



JONATHAN OTT SPEAKS... PART TWO

Interviewed by Will Beifuss and Jon Hanna at the 1998 BPC *Salvia divinorum* Conference

Jon: Living in México, what do you think that the interest in entheogens is there, given in a sort of comparative percentage?

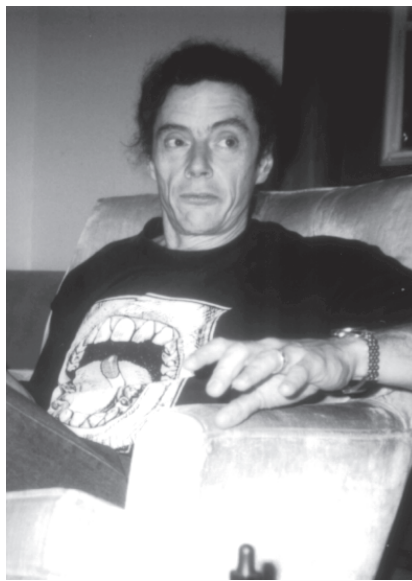
Jonathan: Of course we have, at best, only soft figures in any case. But I would say that it's less than it is in the U.S., in terms of the kind of interest that we know about—basement shaman. In the U.S. there's a great deal of sophistication in the so-called amateur sector. And that doesn't exist anywhere else, not even in Europe. In Europe, the only people that are at that level of sophistication are in the *business* as shamanic-plant dealers, and they're very few. But in the U.S. we're talking hundreds of thousands of people, maybe even millions, that are very sophisticated. They not only know about ayahuasca analogues, they've been making them for years, and have probably innovated themselves in this field and have a great deal of knowledge. If I lecture on this topic—and I don't lecture on this topic in Latin America in general, and certainly not in México, because I try to keep a low profile there—but if I lecture on this topic in Spain or in Amsterdam, and mention ayahuasca analogues, it kind of blows people's mind, like "Oh wow, now you can even do it

at home and make tea." But if I do that in the U.S. I know for a fact that there are going to be at least a dozen people there that have done it more than I have, and perhaps can teach *me* a thing or two if I can just connect with them afterwards and share information. And so the U.S. is a real leader there, and I would say in México it's a great deal less. But on the other hand, there's this schizophrenic thing; on the one hand there's racism against Indians and there's this whole socioeconomic one-upmanship, but on the other hand, all of México's glory lies in the pre-Colombian past, and it's been all downhill—and very steeply—politically and economically since then. And so people also have this, in a way, exaggerated, mythologized appreciation for the pre-Colombian culture, while at the same time they're discriminating against their dark-skinned Indian gardener.

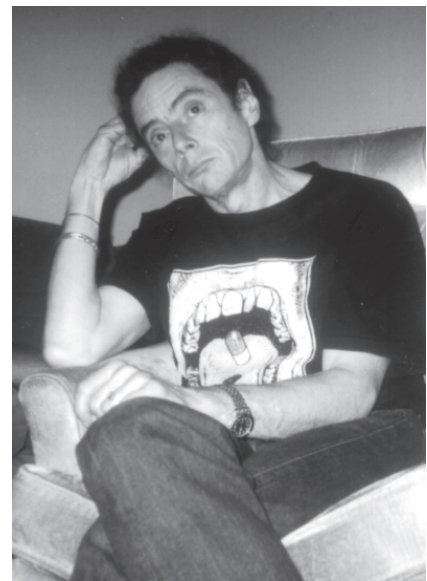
What is true about México that's not so true about the U.S. is you would be surprised at the "straight" people that have in fact tried mushrooms, or peyote, or something. Because there there's no stigma whatever attached to mushrooms, peyote... *Salvia divinorum* they don't really know about, but basically mushrooms and peyote are the big two. But mari-



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juana and LSD are just completely different topics for them. And that's *gringo*, *jipi* (hippie), "evil drug," and the rest. And then peyote and mushrooms are, "Ah, our glorious indigenous tradition." So I will often ask, especially older people, when the topic comes up and they ask me what I do, I will just ask them, "Well, have you ever tried this?" And it's surprising. You know, doctors and lawyers will say, "Oh yeah, fifteen or twenty years ago, my wife got sick and so we went to Huautla to look for MARÍA SABINA." And this sort of thing. Because this is a living thing in México, and even city people have a place for it. Even doctors who are making their money as the competition. And so it's bigger than people would think, but marijuana is a great deal *less* used in México and all of Latin America than it is in the U.S. And LSD and so forth is almost non-existent. I don't know what the statistics are.

The U.S., in that government survey, I think they estimated something like two million users of visionary drugs like LSD, and it has been said that 20 million people from the U.S. have admitted to having tried acid, or mescaline/peyote, mushrooms, ayahuasca—one of these at least once in their lives. But they're talking about only maybe a tenth of that many of regular users. I would say the number's gotta be higher. That it's at least double that and could even be as high as 10 million, one in 25 that are more-or-less active, current users. But I'm sure that we have at least 5 million, 1 in 50, because there are about 250 or 260 millions in the U.S. I would say that we're looking at at least 2%, maybe 4% users. And I think in Europe the percentage is probably higher. That there are in fact probably more users actively in Europe, maybe as many as 10 to 20 million, if here we're talking 5–10 million, maybe 10–20 million in Europe. So potentially the market in Europe is actually bigger for these things, but it *isn't* in the sense that they're just used to buying pills in the disco, and there's not this "can do" go-down-in-the-basement attitude. They don't have a garden anyway, I mean they don't have any land, most of them live in apartments.

Jon: Regarding your comment about only including the analysis data from published references in the second edition of *Ayahuasca Analogues*. I've recently been made aware of rye grasses tested by JOHNNY APPLESEED that appear as though they may have a fairly high tryptamine content. Is there anything you know of in the literature that has reported this from rye grass?

Jonathan: No. I don't even know what genus that is. But once again I want to make this point really clear. In my tables, in

Pharmacotheon and *Ayahuasca Analogues*... well, for example, just with the mushrooms; GARTZ and ALLEN have published one table where they have 158 species of what they call scientifically-proven psilocybian mushrooms. But as I point out in a footnote to my table, I've only identified 100. Because I look for an actual *report* in the scientific literature. And then I list others that are in their table, but there is no chemical evidence for it; they're just saying, "Okay, this blues, it's a *Psilocybe*." And I agree with them, it belongs on a table like that, but it's just a question of what your ground-rules are for the table. And so mine has only 100, and then I list in the footnotes about another 60 or so *probable* psilocybian mushrooms. But to me that's an important distinction. And it may well turn out that some of these aren't psilocybin—maybe one of them is only baeocystin, or something like that. And indeed, that's an open book, that chemistry. Though probably you don't just have baeocystin and nor-baeocystin, but also the non-methylated tryptamine equivalents of both have been found in a couple of species, and we're probably dealing with at least six potentially-active compounds. And GARTZ has described this aeruginacine, which turns greenish, from *Inocybe aeruginascens*, and that's probably some non-phosphate ester of psilocin, some kind of other compound.

Jon: But none of these have been found in mushrooms that don't also contain psilocin?

Jonathan: Not so far, no. Without psilocybin and/or psilocin.

Jon: That's the mushroom that somebody reading this needs to find now, for us in California at least.

Jonathan: Exactly... APPLESEED and TROUT have done really good work. But I don't cite those in these kind of tables because they're not published in the open literature where you can access them with a literature search. You have to have the book. I'm more concerned with what is openly available, accessible to everyone, and is in a refereed journal. And they often couch their analysis, which are done with the constraints of not necessarily having access to the best standards and equipment and reagents. But I definitely cite their work. TROUT especially has done extremely valuable work, which is as detailed as anyone could wish as far as really backing it up. And he's as careful as can be about *not* going beyond the evidence. He's a very good example of what I was talking about before, of *not* jumping to conclusions, and really stating your grounds for equivocation also, when you're bringing up evidence. But this kind of work indicates that just go-





ing down into the basement with a little TLC rig, anybody can turn up new tryptamine plants and go to the races. And now its the private sector, the non-scientific, non-academics that are really leading the way in this field.

Jon: So tell us a little bit more about ideas for future products, other than the Pharmahuasca®.

Jonathan: Oh, from PHARMACOPHILIA... well, I basically see PHARMACOPHILIA as doing what I call “psychopharmacological engineering” in my book *Pharmacophilia*. And I think that this is going to be the biggest “new industry” that the world has ever seen, and that in fact the War on Drugs is lost and won. *They* lost, *we* won. They haven’t conceded defeat yet, nor will they do that perhaps for ten years, maybe twenty years. [The longer it takes, the more likely will it be that we see the losing Field Marshals in the dock in war-crimes tribunals, just like their Nazi prototypes; concerted demands for reparations, perhaps other vengeant virulence. It seemed like a stroke of evil, political genius to paint this scapegoating crusade as a ‘war,’ but we’ll see what happens when the victorious troops are at the door of their bunker. Will some miserable coward of a President shoot him- or herself, some despicable weakling poison his or her own children before doing the same? I have extensive correspondence with *pharmacopolitical* prisoners, or ‘prisoners of war in America’ (*sic*) as they call themselves, and these crusaders—the scum of the Earth, really—have ruined literally millions of lives, made millions of enemies... very *angry* enemies. I would hope that we could be charitable in victory, finally break with this awful stain on history, our relentless vindictiveness, but it’s

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easy for *me* to say that—I’m not a ‘lifer’ in the *gulag*, at least not *yet*. In fact, in one of the cruel ironies of war, I am an unintended beneficiary of the war, which has handed me golden opportunities, as it might be, on a gleaming, crystal-line-festooned silver platter!] It all depends on where and when. But there’s no doubt in my mind that Washington and Langley are the Berlin and Tokyo of this War. And maybe somebody will resurrect and raise the Titanic, and they can then sign the surrender on the deck of the Titanic instead of on the deck of the Missouri. But that this will happen is in-

evitable because of economics, purely and simply. It’s money that rules our world. And even though this so-called ‘war,’ like any other, favors certain evil enterprises that have profited from it, and there’s this prison-industrial complex and so forth, there are even *bigger* enterprises that could stand to profit more from things *not* being this way. And eventually *they* will win out. And so what I see it as being is this gives us about a ten-year window-of-opportunity in which the situation is in limbo. The natural, logical players in this “new” industry—it’s really the oldest industry in the world—the tobacco companies, the booze companies, the pharmaceutical industry, presently have their hands tied. In the case of the tobacco companies, with this absurd idea that tobacco is not a drug, it’s not about nicotine, there’s no addiction involved, *etc.* So naturally they can’t come out with a better form, a more euphoric substitute for smoking tobacco. The pharmaceutical companies are stuck similarly with a therapeutic model. And okay, so they can crank out a nicotine-product, but it costs \$50.00 for 100 mgs of Nicotrol® that you shoot up your nose with a little pump-sprayer, or nicotine gum, or whatever, and so that’s also a failed model. Because we’re not talking about *therapy*—getting people *off* of these substances—we’re talking about giving them *a more healthful alternative*, which is nothing new, it’s exactly what HUXLEY proposed in the 1930s, when he said, “If I were a millionaire I should endow a band of research workers to look for the ideal intoxicant.” Well that’s basically the name of the game. And so I see it as being general psychopharmacological engineering. We have a ten-year window-of-opportunity, in which small, bold, creative private enterprises can step in and work within a context of stretching the limits of

the very bizarre legal situation we have right now, which nonetheless gives us enough latitude to get our foot in the door and start working on this. The real big prizes of course are not vision-drugs, but tobacco-substitutes, more euphoric forms of nicotine or its analogues, that are more healthful, stimu-

lants in general—especially amphetamine/cocaine-type stimulants—and alcohol. If someone could come up with something that were a more-or-less serviceable substitute for alcohol, but didn’t require multi-gram doses at a time that the liver has to process... this would make MICROSOFT look like a Mom & Pop grocery store!

Jon: Or perhaps put the cure with the poison? Fortified alcohols containing milk-thistle extract and antioxidants...





Jonathan: Or just simply figure out the psychopharmacology of alcohol, which, amazingly enough, hasn't been done. We just have aging theories about general anesthetics and their solubility in membranes. But now we come to find out there are specific *receptor* effects, and slowly but surely the picture is becoming a little clearer. But basically we're at the same stage with alcohol as we are with bufotenine. We just don't know fuck-all about its ludicrous pharmacology, its pharmacohedonology. And so those are the big prizes here. And my goal is to lay the base, working within the bounds of the vision-drugs, because that's... something like *pharmahuasca* will generate enough income to *finance* some R & D more specifically into things that are going to be more expensive and difficult to do. And so then we just start working within the bounds; we will introduce a line of what I call "smart-snuffs," and probably the first one will be based on arecoline, which is the active stimulant-alkaloid in *betel*, which is one of the most widely used stimulants in the world, right up there with caffeine in terms of number of users, which number in the billions. But it also happens to be a prototype smart-drug that raises the choline levels in the brain, and acetylcholine is thought to be the primary transmitter in the major memory circuits in the brain and is very important in memory storage. And most of the so-called smart-drugs are cholinergics that somehow effect the acetylcholine system. And conversely anti-cholinergics like scopolamine and atropine have the reverse effect—they *inhibit* memory acquisition. So I would call them "smart-snuffs," and by the way nicotine is also a smart-drug, and also shows this kind of effect, as do stimulants in general—they're well-known to enhance learning. Not just alertness and keeping one awake to study all night or whatever, but they actually enhance recording this kind of information. What they have been found to do in more recent studies with PET scans and the like, is that they stimulate the brain *in a task-specific way*. It's *not* a general overall cerebral stimulation. The area of the brain that you use for a certain cognitive task is *specifically* stimulated by these drugs, and other areas are left quiescent. And so it is in fact something that's boosting the signal-to-noise ratio, so to speak, in certain circuits of the brain. Potentially a *very* useful thing.

Jon: On the topic of smart-drugs, in the [last] issue of *ER* K. TROUT mentioned a couple of bioassays with Piracetam and mescaline, and had noted a strong "potentiation." I'm curious if you have any ideas on the pharmacology of that?

What's the difference between the ethnomedicine of the *ladakhis*, and the ethnomedicine of the Sacramento suburban residents? I mean, scientifically speaking, they're both valid subjects of study. And in fact, now we have this very thriving, active home-experimentalist scene, of which *The Entheogen Review* is really one of the strongest elucidators, because that's where some few of these people come forward and talk about what they might have done. And this is a tremendously valuable source of ethnobotanical information, and likewise of specific pharmacological information.

Jonathan: Uh, huh... interesting. I'd have to think about that. Nothing springs to mind exactly. But yeah, this is just an open ballpark. And obviously these kinds of things are very valuable, because *who* among the drugabuseologists is ever going to connect the two? Or suddenly come up with some absurd animal-tests? *Anything* that will be useful in this field? And suddenly we have people willing to try any and anything in combination. And we need to be very careful with this. But in fact, I've long been advocating study of drug-scene ethnobotany—and this was laughed out of the hall at one time. When I first started in my career out of school, in 1975, the "hippie drug scene," or just the illicit-drug-scene *per se*, not necessarily *hippie*, was not considered to be a fruitful subject of study for ethnobotanists or for pharmacologists. But why not? I mean, *we're* people also. What's the difference between the ethnomedicine of the *ladakhis*, and the ethnomedicine of the Sacramento suburban residents? I mean, scientifically speaking, they're both valid subjects of study. And in fact, now we have this very thriving, active home-experimentalist scene, of which *The Entheogen Review* is really one of the strongest elucidators, because that's where some few of these people come forward and talk about what they might have done. And this is a tremendously valuable source of ethno-





botanical information, and likewise of specific pharmacological information. Because we have access to a whole smorgasbord of substances and a full pharmacopoeia of psychoactive drugs, and so where else is it going to occur to someone to take something like Piracetam and combine it with something like mescaline, which is very hard to get? No, I wasn't aware of that.

Anyway, to go back to the whole PHARMACOPHILIA thing, the next product will be smart-snuffs, and I'm working on an arecoline-based stimulant, and also a nicotine-based stimulant, and perhaps combinations of the two. Then there will later be visionary snuffs. And other types of *pharmahuasca*—like maybe an herbal *pharmahuasca* product. You could have a whole variety of them. You could have a basic *ayahuasca* and *Peganum harmala* extract for the MAOI side. You could have a... and in some countries... in the U.S. this would be legally problematical, but in Holland it's presently not problematical... you could make a *jurema*-extract pill... nor in Japan, where *pure* compounds are more of a problem. Those would also be products. But I see the real big prize for the near term as being *coca*/cocaine. Because stimulants are obviously big business. During what ANTONIO ESCOHOTADO calls "The Pharmacratic Peace," basically cocaine was controlled, the opiates were controlled, but the pharmaceutical succedanea or substitutes for these were more or less easily accessible, and this stopped in the 1960s. And he defined that as "The Pharmacratic Peace." During that time, it's estimated that in the last year of legal availability, more or less in the medical field, of amphetamines, the U.S. industry manufactured some 9 billion dose-units of amphetamines, and it was a major part of the pharmaceutical business. And so one of the geopolitical problems with legalization or the eventual derogation of these drug-laws is the fact that there are significant benefits for some people of the prohibition. And there are many countries that benefit from this, like Columbia, like México, like Bolivia and Perú. Bolivia and Perú are good examples. They're desperately-poor countries. México's a great deal richer than they are, and so is Brasil. And in Bolivia the illegal *coca*-based economy is at least as big as the whole legal economy of the country. So we're talking about half of their livelihood coming from this. And if these things were made legal... as we know, when amphetamines have widely been available, cocaine has been just very niche-market, a very small player in the stimulant field. And so the way that I see to answer this, owing to the great and deserved importance of natural products, ethnomedicine, and herbal extracts as opposed to purified compounds and the pharmaceutical industry... you just exploit the same thing. And

so I want to start a legal *coca* business in South America. Presently the legal market is basically restricted to Perú, Bolivia, and Northern Argentina, and only in Northern Argentina is there enough economic well-being to make money off this. In Perú and Bolivia it's legal, but nobody can afford to buy any good stuff, while cocaine is dirt cheap—about \$5.00/gram. And so you revive really good, legal *coca* products. I had thought of making two. One would be what they call a *diksap* in Holland, which means just thick syrup; sap or juice. Yeah, *sap* is really *juice*... thick juice. And so they just mix it with mineral water, and they always have it on hand with soft drinks, and beer or whatever, they always have beverage syrups. And so you make a similar product out of *coca*, but one that has all the alkaloids and all the flavoring and nutritional elements natural to the leaf—you don't discard anything of worth. Just basically eliminate the fiber and concentrate it down. Then people would be able to make their own *Vin Mariani* or their own *real Coca-Cola*®, just by adding this at home. Or taking it by itself, or adding it to other foods. And also this could be rendered as a fairly large lozenge—imitating an *acullico* or *coca* quid, but smaller, and having the equivalent amount that's in a *coca* quid in a lozenge. That could also be compounded with other things—flavorings like ginger, like cardamom. But also could be combined with immune-stimulants and other nutrients... vitamin C, and so forth. You make these products, you do the test-marketing and R & D on a modest scale making modest profits, in South America where this is legal. And in Bolivia the government will even give you incentives for investing in this kind of industry, because they desperately want to foment the legal market for *coca*. Because even in their legal economy it's 20% of their economy. And then they have an illegal economy that's at least as big as the legal one. So you're really talking about something like 60% of their overall economy is in this one product. And so I wish to do this, and my *modus operandi*... you have to be really culturally-sensitive, and I wish to be at best a minority partner with foreign nationals in any of these businesses, so I would have partners from Bolivia and Argentina in this. And as in my Dutch company I'm a 40% owner with two Dutch partners, and my Spanish company I'm a 33% owner with two Spanish partners. And so then you do the R & D, you make the effective product, and then you work on expanding the market. And the way I see it of introducing it into the European community first, and subsequently into the U.S., is that you start through companies that are engaged in addiction therapy like HEALING VISIONS with DEBORAH MASH, like TAKIWASI in Perú, and you set up an R & D program, you give them free samples, and go into collaborative research. And you propose it as a substitution-





therapy analogous to methadone with opiate use for *pasta*-base smokers, for crystal-sniffers, cocaine users, and so forth. And that's how you get your foot in the door in Europe. And then you work on expanding it from there.

Already in Amsterdam you can buy *coca* tea-bags; they're allowing that. And so the door's already slightly open. And again, Bolivia... at the Sevilla World's Fair, the Bolivian pavilion was a *coca* promotion mission, basically. They gave out free samples, and they were just trying to set up cooperative ventures and make these legal products. But the problem is that the ones that they had come up with were de-cocainized, because they're too overly-sensitive to this. *Coca* without cocaine is like coffee without caffeine, or chocolate without anandamide and theobromine. To me it's kind of a silly way to go about it. And furthermore, as many of these go, they don't even taste good or look good, so why bother? They're just kind of ruining something that's intrinsically very good. So you have to come up with something that really works. And it will work even better than a *coca* quid, and somewhat less-well than sniffing 150 mg line of pure coke or banging it or smoking free-base. I think it's a very feasible thing, and that over a five- or ten-year period that this also be worked into the equation. And then that would generate the kind of funds that we will need to go after alcohol, which is going to be a major R & D thing. But that's what I want to do, is make this into a big business, and set up a big R & D operation, and become the MICROSOFT of the psychocosmos.

Jon: Changing the subject back to the topic of plant-spirits. Somebody told me once, a quote from you, which essentially said, "Spirits are for pea-brains." (WILL laughs)

Jonathan: No, I never said that. I would never say that. I would use the word pea-brain, but not often in public... but not that way. (laughs)

Jon: Well, I don't know that it was in public...

Jonathan: No, that was a very loose paraphrase of something that I might have said, but I certainly never said *that*, that spirits are for pea-brains.

Jon: How would you define, personally, *your* belief in God?

Jonathan: I don't really have one. I mean, that's basically it. But the other side of the coin is I don't have any disbelief where that's concerned either. I just don't know and *I don't really care*.

Jon: So the agnostic position then.

Jonathan: I guess you could call it that. But I have never seen any evidence with my own eyes or senses of the existence of plant-spirits or deities. But I can't either say that they don't exist, based on my lack of having been able to perceive it that way. I don't.

Jon: And you've had no contact with... so many people report an entity contact, or some *thing* that in their vision looks a person...

Jonathan: Never, not even remotely. Nothing more than like SCHULTES has described, "squiggly lines," and patterns and the like. I've never seen *any* kind of a vision. Nor do I have especially vivid dreams very often. I'm more like HUXLEY—like the way HUXLEY described it, not such a strong visual imagination.

Jon: Coming from that perspective then... when you take these substances, is the word *entheogen* only being used in an ethnographic context, and for yourself, these substances *aren't* entheogens?

Jonathan: Well no... uh, I define... yeah, well it's... this might well just sound probably like I'm just rationalizing or something sophisticated, but no. I think that the universe is our creator. And to me the divine is the universe itself. And specifically it's manifestation as *energy*, as opposed to *matter* or as a more tangible, palpable thing. And so far as I can tell, neither science nor any religion can explain the origin of the universe. If you talk about it—and SASHA did a good job of satirizing this—the "big bang," and so forth. The universe was created in this big bang, and is so old. Okay, but if there's no universe and no temporal era, when did that happen, where did it happen, and where did it come from? So you're still postulating the universe, basically. And if they say, "Okay, this or that deity created it," or that life actually came in interstellar dust, you're still just pushing away and farther back. But where did that start? Where was this deity standing if there was no universe? Where did she come from? Out of what was this created? And so I just think that it's something that we *can't* know. It's *unknowable*. I haven't experienced it as plant-spirits, and so I can't vouch for that particular way of seeing it. But I would never say that it's for pinheads or pea-brains or whatever, or negate someone else's perception of it. I have to admit that that is possible. And it's certainly plausible. And so I try not to believe in anything, but the other side of that coin *is not to disbelieve in anything either*.





And I try to just enjoy and live with the uncertainty of not knowing. I just think there are things that we can not know. The whole business of religion—and science has gone into that same business, and now everybody and his brother is exploiting the breach that science has more or less vacated

Will: You've left a pretty good written legacy though, so maybe you've already satisfied that innate urge to kind of make one's mark and leave something beyond our impermanence behind.

And another scheme that I cooked up for frustrating the powers that be in the War on Drugs is making toxic honeys as a means of selling drugs surreptitiously. *Naturally* toxic honeys, where the bees sequester the secondary compounds in the plants.

by not doing such a good job of it—is offering certainty to people, when basically the universe gives us questions not answers. People don't want to live in uncertainty. RICHARD FEYNMAN said it really well. He said, "I can live with doubt and uncertainty and not knowing. I think it is much more interesting to live not knowing than to have answers which might be wrong...I don't have to know an answer. I don't feel frightened by not knowing things, by being lost in a mysterious universe without a purpose, which is the way it really is as far as I can tell."

Will: Yeah, I think that is one of the biggest failings of people, is that they are *very* uncomfortable with the level of uncertainty in this world, and they will do anything to minimize that, and box themselves in.

Jonathan: Yeah, they want continuity. And the universe gives us constant change, and there's nothing solid, and nothing really continuous about it. People want to think their genes are going to be perpetuated, their character is going to "life after death" or whatever they call it. And personally that just *doesn't interest me in the slightest*. There are a million-and-one objects of inquiry that are of interest to me right now, and whether my identity, consciousness, or some semblance of it is going to continue after my heart stops beating and my brain waves start propagating... I'll find that out, or I won't, one day or another without doing anything. And so it's just a matter of being patient and waiting. And now I have a lot more things that I *can* know. Why is it so interesting? I don't care, I *really* don't care.

War on Drugs is making toxic honeys as a means of selling drugs surreptitiously. *Naturally* toxic honeys, where the bees sequester the secondary compounds in the plants. We already know of a few different categories of psychoactive honeys that occur naturally, and we could make a few more. So that would be sort of a cool fun business for somebody. It would also simply involve connecting the drug-plant growers with people that rent out hives for orchard owners. You wouldn't even need to do your own apiculture. You could just make the right connections in the right place, and buy the special honey. But that's one that I'm less likely to have time to do, so hopefully somebody else will do it.

Will: What's the most promising crop for that?

Jonathan: Well, morning glories, for example; the Mayan morning-glory honey. Possibly tobacco. Certainly the Solanaceae give toxic honeys, and the Ericaceae.

Will: You've gotta have a really big mono-crop of that though, don't ya?

Jonathan: But such things exist. And the stingless-bee honeys... well, you know you can buy clover honey, or alfalfa honey... and yeah. Such things exist on big herb farms. The stingless-bees from the Mayan morning-glory honey are discriminate—they graze one floral source at a time, so you just need to control where the honey's going from that particular flower. Mine all died off. I have to start up again. Actually I wasn't living in México when I started that up, and then the iguanas ate all the morning glories, and my friend spaced it out, and you know, nothing happened.

Jonathan: Perhaps.

Jon: Anything new and interesting that you've been working on lately?

Jonathan: I did publish a paper in *Economic Botany* on psychoactive honeys and toxic honeys as a mechanism of drug-discovery in the preliterate world. And another scheme that I cooked up for frustrating the powers that be in the





Will: Everything went to hell while you were gone, yeah... surprise.

Jonathan: Right. The iguanas ate the morning glories. Well, I don't have any iguanas where I live. *Nothing* eats the morning glories.

Jon: Hey JONATHAN, you had mentioned in *Pharmacophilia* that some kind of a stomach medication—proglumide—could be used with opiates. Have you tried that?

Jonathan: Oh yeah. The dosage is about a quarter of a gram. Proglumide used to be used as an ulcer medication, but now they have more profitable ones.

Jon: I've also heard that you can use Tagamet® to do the same thing. Do you know if that's true?

Jonathan: Is that a CCK inhibitor?

Jon: I don't know.

Jonathan: I don't think so. No, I think that inhibits the secretion of hydrochloric acid in your stomach. No that wouldn't work. CCK is a gut hormone—cholecystokinin—that is really involved apparently in ulcers. And so they had CCK inhibitors at one time that were ulcer medications. Proglumide is one of those. But CCK in the brain is the endogenous opiate antagonist. It's like naltrexone and naloxone. It's what dampens the endorphin circuits—the endopioid circuits. And so it was found that inhibiting this CCK is like enhancing the effects of opiates. And not only does it make the opiates more effective, but it also can reverse opiate tolerance or prevent it from being developed in the first place.

Will: Really!? To the point dosage does not have to go up at all?

Jonathan: Exactly.

Jon: Do you need to *lower* your dosage?

Jonathan: You can, yes.

Jon: But would it be dangerous *not* to?

Jonathan: Well, you'd get an enhanced effect, definitely. I wouldn't think it would be dangerous. But if you have tolerance, you can actually work your dose down by using this.

Will: Is it sold as a powder? When you say a quarter gram...

Jonathan: Well, I just bought 50 grams of it from SIGMA. It's not on the Usan pharmaceutical market anymore, because they have more profitable things. It's cheap, it's non-toxic, it's been approved in many countries. There's a good track-record for its use in human beings. It's not some experimental thing.

Jon: You can get it in other countries though, right?

Jonathan: Well, it's not available in Spain or México. Every country I go to I check to see if they have it. I don't know how to find that out. But I know the trade names for it—in the *Merck Index* you can look that up. And SIGMA sells it—it's very cheap, 50 grams is about \$90.00. And so that would be something... I hadn't really thought about this but that just reminds me, that's something that we should make for PHARMACOPHILIA. Make dose-forms of that.

Jon: Yeah.

Will: Absolutely. Does it in any way effect the quality of the analgesic effect?

Jonathan: I took it first by itself, and didn't really notice any effect. I didn't know what the dose was at first, and so I started working up. Then I got this book called *Orphan Drugs* that just happened to have it in there, but they don't say what countries still sell it. But they list it as an orphan drug.

Jon: Does it say who manufactures it though? I mean, couldn't you write to the manufacturer and find out where?

...not only does it make the opiates more effective, but it also can reverse opiate tolerance or prevent it from being developed in the first place.

Jonathan: Yeah. It's possible. I can find out. And I will. But it may be that the patents have expired also, and that's another reason why it's not being marketed. And the dose is kind of high. And now they're going for more specific things like inhibiting hydrochloric acid secretion or whatever, and maybe CCK inhibition isn't a valuable treatment anymore for ulcer. But there are other CCK inhibitors that are known. But this is the cheapest, most readily available one.





In fact you can stop the development of tolerance to drugs—it's not something that inevitably goes with drug-administration. This can be done with Valium®—this would be another target of research for PHARMACOPHILIA eventually, when there's enough money to support this kind of thing—anti-tolerance therapy. Because stupidly, like everything else, the government in the United States and the drugabuseologists, automatically go in the wrong direction. They try to make drugs *weaker*, not *stronger*. They try to *enhance* tolerance, not *inhibit* tolerance. And so what's happening with the current situation is they're making what they call the “cocaine vaccine.” And this is the Holy Grail of NIDA, to come out with a “cocaine vaccine.” And what this is, is monoclonal murine antibodies. This is really Machiavellian and bizarre. They make what are called *hybridomas*. You fuse a myeloma cell, which is an immune-system tumor cell, with a specific antibody-producing cell that you've already selected. To do this you make a *hapten*, which is a synthetic antigen. Cocaine is too small to activate the immune system—you need a much bigger molecule to activate the immune system. So they bind not cocaine, but an analogue of it that's like the transition stage between cocaine and its metabolite, which is ecgonine. So they made a transition-state molecule bound to a protein that would activate the immune system, then they injected this into mice so that they would make antibodies to this protein. Then they selected out the cells that made that specific antibody recognizing the cocaine-analogue portion of the hapten, fused them with a myeloma cell to make an immortal cell-line that you can grow in culture and will secrete these antibodies. Then they inject the antibodies... I don't think this has yet been tried with human beings... but eventually into the hapless parolee, job-seeker, immigrant or whomever, and then it enhances their innate tolerance to cocaine. And so what happens is you have antibodies circulating that chop-up the cocaine in your bloodstream. And so in order to get the effect from cocaine, you have to take five times more, or something like that. And you have to have the antibodies injected every month or so, because it's not a vaccine. It doesn't stimulate any native immunity. It's like taking a γ -globulin shot. And so it's just an antibody shot. And of course they call it the “cocaine vaccine,” and when I describe this in a footnote in *Pharmacophilia*, I quote THOMAS SZASZ as saying in *Ceremonial Chemistry* in the mid-seventies, “A drug compulsorily administered to addicts is no longer *like* a vaccine; it *is* a vaccine.” And now they're calling this a vaccine. They're not saying it's *like* a vaccine, it *is*, it's the “cocaine vaccine.” So people can march down their teenaged daughter and force her to take this shot, so that she won't become a cocaine addict! But in fact, it's going to make her *more* likely to have

problems with cocaine, because she'll take more and more and more, with more side-effects, and so forth. You can still get the effect, as long as you take enough to overwhelm the antibodies. And of course it won't effect speed. So you could also take speed instead of coke.

Will: Right, oh man...

Jonathan: Yeah, it's a nightmare. And pharmacogenetically, the *higher* your innate tolerance is to something, the *more* that correlates with possibilities of having “problems” with that drug, because by your very nature you have to take bigger and bigger doses to overcome that innate lack of sensitivity. It's kind of counter-intuitive, but the less sensitive one is to a given type of substance, the more likely one is to have a problem relationship with that. Because by nature, in order to get the effect, you have to take bigger doses than a person who would be more sensitive. Instead of working to overcome tolerance, which is possible... Or they say, “Oh, no, we can't give opiates to this cancer patient who's screaming in agony, because he might become addicted.” Which is a lie anyway. Because people that are taking opiates for extreme pain *do not* generally become addicted to them—that's just a medical lie.

Will: Oh, is that right?

Jonathan: Yeah, because if anything, they tend to associate that... Well, let me qualify that. I would say people that like opiates are, at the most, 20% of the general population. Studies that have been done with naive subjects, where you inject them with heroin, the great majority of them have real dysphoric effects and never wish to repeat the experience. The ones that have the taste for opiates, say the one-in-ten or one-in-twenty, if they've for some reason never tried them before, and only in the context of a car accident or something, tried it for the first time, then yes. Those people could possibly become habituated. But the great majority of people *don't* have that taste, they get more dysphoria than euphoria, and those people tend to associate the opiates with the other discomfort, loss of dignity, *etc.*, of being in the hospital, so if anything they're conditioned *against* it, not *for* it. And so that's a lie. But they use this, and instead of exploring these technologies, which have been known for some decades, to prevent the development of tolerance, they're now working on ways to enhance tolerance. And there's also a so-called “heroin vaccine” that they're working on as well. So yeah. They've been saying that black is white and white is black for so long that now they start to believe it themselves. So they





just immediately march into the A-bomb zone, or step off the bridge, in everything they do. They're always just going the wrong way, doing the wrong thing.

Will: One last question on the proglumide, does it also extend the duration of the effects of opiates?

Jonathan: I'm not really sure about that, but I've tried it with morphine and codeine both, and I'm satisfied that... well I recently kicked, just to experiment... now I'm trying to find out how addictive are opiates because I've used them every day pretty much for about 15 years. For me it's the major smart-drug and it's the greatest boon that I've ever had, it's never been a problem for me. And I've never had any kind of problem, but I tend to use them every day, and it's been a problem sometimes for me with travel, especially to the U.S. although here you can buy opium poppies and just make tea from them, and it's cheaper than buying espresso really.

Will: Do you use it in its raw form?

Jonathan: Yeah, opium-poppy tea. Or codeine or morphine, pharmaceutical pills. In Spain, the pharmaceutical pills are really readily available and cheap.

Will: Just codeine though, right?

Jonathan: Yeah, but I like codeine. And you can make morphine or heroin from it if you wish to. But you can get 50 mg codeine pills over the counter in Spain with no aspirin.

Will: Yeah, I've tried those, my friends brought them back, and there is just not the euphoria that there is with oxycodone or hydrocodone. I think they are *far* inferior.

Jonathan: Well, I don't notice any difference between Hycodan®, Percodan®, and codeine. I prefer codeine, actually.

Will: Really?

Jonathan: But you see people vary pharmacogenetically with respect to the enzyme which is called, it's a cytochrome P450 enzyme, I think it's called CYP2D6, and it's actually the enzyme that catalyzes the transformation in your body of codeine to morphine because we make morphine, codeine and thebaine. We have the same biochemical pathways as the opium poppy. And so, *morphine* is an endopioid also, for us, and so those people that don't have endogenous morphine,

nor can they demethylate codeine to morphine because codeine is a prodrug as is heroin, and morphine is the actual analgesic agent. So about 10% of Caucasian North Americans don't have that enzyme and get no analgesia at all from codeine or from hydrocodone, because that's transformed to hydromorphone by the same mechanism. And it affects the metabolism of about 20 different drugs, it's called the debrisoquine anomaly, because that's one of the more common medicines that it affects. And so, that's one of my examples in *Pharmacophilia* pharmacogenetics, because in North America—10% of the people—it's a very significant one. And so, I think people vary with respect to how efficiently we can convert codeine into morphine. I convert it fairly efficiently and so codeine is fine for me. Chemically you can convert them, you can demethylate codeine into morphine with boron tribromide, which is a simple reaction, and it goes in quantitative yield.

Will: Do you know if other populations in other countries have different percentages of people without that enzyme?

Jonathan: Yeah, I'm sure but I don't know the statistics or if it's even been tested, but I'm sure that must be the case.

Will: And so for those people they would not get any analgesia?

Jonathan: None.

Will: What do you do for someone like that when they're in... pain, heh-heh... are there other drugs?

Jonathan: Morphine.

Will: Oh I see, just give it to them as morphine.

Jonathan: Right. But there again, see, black is white and white is black; they have this massive growth of opium poppies for the legal opiate industry. By the way, I was talking about the PARTNERSHIP FOR A DRUG-FREE AMERICA... the United States uses 52% of the world's legal opiate supply with only 4% of the population, 70% of the black-market cocaine and 34% of the 200 and some odd million kilogram output of the world pharmaceutical industry. 34% of the whole pharmaceutical output of the world is used inside the U.S. Drug-free America! If it gets any freer, we will all be dying of overdoses! And so, yeah, black is white and white is black. They take the morphine out of this and convert it to codeine, which is less active and isn't even processed effectively into morphine by a





great many people—so that it won't be abused. But they have already abused the shit out of it by doing that in the first place. (laughter)

Will: So what is the easiest way to get proglumide?

Jonathan: Buy it from SIGMA through somebody that has a chemical company. But yeah, I had never thought about that until just now, but I'll definitely develop that as another PHARMACOPHILIA product. And start a line of... I call it anti-mithridatism because Mithridates was the one who came up with the idea that if you take poisons in small doses every day you will become immune to those poisons. And so it's sort of like anti-mithridatism to work against that kind of tolerance mechanism. And it would work probably with all these drugs, there must be an endogenous Valium®-type inhibitor. Valium®, by the way, is also a natural product, it's been found in plants and animals, it's been found in fungi also.

Jon: Found in any kind of quantities to isolate from plants?

Jonathan: It doesn't seem to be of pharmacological significance in plants. But I think that Valium®, or desmethyl-Valium®, is our endogenous sedative, because we have this GABA_A receptor, which is also called the benzodiazepine receptor, and only two endogenous ligands have been isolated for that, and they're both *anxiogenic*, they both cause anxiety rather than relieve it, and Valium® hits that receptor and relieves anxiety. One of them is a β -carboline, one of these endogenous ligands of the benzodiazepine receptor is a β -carboline. And that's why I'm pretty sure that β -carbolines main activity is at this GABA_A receptor in the brain. And so the reason they have additive effects with alcohol is alcohol is also effective at that receptor. And so I think that's their real pharmacological importance. And so the GABA_A receptor is an important target of drug-development, and also the nicotine-receptors. The MAOI effect of β -carbolines in the brain is probably of little or no significance in ayahuasca pharmacology, since cerebral MAO is inside the nerve-terminals, not in the synapses, where, however, β -carbolines might compete with DMT for access to receptor sites.

You probably know about this epibatidine, which comes from *Epipedobates tricolor*. It's one of these poison-dart frogs from Central America, they're little tiny things and people cruelly keep them as pets in aquaria, and there are hobby-shop books about them. But anyway, they mainly contain batrachotoxins, which are some of the most toxic compounds known.

And there's one species from Costa Rica that has such high levels of batrachotoxins that two scientists died from just handling an animal; they got enough of it on the palms of their hands that it killed them. It's very toxic stuff, but only two of the species are known to be used for poison-darts. What the Peruvian Indians do is they carefully spread-eagle these little creatures, they stretch them out in a little frame of wood—and they are very careful not to harm them and they always release them unhurt—and then they scrape their skins with a soft stick and collect the secretion from their skins and dry that out. Then when they wish to go hunting—they put this on their darts and so forth, because it's a fulminating poison—but when they wish to go hunting they burn their arms with a brand from the fire, they put a little of this in their palms, they dissolve it in some saliva which they rub into the burn on their arms, and then they also burn the noses of their hunting dogs and do the same thing, rubbing it onto the dogs' noses. And then both the dogs and the people have heavy toxicity and vomiting and they're incapacitated for about 8 or 10 hours, and they're in a kind of toxic stupor. But when that passes all their senses are enhanced for hunting and the dogs can smell better and they can see and hear better and so forth, and then they go out hunting after weathering the storm. So it turns out that the compound isolated from these frogs, epibatidine, is a nicotinic-receptor agonist. And nicotine is also an analgesic with morphine-like effects.

Jon: This is the “toad morphine” that you're talking about?

Jonathan: Right. But it's a frog, not a toad, though morphine itself occurs in toad-skins. And nicotine is also an analgesic, but that effect is overwhelmed by much more dramatic other effects that it has. And so they have now come up with—and ABBOTT LABS is developing this—something that is about a hundred times more active at this nicotinic receptor than epibatidine as an analgesic [the drug is called ABT-594], and of course now they're touting it as a non-addicting analgesic and the same old bullshit. But, I mean, like any other analgesic, if it really works, it will be “addicting,” because it's the same thing. If it works people will like it. As it happens, it *was* bullshit—ABBOTT has cancelled development of the drug less than a year after a *Science* article touting its wondrous non-addicting (*sic*) analgesia.

Will: So you would feel comfortable marketing a product like proglumide?

Jonathan: I don't know about the patent situation, it will probably have to be licensed from the manufacturer. But





maybe the patent has run out, maybe it's a generic thing that can just be sold, but yeah, definitely. It was approved in many different countries, it's toxicity is well-known and minimal. Yeah I just never thought about that. So there will be a market for drug-boosters and also tolerance-minimizers, which will be another kind of drug-booster. There are just a million-and-one possibilities, and everybody else is barking up the wrong tree and just working completely at cross-purposes to what makes sense and so meanwhile I see we have a ten year window-of-opportunity to become the MICROSOFT of the psychocosmos. And then when it's no longer possible to compete with the big-time drug pushers, then you just license

your patents to them and then you retire on a boat up the Amazon. Well... the only thing that would make me wish to retire is destroying this Evil Empire, I don't think that's exactly going to happen but... so I don't think I'll *ever* retire because the Evil Empire will just go on to other things once they can think of some other angle, which should take from five minutes to five days.

Jon: Glad to hear that you'll keep fighting the good fight as long as possible. Good luck with your publishing and pharmaceutical ventures, and thanks for taking the time out to speak with us for *The Entheogen Review*. ✧

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