# How to become an ethnobiologist: against the cultural monopoly

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## Notes on Ethnobotany

*This text is a revised version of one of the chapters of a book I recently published in portuguese (Albuquerque 2022) entitled *Learning Ethnobiology*.

## Abstract

In this note, I construct a narrative that defends the interdisciplinary aspect of ethnobiology based on my experience as ethnobiologist. While I point out the criticisms that the discipline receives, I undertake an exercise of self-criticism, defending that the divergences that exist in the discipline can be overcome with a real understanding of its nature.

*Keywords*: Brazilian anthropology, ethnobiology, ethnoscience.

As a biologist interested in studying human beings, I have often heard that I should study anthropology, and my first experience in the field (Albuquerque, 2017) was strongly guided by this idea. This speech has always seemed to me to indicate that human beings are a property of anthropology, and for some time I even believed this a little. I need to clarify, however, that I am not interested in all aspects that concern our species, only that part that concerns how we interact with nature and how these relationships evolve and explain how and why we act in certain ways in relation to that same nature. This implies understanding our cognition, our behavior, and even our religion. Undoubtedly, we are a very complex species, and trying to reduce all our complexity to the interest of just one field of study (such as anthropology) is a movement of scientific, philosophical, and epistemological privatization. However, I only came to this understanding after many years of studies, in which I built myself as an interdisciplinary scientist. Consequently, I now find it difficult to fit into any of the epistemological categories that are placed before us in the academy. However, if I feel "obliged" to explain my area of interest, I say that I am a biologist or ecologist interested in human beings.

My concept of ecology transcends, perhaps, the most classical understanding, as I see the human being as an "object of study" of classical ecology. As a social species, we interact with each other, with other species, and with the environment. We shape this environment by considering our needs and are shaped by it. I love to call ourselves "the greatest planet niche constructors" (see Albuquerque et al., 2015, 2018, 2019) given our ability to modify the environment, altering it for other species and their future generations as well as our own species. Because we are influenced by what was "built," we inherit environments in addition to genes and culture. Understanding this dynamic game of forces poses a great challenge for understanding the ecology of our species. Note that I said that we are the "biggest" niche constructors, albeit we are not necessarily the "best"—there is thousands of evidences that we do not always make the best decisions.

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When I started my career as a young biologist, I was interested in studying the relationship between Afro-Brazilian religions and plants. At that time, I needed to consult the vast anthropological literature on Afro-Brazilian religions. I made several forays into the Center for Philosophy and Human Sciences at the Federal University of Pernambuco, spending hours lost in daydreams in the library. It was in this scenario that I began to shape myself as an ethnobotanist. In the book I wrote shortly after my graduation, entitled Introduction to Ethnobotany[1], today in its third edition, I interpreted ethnobotany as a kind of crossroads between the natural sciences and the human/social sciences (more specifically, anthropology), and I defended this point of view for many years, until I realized that studying the relationship between people and plants or between people and nature would imply different perspectives, not necessarily limited to a biological or anthropological perspective. In short, this is what we intend to establish with the interdisciplinary approach of ethnobiology: its potential ability to dialogue with different disciplines in an effort to understand the human being and its interrelationships. That said, ethnobiology does not need anthropology; however, it can diversify into it. The same can be said of any other dialogue that we can establish in the epistemological spaces in which different areas of knowledge interact.

I went through several phases until I reached the current one, in which I consider ethnobiology as a science of interdisciplinary nature that is concerned with studying human beings in the environment (see Wolverton, 2013). Considering my trajectory, I can change my opinion later, but this understanding of mine is commensurate with the way I think and conduct research today. In this sense, I prefer to reserve the term "ethnoecology"[2] for the more political dimension of ethnobiology, something that has come to be called "political ethnobiology." In other words, I think that the terms "ethnobiology" and "ethnoecology" have been used, in practice, to translate the same sorts of studies and researched phenomena. By stating that ethnobiology is like an "ecological science," I do not want to reduce it epistemologically to the field of natural sciences. However, I want to make it clear that our research and the entire scope of our investigation focuses on the relational, that is, the study of the relationships between us and the environment. Furthermore, when I reinforce its interdisciplinary nature, I admit that different dialogues can be established.

Curiously, many academics continue to have a strong prejudice against referring to themselves as scholars of ethnobiology. They create different terms to frame their investigations when, in essence, they are carrying out an ethnobiological study. I do not take away the reasons of these investigators; however, I would like to scrutinize their thoughts to understand a little of their reasons. Would it be because of prejudice or would it be because of a divergence of understanding about what ethnobiology is?

I think that Brazilian anthropology is not interested in ethnobiology and has even made a point of denying any kinship. I say this from my experience and from informal conversations with fellow anthropologists I worked with or met during events. I once heard an anthropologist say that anthropology would not have any interest in ethnobiology because the ethnosciences were outdated. At the time, this shocked me because until then, at events and among colleagues in the area, we defended that ethnobiology was an ethnoscience. By ethnoscience, we labeled every discipline with a view to understanding this "other" other than the "I," scientist/researcher. For a long time now, this other was interpreted as a stranger to my culture, be it the indigenous community, the maroon community, or the so-called traditional peoples. Then I understood the reason for the criticism. Ethnoscience emerged with the intention of describing (interpreting) different cultures from the way they see and classify their experiences (plants, animals, colors, environments, and supernatural beings). This was the target of much criticism for the reductionist appeal of trying to understand cultures from just one of their aspects. Ethnobiologists appropriated the term from the mid-twentieth century onwards, albeit without assuming this pretension of cultural interpretation. Therefore, to avoid noise in communication with colleagues in anthropology, I avoid using the term "ethnoscience."

I believe that perhaps this explains the rejection of some anthropologists and why Brazilian anthropology has generated little interest when compared to world research in studying the relationship between human beings and the environment, animals, and plants. By this I do not mean that there are no studies; rather, I am just disappointed that there are not more diverse approaches on the subject, especially given the relevance that environmental issues occupy in the global scientific and political agendas. There is actually a lot of confusion, especially among researchers working in ethnobiology, who believe that just because we employ or develop methodologies that are also used in anthropology, a study is automatically labeled as anthropological or ethnographic, for example. Research is not limited only by its methods but also by the theories and intellectual development that support them.

The curious thing is that the current epistemological disputes in the field of ethnobiology also involves this scenario. They involve disputes over academic territory and the label of science. I will try to explain what I mean. As I previously stated, there are still explicit and veiled prejudices against ethnobiology and many criticisms are directed at its investigative "doing." The main criticism is to accuse Ethnobiology of not being a science or of doing science of low quality. I do not see any problems with the first criticism, not least because a lot of quality research carried out in universities is academic but not necessarily scientific. This is a complex issue, as it implies bringing to the debate the issue of "science demarcation criteria," that is, what is or is not scientific. Science can be defined as an organized and systematized system, with a specific methodology, aimed at understanding the world. To introduce this debate, I quote a passage from the text by the anthropologist Luiz Batalha (1998: 320-321):

> The social sciences are not really sciences; just as social theories are not really theories either. But until someone comes up with a better name for what "social scientists" do, we'll have to be content with the label. Anthropology has never been a science, although it has gone through strong periods in which there was a tendency to do so, especially when it was institutionalized academically at the end of the 19th century and the beginning of the 20th century, when the European and American intellectual elites were imbued with a mentality "scientist." But even in the case of British social anthropology, where scientific and "positivist" aspirations were marginalized by British pragmatism in the 1930s and 1940s, the need for a "scientific theory of culture" was advocated by Malinowski and Radclife-Brown, two great scientists responsible for the academic institutionalization of anthropology. Historically, this is explained by the need for anthropology to claim its space in academia as a science, so as not to be seen by other departments as a kind of occultism.

For the anthropologist Tim Ingold (2019), anthropology would not be a "science" but an art: "[...] anthropological dialogue, thus conceived as an art of inquiry, need not be opposed to science." Instead, he points to a different way of doing science—more modest, humane, and sustainable than much of what is considered science these days. This, in my view, does not detract from anthropology as an effort of the human intellect to make sense of the facts of our species. However, Ingold goes far beyond this understanding of anthropological "doing" of mine:

> The type of anthropology I advocate here has a different purpose. It is not about interpreting or explaining the behavior of others; it is not a matter of putting them in their place or consigning them to the category of "already known." On the contrary, it is about sharing their presence, learning from their life experiences, and applying this knowledge to our own conceptions of what human life could be like, its future conditions and possibilities. Anthropology, in my opinion, thrives on this engagement of imagination and experience. What it offers is not a quantum of knowledge, to be added to the contributions of other disciplines, all determined to turn the world over for information and transform it into knowledge products. My type of anthropology, in fact, is not at all dedicated to the "production of knowledge." She aspires to a completely different relationship with the world. For anthropologists, as for the peoples among whom they work, the world is not the object of study but its environment. They are, from the beginning, immersed in their processes and relationships. Critics might consider this a weakness or a vulnerability. For them, this reveals a lack of objectivity. But for us, this is the very source from which anthropology draws its strength. For our purpose is not objective knowledge. What we seek, and hope to obtain, is wisdom. They are by no means equivalent, and they can even operate in disagreement. [...] In short, the primary purpose of anthropology is not ethnographic but educational. In my opinion, the importance of anthropology lies precisely in its potential to educate and, through that education, to transform lives—our own and those among whom we work. But that potential will only be realized if we are willing to learn from them. And we won't learn anything if we don't take them seriously.

Therefore, I see no problem with saying that ethnobiology is not a science in the strictest sense. Inspired by the words of Tim Ingold, the ethnobiology I advocate is also inclusive, socially responsible, and able to address human diversity from different perspectives and disciplinary perspectives. In this sense, I see the objective of ethnobiology as its educational force and a promoter of reflections on "being" and "belonging" to the world. More than that, I see it as an understanding of our trajectory on the planet from the lens of robust and rigorous academic science/research. Any dispute over approach, views, or epistemologies is infertile and totally contrary to the aims of a discipline that aims to be a bridge of understanding between cultures and between human beings themselves.

Many people in the field defend themselves by saying that they do qualitative research with a more anthropological scope and that science is not just that investigation with a quantitative bias. I consider this dichotomization of the debate between quantitative and qualitative to be counterproductive, as it takes the focus off from what really matters: doing high-quality science or research.

Regarding the second criticism, that there is no quality science in ethnobiology, I could say that we also have, as in other areas of knowledge, very low-quality research. I sometimes struggle with the thought that there is more low-quality research than high-quality research. I wrote things about it during my academic career that I do not regret; I would just like to revisit them. For example, I have brief essays with anthropological pretensions that today would have another level of discussion and depth.

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I mentioned that in ethnobiology, at least in what is practiced in Brazil, there is a terrain of disputes that materialize in discourses and practices. These disputes need to be resolved through a process of de-dogmatization of the area. Ethnobiology has gone through several periods in its history that were characterized by certain ideologies and/or approaches. In my view, the process of dogmatization arose when people came to believe that each period would be overtaken by what followed, thus becoming irrelevant or outdated. These different phases of ethnobiology coexist today, building on their own references, albeit often lacking dialogue between them. Isolation has led to dogmatization and the defense of one approach as more relevant than another.

However, this dogmatization brings with it a perverse facet, as it inhibits people from exploring or improving their own concepts and approaches. In a way, I have already commented on this when I mentioned that many groups defend their qualitative approaches simply because they are qualitative, but avoid looking outside themselves, which would lead to the perception that in the role of current qualitative academic practices, their approach lacks alignment with the rigorous and robust research carried out in the field.

What I am calling dogmatization is expressed in different ways, as in the phenomenon of scientific insularity Campos et al. 2016). Our research group observed that in ethnobiology there is an isolation between research groups based in their countries, in such a way that, when publishing their results, they do not engage in dialogue with research carried out in other groups or in other countries. That would be an example of insularity. The most direct consequence of this isolation is reflected in the lack of external validators for what is done internally, that is, in the absence of counterpoints. Faced with the absence of opposing perspectives, we are constructing a vision of ethnobiological research that is absolutely alien to what is happening around it, and research that fails to find the path of dialogue is destined to be irrelevant.

Dr. Hurrell and I reflected for a while on the interfaces of ethnobotany (Albuquerque & Hurrell, 2010), and such reflection seems to me opportune for this discussion of dogmatization in ethnobiology. We wrote that ethnobotany is expressed through different connections, configuring itself as a field sometimes of anthropology, sometimes of ecology, and sometimes of botany. Curiously, these facets have become ingrained in themselves, distancing us from the interdisciplinary vocation of ethnobiology, something that has been emphatically claimed as essential to facing the challenges of cultural and environmental changes. Wolverton (2013) contended that ethnobiology is practically ready to accommodate different disciplines for this challenge. However, I think that we are still not really experiencing an era of interdisciplinarity in ethnobiology because we need to start the movement of its de-dogmatization.

We still need to engage in a reflective process that assumes, via interdisciplinarity, the diversity of scientific, academic, and epistemological agenda. However, this reflection does not mean to accommodate every action, research, and conception as intrinsically valid for ethnobiology. Without a discussion of the quality of what we do and its purpose, we will fall into the dangerous trap of narratives devoid of experience. If we are experiencing a kind of crisis in ethnobiology, I would say that it is a crisis of the quality of its practice and of misunderstanding of its nature. I will now exemplify my initial discourse on the privatization and dogmatization of ethnobiology with the help of the words of the Argentine anthropologist Marta Crivos (2014):

> [...] we witness the appropriation of an impoverished version of ethnography, limited to the erratic use of interview and survey techniques by the so-called ethnosciences—ethnobotany, ethnozoology, ethnoecology, etc. These latest versions, which have invaded the professional market not only of anthropology but of disciplines that aim to account for the "emic" version of the domains of knowledge

> they address, are characterized by the use of some qualitative research techniques that transform those who implement them. Even without any type of training or professional qualification as ethnographers, into "experts" in the study of local conceptions on a wide spectrum of knowledge domains that "coincidentally" correspond to those delimited by Western science (free translation, p. 146-147).

In a way, we have already commented on the supposed inexorable link between ethnobiology and ethnography,[3] so that this becomes the disqualifying factor for those who research without being an "expert" in the area, as Marta Crivos comments later, when she states that "[...] anthropology requires a set of conditions and skills that constitute the focus and content of ethnographer training programs with a naturalistic orientation." If, on the one hand, we accept this, there will be nothing to discuss about the privatization of the field. On the other hand, if we assume the interdisciplinarity of the area, we will observe that this dogmatic interpretation has no place in the most current discussions on research and science in modernity. In fact, the defense of this idea of an ethnobiology based solely on the link between biology and anthropology leads inexorably to an impoverished version of ethnobiology itself, in addition to generating tensions in the field that can be difficult to overcome. In this sense, I am in line with what Ludwig & El-Hani (2020) defend about the need for a Philosophy of Ethnobiology that plays a role in connecting so many different views in a field of research that is already naturally fragmented because of the different disciplines that are put into dialogue (see Ludwig, 2016, 2017ab, 2018ab). However, we first need to overcome the challenges of polarized and reductionist discourses that only contribute to keeping the area fragmented.

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I have always made unusual choices when it comes to my career as a scientist, or maybe I have been dogged by unusual choices. When I started my academic life, I was exposed to a traditional academic culture, getting involved with studies and research in the classic disciplines of biology, such as ecology and botany. Perhaps the most unusual of my choices was the migration to ethnobiology. For a long time, I was the target of severe criticism from professors and colleagues who viewed ethnobiology as a poor academic endeavor with no prospects. This made my training very challenging, as I spent most of my time having to defend myself and my approach, whether at the university itself or at scientific events. In 1996, when the I Brazilian Symposium on Ethnobiology and Ethnoecology was organized in Feira de Santana, Bahia, I finally felt that there would be a place for me and the science I practiced. At least at first glance, I saw a research parade that aligned with my interests and that spoke the same language as me. I met the late Dr. Darrell Posey, one of the most important names in the history of ethnobiology on Brazilian soil. It was one of the happiest periods of my entire life—meeting "others" very similar to me.

Of course, I was still coping with the challenges of working in a little-understood scientific discipline outside of the context of this event. Once, tired of this conflict, I proceeded to vent to Prof. Jose Geraldo Marques. He explained to me that people wanted to strip ethnobiology of its status as a science with puerile arguments from someone who had never had contact with the philosophy of science. Finally, he concluded: "Ulysses, I don't discuss science with those who don't know what they're talking about." This phrase resonated in my mind for a long time, to the point that I was able to relax and let others think what they wanted, because I had a place where I and mine could be welcomed. Over time, I saw these confrontations disappear, at least with me. The prejudiced discourses in relation to ethnobiology have been extinguished, leaving me with only the echoes of a distant time or of a self-vaunting ignorance today.

Once again, my academic choices would bring me enriching experiences. When I observed the possibility of uniting ecology and evolution with ethnobiology, it was a moment of true epiphany, as I had finally found myself as a scientist and knew what I wanted to research for the rest of my life. However, both in ethnobiology and in some social and human sciences, there is a sort of atavistic "terror" regarding the integration of these perspectives into the study of the human being. I have always understood, as I have argued earlier in this text, that integration and true interdisciplinarity are the keys to modern, quality, and lasting scientific endeavors.

Moreover, what would the underlying reason be for the fear that seems to come from the social sciences and humanities regarding the integration of evolutionary concepts to understand human behavior? Richerson and Boyd (2015: 145-178) contend that:

> Ever since the constitution of sociality as a matter sui generis, social scientists have, at best, ignored the biological sciences as irrelevant or, at worst, fought against them for fear of reductionism and/or racist underpinnings. As a consequence, social scientists avoided to meet the challenge of seriously considering the biological aspects of culture. Repelled by the bold claims of socio-biologists (instigated be E.O. Wilson

> in 1975), they failed to realize the more substantive contributions among biologists as well as the usages made by their fellow social scientists [...].

I began to believe that the resistance of some researchers in ethnobiology to this evolutionary approach had its roots in fear. I consider any exclusivist or reductionist approach simplistic and naive. Human behavior is not exclusively the result of biology or culture; it emerges and is modulated by different factors. A few years ago, with other colleagues, we founded the field of Evolutionary Ethnobiology, which seeks to carry out a research program that examines the relationships between people and nature, considering the ecological and evolutionary dimensions without disregarding, however, the cultural dimension (also treated from an evolutionary perspective). In Evolutionary Ethnobiology, for example, we perceive that human behavior emerges from a combination of factors, ranging from the biological to the sociocultural. Evolutionary Ethnobiology, like some sciences that are based on evolutionary scenarios, proposes factual explanations for human behavioral phenomena, more specifically its relationship with nature. To conclude what I want to say, I will present Varella's position:

> The sciences have different focuses and objects of study, varying spatially from the micro to the macro, and temporally from the most recent to the most distant past. All emphasize processes and mechanisms, but they can be divided into those that focus more on processes and mechanisms occurring on smaller, more recent, and closer time scales to the individual, or on longer time scales, further back in the past, and more populational [...]. The sciences that focus more on proximal causes can be subdivided into those that emphasize immediate ahistorical causes and those that emphasize more ontogenetic causes, that is, factors that occur throughout the development of the individual. The sciences that focus on more distal causes can be subdivided into those that emphasize more adaptive causes in a more recent ancestral and microevolutionary past and those that emphasize more phylogenetic causes, that is, macroevolutionary factors that occur along the evolutionary path of species, or larger groupings such as orders or phyla [...]. In order to adapt this model to the human being, it is important to make room for medial causes, which are socio-historical factors, which are intermediate, that is, not so close because they are populational and transgenerational, but not so distant because they focus on more recent and occurring events on smaller time scales [...]. There are some overlaps between causes, but the important thing is that because they are at different levels, they are not exclusive, but complementary (Varella, 2018: 142-166).

Assuming, then, that ethnobiology is a space for interdisciplinary dialogue, would it not be the privileged place to welcome different academic approaches? Is ethnobiology mature enough to play this role? I believe that science is ready to embrace its interdisciplinarity phase, especially in the current post-pandemic times, which have taught us important lessons about collaborative efforts to advance our knowledge (see Vandebroek et al., 2020; Dahdouh-Guebas & Vandebroek, 2021). But why is there still resistance within ethnobiology? Some of my colleagues, including former students and I, have gained gratuitous animosities at events and congresses when we defend the evolutionary perspective for the study of the relationship between human beings and nature. This leads me to the reflection that, although ethnobiology is ready for the interdisciplinary transition, we, as ethnobiologists, are not yet. Could this also be the effect of a more complex phenomenon that heralds a postmodern and relativized science?

> Under the banner of postmodern relativism—contrary, as has been said, to the idea that there is an external, objective knowledge, independent of cultures—multiculturalism, perspectivism, social-constructivism, cultural studies, gender studies, ecofeminism, resentment against the natural sciences. [...] Since objective reality is suspect, everything is "text," and meaning is "the basic matter of texts, societies, and almost everything that exists." The meanings are there to be decoded or deconstructed (Tambosi, 2010: 66).

I confess: I am sympathetic to the idea of multiculturalism and diversity, but not to the abuses that are made of these concepts in the guise of defending a free and deconstructed science. For me, absolute and unrestricted relativization, as defended by some postmodernists, is responsible for the negationist discourses that relativized the role of modern science during the recent COVID-19 pandemic, putting in doubt the methods that led us to give credibility to the vaccine and praising the supposed anti-coronavirus miracle drugs. The abuses of this discourse induce the need to validate, as scientific, the practices and knowledge built on other rationalities. Furthermore, what does this have to do with ethnobiology? All! Ethnobiology, at least in theory, embraces diversity, embracing different knowledge as complementary to each other without the pretense of hierarchy. Therefore, wanting to deconstruct scientific knowledge, the one that often saves lives, to highlight other forms of experience, has more to do with a dangerous ideological position—the same one that often denies the theory of evolution—than actually with a legitimate proposal of relativism. Tamposi (2010: 34) says: "[...] Feyerabend's radical relativism

was providential for the 'science of creation.' The author of the famous 'Against Method' would equate science with myths, voodoo, witchcraft, and astrology. His 'anything goes' theory helped devastate many areas of the social sciences and, of course, served as a glove for religious fundamentalists."

## Notes

[1]I was very afraid to publish this book because I felt I was inexperienced. In 1995, a master's colleague, Flávia de Barros Prado Moura, told me about Dr. José Geraldo Wanderley Marques, one of the great references in Brazilian Ethnoecology. I took courage and asked her to send my manuscripts for her critical reading and, who knows, for him to write the presentation of the work. Flávia was soon warning me of Dr. Gerald. I had no hope and was even afraid that I was dooming my career. Such was my surprise when I received the manuscript with some handwritten notes by Dr. Geraldo, accompanied by a presentation. I felt, then, that I was on the right path, and in 2002 the book was published by the publisher Bagaço, with its second edition in 2005 by the Rio de Janeiro publisher Interciência and an English edition by Springer in 2017 (Albuquerque et al., 2017). The book entitled Introduction to Ethnobotany is the first and only introductory text in Portuguese on the subject. To improve what would be the third edition, published in 2022 by Interciencia, I counted on the collaboration of some special colleagues.

[2]There are different understandings of ethnoecology. Toledo and Barrera-Bassols (2015), for example, argue that "Ethnoecology, as a hybrid discipline, addresses the study of local knowledge and conventional problems linked to the separation of the world into two spheres: the natural and the social. This discipline proposes a new scientific paradigm that is based on multiculturalism; it also proposes to find sustainable ways of life, as well as values, meanings and actions that allow the establishment of alternative globalization scenarios" (p. 142). This fundamental understanding of ethnoecology, proposed by the Mexican Victor Toledo, exerted a strong influence on research carried out in Latin America, especially in the late 1990s and early 2000s in Brazil. I see a strong political perspective in this approach. A completely different approach from this, at least in my opinion, was the one proposed by Dr. José Geraldo Marques, with his comprehensive ethnoecology, which influenced a whole generation of Brazilian researchers. This opinion of mine is different from another that I had the chance to express in partnership with Dr. Angelo Alves, but who maintains the idea of complementarity between ethnobiology and ethnoecology, as we defended on the occasion (Alves & Albuquerque, 2016).

[3]In a way, this is also defended by the anthropologist Radamés Villagómez-Reséndiz (2020), when he states that *"(...) few ethnobiological approaches engage deeply with anthropological methods and theory. Instead, the field as a whole often lacks engagement with ethnography as social methodology as well as with contemporary anthropological theory."*

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