a place for self-reflection, in which each patient displayed their own subjectivity, in order to solve a specific therapeutic demand. The therapist was a “facilitator,” supporting the patients in their own process. But it is important to mention that this is only one of the many ways ayahuasca rituals can be performed. Other traditions involve different aims and settings. For example, in the shamanic traditions ayahuasca is often used to combat witchcraft or deal with culture-bound syndromes. In religious institutions it can be used for indoctrination, enhancing social commitment or helping with the memorization of semantic religious knowledge. In psychonautic settings it could be used for recreational and/or introspective purposes.

Therefore, the positive or negative effects of ayahuasca depend on several factors, not only the brew itself. In this regard, ayahuasca rituals are no different from any other kind of rituals. They are cultural practices that produce a variety of cognitive and social effects, depending on how and why they are used. Ayahuasca is one more element that interacts with other physiological, psychological, social and cultural factors. If we want a better understanding of its effects, we should consider all these aspects. And to this end, we must consider different perspectives and disciplines, and avoid monodisciplinary reductionism.

CHAPTER 9. TWO CONVERSIONS IN CATALONIA

In the previous chapter, I analyzed four cases of recovery from addiction through a therapeutic strategy that used the ayahuasca ritual as a main element. I described the center where the patients were treated as pluralistic and horizontal, with the exclusive aim of a positive medical outcome. The center was a secular one, with no other adjoined religious or spiritual goals. Participants could have their own spiritual or religious quests – this was the case of Giovanna, for example – but spirituality was considered to be a private matter. The center ensured everyone would have a space for their own personal process, whether it was religious or not. IDEAA functioned using a management style closer to that of a standard psychotherapeutic secular medical center than that of ayahuasca groups within psycho-spiritual networks. So we should be cautious when transferring the cases of the previous chapter to other cases from church-like groups like Santo Daime, or spiritual groups within holistic centers.

One of my concerns during the research was to avoid providing a biased description of ayahuasca's effects. Studies on ayahuasca often tend to show the positive side of its effects in order to help the substance be recognized for religious and/or therapeutic purposes. Indeed, it is true that ayahuasca usually helps people in different ways, like finding a healthy religious environment, fulfilling spiritual needs, and even curing psychological problems such as addiction or depression. But it is also true that, like in any social or religious field, not everything is bright, and lots of conflicts, problems and harmful things can happen. During my fieldwork with ayahuasca groups – but also with other religious groups – I witnessed both the bright and the dark sides, ranging from groups with trained directors and a positive style of organizing and conducting their members, to light-headed directors, disconnected from reality, and training groups in potentially harmful ways. The odd thing in this last kind of group is that a positive therapeutic outcome is also possible. As I will show in one of the cases in this chapter, ritual healing can occur too, because meaningful response is in some way blind (or maybe one-eyed?) to reality.

To avoid presenting ayahuasca and ritual healing in a biased light as a straightforward positive process, I decided to search for a negative case of recovery from addiction. The use of a qualitative approach allowed me to do this, since the intentional sampling of qualitative research permits cases to be selected according to the theoretical inquiries of the researcher and without the constraints of statistical representativeness. I decided to find two cases of ritual healing in contemporary Catalonia, one “positive” and the other “negative,” and compare them. The first case was from Miguel’s center. As I have already mentioned, Miguel’s process finished with his commitment to help others to use ayahuasca. Nowadays he has his own group, where people come looking for both therapeutic and/or spiritual answers. For the second case, I contacted a group with a charismatic leader whose discourse was at once radical and entrepreneurial. Comparing the two cases was a relevant and interesting task, since they both went through a process of spiritual conversion.

In both cases, I used in-depth interviews from a biographical perspective. I also used participant observation – by attending the ceremonies at both centers – and documents drawn up by their respective groups (mainly on the internet). It should be pointed out that the names of the subjects and any references that could identify them have been changed or erased. For each case, I have selected those fragments of the interview that I considered most relevant to the topic. As in the previous chapter, the selection of the contents focused on the narrative’s turning points, which in our specific cases are usually 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 into 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 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 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. [...]

The drug that has done me most harm is speed [...] I was working in a hospital. And I had been working for four days without sleep [...] 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 [...] I 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 felt 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 was directed by Miguel, the patient from IDEAA mentioned earlier. During his therapeutic recovery, in one ayahuasca ceremony, Miguel made a commitment to the "plant". 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, and the style is similar to that of IDEEA's *chapéu* work. 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 participants are usually recommended to close their eyes, and it is forbidden to talk or disturb 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. The main aim of the first intake is to enter into the experience, using music to relax and meditate. During the second intake, music is played to disrupt and go deeper into the inner self. The final intake is more conciliatory, with happy and peaceful music. As in IDEEA, the design of the ceremony is a secular one: there are no religious or spiritual symbols, beliefs or doctrines. Although the 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 "caregiver" who helps 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 support techniques. Although the center does not belong to a spiritual tradition, religious doctrine or psychotherapeutic school, ideas from 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 experience 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. 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 not likely that this had any sort of influence over the experience. We could hypothesize that in other places such as the reiki center there was some unconscious priming, or that the general experience of a spiritual realm can be spontaneously experienced by the individual. 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 chapter 7. 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 one 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 which were connected 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 way to blow off steam [...] 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 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 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, and the goal of the ritual is to engage in self-reflection and break resistances. But the institutional style is very different from that of IDEAA. 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 (in CSR terms, the statement of an immediate connection with a “culturally postulated superhuman agent”). 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. This is something that he has already achieved, thus making him a successful spiritual entrepreneur (success bias). 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 (novelty bias).

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. I made this connection later... and then I started to give 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 superhuman 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" away from 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 their 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 (prestige bias), and after an 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 figure. 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 at 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 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. [...]

In some way, the indoctrination helped Ernesto to cope 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.

Final 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 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 replacing traditional religious 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, transmitting a 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 indoctrination is not about the final content of beliefs. It is about the process during the search for meaning. For example, both Daniel and Ernesto mention the belief that we are spiritual beings living a human experience. They also talk about a spiritual dimension from which we connect and project ourselves to 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 disenchanting 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 a membership and sense of 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.

Using the variables from Lofland & Skonovd's conversion motifs theory (1981), we could say that Daniel's conversion involved low social pressure and high affective arousal. It did not last long, and the sequence started with participation and finished with spiritual beliefs. His conversion was in between the mystical and the experimental motifs, and was both gradual and sudden. 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 involved high social pressure and medium affective arousal; it was also a short-term process, but doctrine and beliefs preceded participation. This conversion was a mix between revivalist and intellectual motifs. Ernesto's conversion is more doctrinal and seems a desperate act of surrender to a charismatic authority who has the answers that can solve his therapeutic demands.

But can it be said that Ernesto's case is a cult in the negative sense of the term? The problem is a complex one and impossible to fully address in this book. It is important not to fall into the biased vision of the "danger of the cults," more commonly used by the mass media than by the professionals who work in the field. The problem of how to distinguish between a church and a cult is strongly related to the tension between secularization and religion, mainly after the emergence of the NRMs (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 demagoguery, indoctrination and suggestion. Besides, key concepts that define the idea of cult such as brainwashing and mental control are not scientific but pseudoscientific metaphors (Robbins & Anthony, 1982).

To solve this problem, some authors distinguish between "cult," which implies only a minority religious group, and "destructive cult," which includes "absolute devotion" "manipulation" and "isolation" from the family and social circles (Rodríguez & González, 1989). However, if we want to go deeper into the matter, and understand and discriminate true destructive cults from the others, we should go beyond the classic biased concepts of brainwashing, 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.

Most rituals manipulate cognitive processes in different ways to transform the sense of identity and the biographic narrative of the individual. The action of ritual should be understood as a universal biocultural practice (Geertz, 2013), used for different psychological and social issues, and as practice useful for the general process of socialization in religious and nonreligious institutions (Long & 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 weakening of volition and executive functions, which can be used for different purposes. The ritual of ayahuasca is a good tool for breaking consistencies, decentering the self, weakening volitional constrictions, allowing unconscious material to emerge, and having 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.

GENERAL CONCLUSIONS

Throughout this book, I have analyzed a variety of topics related to ayahuasca rituals. These topics progressively emerged during my fieldwork in both Latin America and Spain. The main topics analyzed were: the intersection between spirituality, science and ayahuasca; the understanding of ayahuasca within health care systems from the perspective of medical anthropology; the construction of a multi-level (cognitive and cultural) model to explain how ritual healing works, and the use of this model to analyze various cases of addiction in Catalonia. I have also analyzed my own implication as a researcher from a reflexive anthropological perspective. In this final section I would like to make some final remarks on each of these topics.

First, I analyzed the intersection between spirituality and science in the general history of science, in the history of anthropology, in the history of psychedelic studies and in ayahuasca studies. I analyzed how the contradiction between science and religion is a result of modern science focusing on cause-and-effect relations and rejecting final causes, spiritual ontologies included. But the expulsion of intentionality was unsustainable and, sooner or later, they were considered in different disciplines, from biology to social sciences and psychology. Moreover, many scientists were still religious in their private lives and, as psychological individuals who seek a cogent worldview, they produced a variety of syncretisms. Moreover, scholars in the field of psychedelics are more prone to spirituality because they often experiment with the substances on themselves. This experimentation induces in them different kinds of experiences, some of which are spiritual. Ayahuasca studies are no exception.

It is important to mention that the category “ayahuasca” is in itself a product of the permeability between science and religion, in what Tupper & Labate (2014) call the “ontology of ayahuasca.” 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. 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, for strategic reasons associated with securing political legitimacy for their religious practices. However, outside the church setting, a wide range of preparations may be dispensed as “ayahuasca” in contemporary indigenous, mestizo or hybridized ceremonies, sometimes unwittingly and sometimes knowingly. Moreover, *yage*, which is usually made of *B. caapi* and *Diplopterys 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 wide range of brews and assorted admixture constituents. So “ayahuasca” can be considered as a conceptual generalization of a heterogenic compound related to different sociocultural practices, including scientific research. Both academic agents and religious institutions such as Santo Daime and UDV intervene in this construction. All these social agents constructed the category “ayahuasca” as an abstraction that serves in disputes, negotiations and legitimations in the drug policy arena.

Second, I analyzed ayahuasca networks within alternative health care systems from the perspective of medical anthropology. This included analyzing the relations and disputes between different health care systems, within a total medical system in which practices are legitimized in their interaction with the State, and national and international institutions. 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 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,

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 ones.

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 within 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, which produces ignorance in the governmental authorities and the general population. The blind spots of the prohibitionist paradigm have generated a situation in which ayahuasca ceremonies are increasingly being attended, but the attendees often have no information about the effects the substance might have. Policies should not prohibit its use but provide citizens with information about ayahuasca, its practices and the potential benefits, drawbacks and risks. For ayahuasca, like other substances, the ideal scenario should 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. In the construction of these instances, academic researchers should provide the various institutions, centers and policy makers with help and expertise.

Third, I have proposed a theoretical multi-level model to explain how ritual healing works, integrating cultural and cognitive elements. I have used this model to analyze ritual healing in different cases of addictions treated with ayahuasca in Catalonia and surrounding areas. The interdisciplinary perspective presented here describes 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 and, in a feedback loop, they also change them, always within the limits of the natural constraints of the architecture of the mind. 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 deal with social and psychological problems.

I have presented the ritual as a dramatic performance in which cultural symbols, tools and social interactions are used to produce cognitive effects on the patient. In turn, these trigger a variety of potential therapeutic effects in the short, middle and/or long term. The ritual's cognitive effects are useful in certain mental health problems, since they cause a variety of experiences that can alter the participant's worldview, self-identity and social behavior. In the cases presented, the recovery from addiction was not due to a single cause. Several effects had 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 cases could be described as a kind of spiritual conversion.

Like other kinds of ritualistic activity, the ayahuasca ritual is a “therapeutic employment” (Calabrese, 2014). These kinds of traditional strategy for dealing with health problems should not be excluded from the range of therapies for treating addictions. NIDA's principles of effective treatment state that no single treatment is appropriate for everyone (NIDA, 2012). Western therapies offer 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, some resistant cases go through all kinds of therapies without finding an effective solution for themselves. Half of the twelve cases I studied went through several conventional therapeutic strategies without finding a solution to their problem. Some of them were spiritual or religious people, but others were not. 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 kinds of people.

But... could spirituality or ayahuasca be regarded 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 no, at least in the cases studied here. 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, 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 to have social ties and to project ourselves onto everyday life in society. Our brain is an organ that is naturally adapted to be social, and our happiness depends on being with 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 so that we can rest and recover mentally and physically. A sedative state of consciousness and the temporary rejection of daily problems are 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 from 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 most addicts seem to lack. 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 book, address the 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 cases presented in this book, I have analyzed how ayahuasca rituals played a major role in the reconstruction of the individual's self-narratives, producing different effects and changes, most of which were positive, but some of which can be negative. 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 here 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 are 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, and their effects are not essentially psychotherapeutic. They can also be associated with other kinds of goal: for example, combating witchcraft, or suggestion techniques for indoctrination.

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 ritual experience into the biographic narrative of the self. 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 common patterns in the experiences with ayahuasca related to social cognition.

The positive and/or negative outcome of the ritualistic use of ayahuasca depends on several factors, not only the brew itself. In this respect, 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 need to 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 process of healing is a delicate one, 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 occur 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 many factors that vary from case to case and from group to group. Indoctrination is not necessarily harmful, and doctrinal modes of religiosity were and still are an important technique in cultural transmission.

Although the last case studied in the previous chapter could give the impression that it is a kind of destructive cult, I recommend the reader to go beyond these stereotyped conceptions of certain religious movements, and remember that 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 groups, 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 us to understand not only that religious people are susceptible to acritical thinking, but also that indoctrination is a general process that is part of our daily life.

The interdisciplinary model presented in this book is an attempt to make a multilevel analysis using various theories and models 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. I have only tried to shed more light on a topic that is usually viewed through different lenses, but which rarely combines 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 state-of-art of how the human mind works. It would also be wrong to dismiss the cultural context in which they are used. The ethnographic method, as well as other qualitative approaches, should be a part of health assessment more often because it completes our understanding of real life interactions.

Finally, yet importantly, my concern was to introduce myself into the text under a reflexive anthropological approach. I have tried to do this by describing not only my personal experiences, social affiliations, and cultural belongings, but also my academic perspective. I have explained my academic point of view, and the theories that influenced my understanding of the cases. I hope that the sections and chapters of this book 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 influenced this book.

It is important to stress that there is no final and univocal explanation of the topic studied. I conducted my research as a humble contribution to current interdisciplinary perspectives, mainly in the field of medical anthropology. As I see it, thinking about the world always reduces it to a particular model, in an attempt to understand it better in rational terms. But it is always a good thing to accept our intellectual limitations. 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 think that my explanation, like any explanation, is incomplete, and that ultimately these experiences have something ineffable 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).

Despite this consideration, I think it is valuable and worthwhile to analyze and explain religion in not only cultural but also psychological and evolutionary terms. I will not fully enter into this discussion, since the debate goes beyond the scope of this book. I would merely like to mention that we will not be able to understand ourselves in scientific terms without an evolutionary perspective of how and why we, as human beings, are in this world here and now. If we want to better understand why we as humans believe in gods, spirits and the supernatural, we should put all these beliefs and related practices and institutions into the natural history

of our species, which includes, but also goes far beyond, the universal history of humankind in the humanistic sense of the term. And, when considering evolutionary history, we have to recognize that our mind has certain natural dispositions, acquired during the biological development of human and non-human life.

Readers may think that I am contradicting myself. First, I affirmed the ineffability of religious experience, but then I went on to say that it must be explained in scientific terms. I do not see any contradiction between the two claims, if we consider that scientific theories are never ultimate and complete explanations. Besides, analyzing the naturalness of religion does not contradict or probe its ontological foundations. As Daniel Dennet explains:

I might mean that religion is natural as opposed to supernatural, that it is a human phenomenon composed of events, organisms, objects, structures, patterns and the like that all obey the laws of physics or biology, and hence do not involve miracles. And that is what I mean. Notice that it could be true that God exists, that God is indeed the intelligent, conscious, loving creator of us all, and yet still religion itself, as a complex set of phenomena, is a perfectly natural phenomenon. (Dennett, 2006, p. 25)

When Dennet says “natural phenomenon” he means nature in the sense of natural selection, which involves a biological and neurological hardwired brain, with certain cognitive abilities and constraints. All these cognitive mechanisms are in the foundations of human experience, including culture and, therefore, religion. Again readers may say that Daniel Dennet would be less condescending with religion than I am. But the fact that Dennet says this reinforces my claim. The scientific study of religion does not necessarily exclude or deny spiritual ontologies. As researchers, we analyze religion like all other social phenomena, proposing models that reduce reality to particular categories. In the end, they are models, which may or may not be useful, and which to some extent or another will accurately reflect the reality studied.

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This book summarizes Ismael Apud's ethnographic research in the field of ayahuasca, conducted in Latin America and Catalonia over a period of 10 years. To analyze the variety of ayahuasca spiritual practices and beliefs, the author combines different approaches, including medical anthropology, cognitive science of religion, history of science, and religious studies. Ismael Apud is a psychologist and anthropologist from Uruguay, with a PhD in Anthropology at Universitat Rovira i Virgili.

