

Taboo from the jungle to the clinic¹

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“Science is but an image of the truth”ⁱ

- Francis Bacon, father of the Scientific Method

Of all the wonderful potions boiled up and blended in the cauldron of Amazonian prehistory, none is more fascinating, to layman and researcher alike, than ayahuasca. With a few notable exceptions such as anthropologist Jeremy Narby, academia does not take seriously the folkloric tale that the plants themselves told the shamans how to prepare them, bringing the powers of a particular vine to bear upon a particular leaf, and thereby unleashing its latent visionary potential. The discovery is put down to trial and error.

In biochemical terms, the *Psychotria viridis* leaf contains the hallucinogen DMT, which is orally inactive, being broken down by the body's monoamine oxidase enzymes (MAO's) before it reaches the brain. The *Banisteriopsis caapi* vine, however, contains compounds which inhibit MAO's, allowing DMT to pass into the brain. Science only caught up with the witchdoctor by discovering MAO-inhibition in 1952. According to sober histories, the discovery was not due to any spirit whispering in the lab, nor anything so deliberate as trial and error. It was a happy fluke, during unrelated research into tuberculosis. Many biomedical discoveries are flukes, including X-rays and radioactive waves, penicillin and Viagra, nitrous oxide, LSD, and every single class of psychiatric medicine.ⁱⁱ Mere chance or Promethean serendipity, it was certainly no targeted research program that produced these wonders.

The folklore of the inventors and custodians of ayahuasca also prescribes how it should be prepared and consumed, recommending prayers and songs, periods of isolation and celibacy, and practices pertaining to diet and menstruation. While taboos and proscriptions might interest anthropologists, biomedical researchers and psychologists seem to be less interested - at any rate, they have almost completely avoided researching them. Taboos are followed when research piggy-backs on a traditional ceremony,ⁱⁱⁱ or when an individual subject decides to observe them.^{iv} But any therapeutic effects have not been tested.

Food taboos, for example, are almost universally maintained by curanderos, and often their patients; but the only clear guideline from the scientific community on what to avoid concerns the class of anti-depressants called selective serotonin reuptake inhibitors (SSRIs). Consequently, despite the fact that ayahuasca and other psychedelics^v seem to combat depression, newcomers to ceremonies are invariably interviewed about anti-depressants, and those taking Zoloft, Prozac and other SSRI's (i.e. roughly 1 in 10 Americans^{vi}) will not be admitted. This is a theoretical objection, however, which has absolutely no empirical evidence supporting it. One psychiatrist, whose SSRI patients have been safely drinking ayahuasca for years, comments that despite widespread use of SSRIs in the West and Brazil, “there is no single report of any death or doubtless case of serotonin syndrome that could be attributable to ayahuasca and SSRIs.”^{vii}

Psychiatrist Ede Frecska, who describes the objection as “an overprotective but necessary warning”^{viii}, comments that “the traditional ayahuasca diet... [recommends plantain,] a type of banana, which theoretically would be prohibited by the MAOI-safety diet.” He also notes that the diet “may serve a very rational function: to increase brain serotonin by tryptophan intake.”^{ix} So why have 15 years passed since the theory was first suggested,^x without a single study taking place? Surely autopsies of rats given both, or surveys of long term drinkers on antidepressants, might generate interesting data?

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The scientific community widely publicizes a theoretical objection from its own camp, despite a total lack of supporting evidence; meanwhile it stays silent about traditional recommendations, and neither tests them nor considers them to be important. One excellent study of therapeutic effects, for example, notes that “specific cautions regarding diet and the possibly harmful combination of medications were frequently taken”, but records nothing about the specifics or the effects of the diets.^{xi}

Ever since first contact, when Columbus misnamed New World natives as ‘Indians’, we have been jumping to conclusions about the indigenous world. We have come a long way, however, and today, as Kenneth Tupper notes, “cultural globalization opens pathways for the movement of ideas, beliefs and practices multi-directionally”.^{xii} But if pathways are open, what keeps traditional ideas from breaching the ivory towers of the academy?

Historically, racism has played a part, ever since Amazonian sorcerers (*hechiceros*) using psychoactive snuff first came to the attention of the “civilized” world in the 16th century.^{xiii} In 1768, Jesuit Franz Xavier Veigl wrote that ayahuasca “serves for mystification and bewitchment”,^{xiv} but the situation improved. Richard Spruce became the first modern scientist to observe ayahuasca use, amongst Tukano Indians in 1851, and the lengths he went to understand the Indians were admirable. During a 15 year Amazonian expedition (begun in poor health and completed deaf in one ear, with intestinal parasites and paralyzed legs), the botanist learned 21 indigenous languages and recorded extensive notes on community life.

Less conscientious was Alfred Simson, who in 1886 described ayahuasca as “an indulgence which usually results in a broil between at least the partakers of the beverage”, and called his Indian guides “as villainous-looking a set as ever I beheld”.^{xv} While Simson noted the failings of his colleagues, he also shared the superiority complex endemic to 19th century anthropology:

Although I will not deny... that many observers are too prone to give merely the interpretation of their own feelings to social and even many natural phenomena, I would wish to be bourne in mind, when savage customs are being treated of, the inconsistency, vagueness, and superstition which pervade the savage's mind and actions.^{xvi}

Openly racist articles are no longer published in the respectable journals. But as the diagnostics, cultural assumptions and treatment regimes of pharmacological interventionist medicine supplant indigenous medical systems all over the world, can the academy do more to challenge the ugly superiority complex? Or is it that our cultural artifacts, including our medicines, are simply superior?

During the post-tsunami aid effort, for example, trauma specialists flew in to train locals in PTSD diagnostic protocols. Professors from the University of Sri Lanka wrote an open letter begging that the traditional means by which Sri Lankans respond to trauma be respected - that silent meditation may be at least as appropriate as psychotherapy and antidepressants, for example. Their plea was ignored. The banner of PTSD was newly raised, its missionaries were full of zeal. Pfizer Pharmaceuticals, the manufacturer of Zoloft, organized a conference in Bangkok, and at least one NGO was “just handing out anti-depressants to people”.^{xvii} Regarding the mission to restore the mental-health system of Sri Lanka, the director of AusAID’s comments are revealing: “Restore is the wrong word, because there was nothing much there before.”^{xviii}

If articles published indicate the kind of trains of thought that trundle through the academy, we might conclude that researchers, like the director of AusAID, are simply unaware that traditional knowledge exists. Catholic missionaries gave the shaman his due, at least, reporting that he was conversing with devils; scientists seem to think he is doing nothing at all. And indigenous people, born into a modernizing world, often pick up the prejudice against traditional knowledge. As another aid worker commented, those in the developing world “are driven by a belief that they lack things, concepts and behaviours that the West can supply... We are confident that we have something exceptional to offer and not the other way round.”^{xix}

Describing the actions of DMT and tetrahydroharmine scientifically can certainly be illuminating, but it isn't the whole story; and the fact that the terms used are generally taken from abnormal psychology can limit the types of questions asked. 'Hallucinogenic drugs', by definition, produce images of things that aren't really there. 'Dissociation', where voices are heard and presences are felt, is a symptom of mental pathology. Shamans, however, do not consider the visions and voices to be hallucinations, but rather vectors of information. Many would echo Taita Juan's vocal objection to ayahuasca being called a 'drug'.^{xx} Daimistas prefer to call their brew a 'sacrament', with all that that entails; but then all terms carry baggage. Psychedelic researchers tend to take set (or mindset) very seriously; but what kind of set do we build calling ayahuasca pejorative names and studying peer-reviewed abstracts before even drinking it?

Ayahuasca is broken down in the lab, but the further one travels from the modern hospital, the more layered the business of administering medicine becomes. A jungle cure may comprise fifteen plants containing hundreds of thousands of interacting compounds, as well as dietary and sexual regimen, counseling, and unquantifiable factors such as prayer and the mighty caboclo Tupinumbá. If this group of factors is too complex to tease apart, and the role played by ayahuasca cannot be established scientifically one way or the other, that reflects a limitation of science, not of shamanism. Of course, every system has its limitations, if we are bound by its terms. But not every system commands billion dollar research budgets and the authority gained from half a millennium of colonial history.

Perhaps lab techniques are incapable of analyzing without breaking mixtures down; 'analysis' is, by definition, separating something into its elements. Even if this was the case though, there are still traditional prescriptions that could be tested, like the Daimista tradition of harvesting vine at a new moon. It would be simple enough to compare concentrations of alkaloids from samples harvested at different moon phases, but no such tests have been performed. Indeed, though a relationship between the phase of the moon and the yield of the earth is taken for granted in traditional agriculture the world over, the academy barely looks at it. Scientists have done their job and criticized the research into this matter undertaken by laypersons, physicians and others, but rather than designing further tests, agricultural scientists treat the subject as taboo. In *The Myth of Biodynamic Agriculture*, Dr. Linda Chalker-Scott rallies her tribe against the luna-tics by banging her spear against her shield:

"[The] recommendations cannot be tested and validated by traditional methods. In practical terms, this means any effect attributed to biodynamic preparations is a matter of belief, not fact..."

It would be an interesting experiment to compare conventional farms to conventional farms with biodynamic preparations without the organic practices to see if a difference exists...

The onus is on academia to keep pseudoscience out of otherwise legitimate scientific practices.^{xxxi}

Surely the onus upon academia is to test hypotheses before denouncing them! Untestable hypotheses, by definition, lie outside the territory of science, and scientists need not wage war abroad. If, however, a widely-held theory *can* be empirically tested, but scientists decline to (even though Dr. Chalker-Scott herself outlines a suitable methodology), then why are scientists bringing the considerable might of their tribe to bear on this "matter of belief, not fact"?

Crying 'pseudoscience', as some scholarly ayahuasca researchers do when the wrong type of spirits draw close, may be disingenuous. Pseudoscience has a precise meaning: 'something untestable that is presented as science'. It does not mean 'something that a social group is discouraged from doing by custom.' The correct term for that is 'taboo'. While some taboos may serve rational purposes, the power that taboos hold over the tribe may be so far from rational

that the taboos become automatic. Dr. Chalker-Scott confesses that:

For me and many other agricultural scientists, usage of the term [biodynamic] is a red flag that automatically questions the validity of whatever else is being discussed...

Psychiatrists also maintain a moon taboo - the few researchers that have suggested correlations between moon-phase and psychiatric hospital admissions are roundly criticized, sometimes in rather broad strokes,^{xxii} but those who value their reputation steer clear of the popular vulgar theory of lunacy. Moon taboos are also found amongst the Maya, Navajo, Hopi and Hmong. Like scientists, Navajos have theories about why they mustn't look at the moon - if you do, it will follow you and bring you bad luck.^{xxiii} But theories like this are just opinions until tested (and, of course, everyone's got one).

What counts in science is evidence, and so scientists are indeed duty-bound to militate against pseudoscience. Lunar agriculture, however, is not pseudoscience. Nor is it science, as framed by Francis Bacon, the father of the Scientific Method (though it too may be systematic, methodical and guided by observation). Lunar agriculture, like ayahuasca shamanism, is a knowledge system, and some of the postulates embedded in these systems are testable. But, as Bacon himself wrote:

There is a superstition in avoiding superstition, when men think to do best if they go furthest from the superstition formerly received; therefore care would be had that... the good be not taken away with the bad;

Science should help answer questions, and one of the toughest is: can ayahuasca cure my cancer? Responsible academics tend to reply to the public that "there is no scientific data about ayahuasca curing cancer." They might add that there are anecdotal reports. If, however, thinking can effect pathology, as science has established with the sugar-pill placebo, then is this the best thing to tell sick people?

"There is no scientific data" means "I don't know"; but the *juju* is entirely different. Perhaps scientists might admit ignorance in plainer terms, rather than dressing it as knowledge, or refer the questioner to someone better qualified to answer - an Amazonian with decades of experience curing, perhaps. An anthropologist from Mars might theorize that a tribe that cultivates knowledge as its staple crop would naturally maintain taboos around ignorance. They might also have taboos about knowledge prepared with non-kosher practices (and in science, only Bacon is kosher).

I'm a Daimista with an interest in science, not the other way round (thank the good Lord and all the divine beings of the celestial court) and I observe different taboos. To cancerous questions, I reply that two friends given terminal diagnoses abandoned chemotherapy for ayahuasca, and are still vibrantly alive decades later. A third refused a splenectomy with a 50% survival rate and abandoned hospital medicine for yoga, which eventually led her to ayahuasca. Another Daimista, who did not survive, had announced his impending death two years before his cancer was detected, when his health was still perfect.

These anecdotes, with their teleological pretensions, are neither here nor there as far as scientific data goes, neither science nor pseudoscience. But they make for good *juju*. I've not faced cancer myself, but I did fall very ill in the Brazilian Amazon with a flesh-eating bacterial colony called leishmaniasis, or *ferida brava* (angry ulcer). It began on my chest as an insect bite and expanded to become a pus-filled boil the size of a ping pong ball incubating flesh-eating bacteria. The Brazilian health service phoneline told me in no uncertain terms to take the standard injections, and so did every single doctor and alternative health practitioner I consulted, and plenty of neighbours I didn't consult. Treatment would have been intravenous antimony tartrate three times a day until it had dried out - at least 150 shots of the heavy metal salt, and possibly twice as many. My sister, a doctor trained in tropical medicine, emailed me links to clinical data and fearsome images: sprawling, putrefying ulcers representing phase one; faces

without ears and noses for phase two, when the body's cartilaginous tissues come under attack. She suggested I made up my own mind; so I prayed, drank a dose, and put my question to the Daime.

To put this into context, I was over seven years into a relationship with my favoured 'hallucinogen', which my tradition calls variously 'teacher', 'divine being', 'medicine', 'brother' and so on. Its consistent wisdom over the years had won my interest, and filled my life with magic, with synchronicity and wishes speedily fulfilled. 95% certainty is usually good enough for science ($p=0.05$), but I could not recall a single instance where my sacrament had given me bad advice in hundreds of sessions.³

My visions followed a procession of acquaintances whose leishmaniasis had yielded to injections, but whose lives were still blighted by lingering conditions - permanently painful joints, strange bumps, pathological greed which kept turning friends into enemies. Across the frameworks of meaning that appeal to me, suffering is a common motif, in the Buddhist noble truths and Christian imagery, in the *nigredo* of alchemy, the shamanic vision of dismemberment and the Daimista's purge. The individual is tempered through trials; and if karmas, sins or imbalances are not worked through in one way, they will manifest in another.

"Dai me" means "give me", and here I was being given an opportunity to learn firsthand about Daime, which had been my goal in journeying to the Amazon in the first place. My other mission was to finish writing a book inspired by ayahuasca, which touched on many of the issues facing me - disease and health, truth and realpolitik in science, freedom and the philosopher's stone. Bold hypotheses require empirical testing, and again I was being given an opportunity, this time to turn conjecture into lived experience.

The Amazonians around me, panicking that the crazy gringo in their midst would soon be a disfigured or dead gringo, were the terrified human face of something I had researched for my degree and my book - the pharmacological colonization of the body. All over the developing world, brown people are choosing white bottles and white coats over their own medical heritage. While I had given up synthetically-derived drugs, bar the strictly recreational, at aged 15, besting the occasional flu with my bare lymph nodes does not amount to much on this glorious battlefield. The lines of my life were converging, the rhyme scheme and metre determined, another line approaching. Why would I abandon so charming a poem half-finished?

Disease invariably carries meaning in all but the most mechanized of cultures; but in academia, meaning can raise taboos. One taboo is animism, the idea that things around us have their own agendas and means, their own personalities (this idea is commonplace in the Amazon); the second taboo concerns 'magical thinking', where life's events have some intrinsic significance beyond sex and survival, and stories have a power of their own. As Justin Panneck put it in a *Psyppress* anthology, "substances like ayahuasca, especially in a spiritually-guided container, allow individuals to participate in not only the myths and mysteries that have been discussed for thousands of years, but the facilitation of their own development."^{xxiv}

The currency of science is statistical significance. The currency of lives as lived, whether in the jungle or the city, is personal significance, and its measurement is necessarily personal too. A genuinely global trade of ideas is only possible if we find a way to convert between currencies, with projects that span the disciplines. If narrative plays a part in recovery, perhaps

³ There is a caveat here: I am given bad advice sometimes, during ceremony but not from my sacrament. In such internal pathways to knowledge, practitioners observe conditions, parameters and outcomes over time, gradually calibrating the invisible meters to distinguish between different sources offering good and bad advice. In my case, good advice comes gently and unassumingly, usually surprisingly, accompanied by a certain something. Bad advice comes urgently and insistently, but fleetingly. I do not generally receive transmissions involving mathematical manipulations of Chinese divinatory systems.

the accounts of visions and insights of participants leaving addiction treatment programs might be revealing. Could the presence of a certain narrative theme predict the chances of future relapse? Would different rehab centres lend distinct themes to the narratives – featuring redemption more commonly in urban Christian centres, and battles with evil spirits in the Peruvian upper Amazon? Might certain cosmologies work better for a given nationality or psychological profile?⁴

Doctors invariably answer my claim that I successfully treated leishmaniasis by telling me that a third of cases clear up without medical intervention anyway, and that my ‘sacrament’ was a ‘placebo’. Scientists have come to understand that there is more to recovery than agonists and antigens; the rest falls into the category of ‘placebo’, whether that is a mother rubbing her daughter’s belly or a shaman sucking out spirits. In doing their duty to banish placebo from the lab, researchers also exclude much of the cure. When scientists step out of the lab and into ceremony, however, things get complicated and, as Frecska comments about one project, “it is not possible to disaggregate the specific role played by repeated ayahuasca administration (the drug itself) from environmental factors.”^{xxv} Perhaps the MAPS methodology could be adapted,^{xxvi} giving different-sized doses to different cohorts at the same ceremony, and testing for differences in health, lobe activity or antibody production.

‘Placebo’ might be something of a carpet of rationalism drawn over an abyss of ignorance, but biomedical science has begun to lower lines of enquiry into the abyss, with tentative projects in the emerging field of mindfulness studies. One longitudinal EEG study has measured both increased antibody production and a change in baseline brain function over a meditation program of eight weeks. Meditators, even when not sitting, come to exhibit less activity in the right prefrontal cortex (PFC), and more in the left PFC.^{xxvii}

From my limited understanding of the PFC, going from left to right would seem to indicate moving away from suspicion and second-guessing the strategies of others, and towards more charitable thoughts inhibiting fear responses. Would it, therefore, potentiate the medicine if the drinker focused on specific themes? Might what Steve Beyer describes as periods of “sitting quietly in the jungle, with no place to go, listening for [*the plant’s*] song”^{xxviii} have measurable effects on the brain’s baseline function, or even its anatomy? Is there a psychopharmacological reason for the Daimista’s repetitive dance and maraca beat, the hours of back-to-back call-and-response songs? Is this why the hymns mention ‘paying attention’ so frequently, unlike anything in umbanda calls, Sufi songs or Anglican hymns, for example?

My cure, with its diets and daily doses, its poultices, purgatives and mudpacks, was embedded in a context of meaning. The angry ulcer inflamed and shrank as the lines of my story turned around it; and when worms spilled out from it they carried a message about the transient miracle of fleshy incarnation. I fought a running battle with a poisonous snake living beneath my shack which ended when I slammed it in the door, and I defeated another monster in my ceremonies and technicolour dreams. Having ignored the doctors, I consulted a 400 year-old *preta velha*, a black slave incorporated into the body of a medium at a Barquinha ceremony. As drums pounded around us she massaged points on my arm, swished a scarf and blew tobacco smoke around me, gave me dietary advice and prayers, made an offering of white roses. I broke my silence only at the end of the session, with the intention of asking her name, but she responded appropriately before I had a chance to voice my question: “*my... name... is... Maria... da... mata.*”

After seven months, having lost ten kilos and one wife, a nurse came into my life who would tell me her dreams in the morning so we could watch the events unfold during the day. One night she dreamed of smashed glass and of having her hair platted. As we were out the following

⁴ This raises a traditional taboo, which is an aversion towards sharing ayahuasca visions. Daimistas in Brazil discuss their visions only in exceptional circumstances, and the same has been reported in the indigenous world. Any Western-trained talking therapist collecting accounts should take pains to understand the logic behind this taboo first.

day, waiting for someone else to finish using the well, she suddenly began clawing at the ground like a maniac. We unearthed enough smashed glass to fill six sacks, and then we visited a neighbour, whose niece came over unprompted to plait her hair. Years later I learned about a sorcerer who had buried smashed glass at various sites in the community, which had lain forgotten for over 30 years.

Patterns and predictions are part and parcel of both science and mysticism, and this was all robust enough for me. When our twins were born a year after I had recovered, they both had birthmarks where my ulcer had been. My curandero barely raised an eyebrow; a tag passing through the generations is far from uncommon in the context of Amazonian folk healing. My disease, my recovery, and my narrative all came together as a complete package of medicine and meaning, packing an almighty placebo punch.

If belief assists cure, as scientists have proved to themselves with the sugar-pill placebo, then might absolute certainty guarantee it? We know so little about placebo, and any serious investigation of its parameters, as manipulated by masters of the art, would require scientists to stray from the familiar cloisters of the academy. But those overly comfortable with familiar theories should take note of the caution Newton issued when he formalized the study of empirical science: “hypotheses, whether metaphysical or physical, whether of occult qualities or mechanical, have no place in experimental philosophy.”^{xxxix}

The indigenous cosmos, like the world we live in, is rather broader than any one scientific discipline, which may pose a problem for researchers. Fortunately, however, ayahuasca is not only an object of inquiry but a *means* of inquiry, and one that has been shown to greatly help precipitate breakthroughs in research. When Jeremy Narby took three molecular biologists who were stuck in their research to a ceremony in the Amazon, for example, all three reported breakthroughs in understanding of their subject which changed their worldviews. Two also reported encounters with a plant spirit.^{xxx}

The related shamanic claim, that ayahuasca allows the drinker direct insight into the workings of the plants, is the subject of some groundbreaking research. In the emerging field of biosemiotics, the postulates of Peircean semiotics become the measure of communication between species. As Christina Callicott puts it:

the process of shamanic apprenticeship and the acquisition of icaros is a form of inter-species communication in which the apprentice intercepts and interprets the phytochemical signals inherent in plant communicative processes.^{xxxi}

The related but distinct field of ecosemiotics can also be revealing. As Alf Hornborg writes:

eco-semiotics thus does not merely provide a vantage-point for understanding [Amazonian indigenous] cosmologies in theoretical terms, but actually also for validating them^{xxxii}

Researcher-ayahuasqueros, with a foot in each camp, need to understand the taboos of both. If we skip the preparations for ayahuasca, and let our minds wander during ceremony, or if, as one biomedical researcher confided to me, we usually spend our sessions thinking about girls, we might miss something. Equally, researchers need to be mindful of the taboos nurtured by the scientific community as it emerged from the Renaissance. Some taboos reject arcane knowledge such as animism; other taboos are updated versions of older mores. As Frecska notes, on one of the difficulties of ayahuasca research, “interfering with the integrity of the human body has been a taboo in numerous cultures and the Western cultural tradition was not, and is not exempt.”^{xxxiii}

All over the developing world, traditional knowledge is being lost as Western models expand. My Brazilian wife, for example, was brought into this world by the local wise woman, but our own daughters were surgically removed nine months and a day into the pregnancy, just after the doctor’s lunch. At 44% of births, Brazil has the highest rate of c-sections in the world.^{xxxiv} When the new mother’s temperature rose a few days later, and everyone was freaking

out about infections and antibiotics, I called for the old wise woman. She told me what younger, less wise women had forgotten: a light fever is common when mothers begin to nurse. The status of the wise woman, and of the shaman, has plummeted since pharmacies and tarmac roads first arrived in their settlements. Despite the popularity of ‘the shamanic experience’, Amazonian shamanism is objectively (as the Marxists might put it) in decline, losing ground to the pharmaceutical, interventionist model in its own territory.

Amidst the onslaught of tourism, land grabs, climate change and all the challenges of globalization, science can be an ally in the battle to preserve traditional knowledge. Physician Gabor Maté, for example, attained excellent results in his Canadian rehab centre by inviting an indigenous shaman to conduct ceremonies; he also raised the status of traditional wisdom thereby. Shamanic techniques can also become the object of study, not just the ‘setting’ of the study. Musicologist Susana Bustos’ research into *icaros* is a bold step in the right direction, documenting transpersonal effects on the patients targeted by the shaman singing these spirit songs.^{xxxv} The other major indigenous use of the brew aside from healing is for divination – which could be finding lost objects, outing an unfaithful lover or enemy shaman, or capturing the soul of an animal in order to capture its body in a hunt the following day. Many researchers value their professional reputations too much to bring this degree of weirdness into the academy, but there are ways of testing the worldview of the traditional ayahuasquero. Dr. David Luke’s pre-cognition experiments with Sao Pedro cactus produced intriguing results.^{xxxvi} This kind of bold experimenting can encourage a rethink of the limits of both science and experience.

Adventurous researchers who go native should be cautious on their return, however, not to offend their own gods and break their own tribal taboos. Their gods might require a modest sacrifice, a little enthusiasm, a little animism, a little meaning edited from a traveller’s tale perhaps, but we will surely find that the spirits can be very accommodating. The method of inquiry we know as shamanism survived the missionary age partly because the jungle pantheon was able to absorb Jesus Cristo and his virgin mother, adapted for the toolbox of the jungle empiricist. Shamans and priests started to learn each other’s languages, and began a mind-blowing conversation that is still ongoing. Jesus Christo, for his part, seems rather more comfortable in his indigenous maloca than in European cathedrals, eternally pinned to the wall. Perhaps a new wave of psychedelic scientists can follow suit and pull out their own nails, to free themselves of the constraints which limit their lines of enquiry.

The time is ripe for more mind-blowing conversations, and for research that is tight on methodology and loose on ontology. Indigenous knowledge, if it is to survive, must be represented, and *re*-presented, in a language the global north understands. If we pay attention to each other, to our own taboos and those of the other, and to the other worlds that ayahuasca opens up, the loss of traditional knowledge might be arrested before the colonization of the indigenous world and mind is complete, and there is one less cosmology to blur the hard lines of the rationalist universe.

ⁱ *Dictionary of Quotations from Ancient and Modern, English and Foreign Sources* James Wood (1893), 383:3

ⁱⁱ *Pers. Comm. Professor David Nutt.*

ⁱⁱⁱ *Enhancement of Creative Expression and Entopic Phenomena as After-Effects of Repeated Ayahuasca Ceremonies* – Frecska, E et al, *JoPD* 44:3 191-199 (Frescka A)

^{iv} *Subjective Theories about (Self-)Treatment with Ayahuasca* – Schmid J. T. et al *Anthropology of Consciousness* Vol. 21, Issue 2, pp 188–204, Fall 2010

^v *Psychiatry’s next top model: cause for a re-think on drug models of psychosis and other psychiatric disorders* - RL Carhart-Harris et al. *J Psychopharmacol* September 2013 vol. 27 no. 9 771-778

^{vi} *Antidepressant Use in Persons Aged 12 and Over: United States, 2005–2008* - Pratt, L. A. et al. NCHS Data Brief No. 76, October 2011

^{vii} *Pers. Comm.* – And I’m not telling you who said it, sorry!

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