



## Right Relation with Tobacco: Decommmercialization and Reverence

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The much-maligned tobacco plant has been exploited to kill more people than any other plant, with yearly tobacco deaths exceeding eight million globally. Yet, for Indigenous peoples with many millennia of relationship with tobacco, the herb is regarded as a sacrament, a reminder of humility, a source of connection with ecological and spiritual communities beyond oneself. Juxtaposing traditional versus colonial tobacco use, I locate biocultural mechanisms that have led to such divergent human and ecological impacts of collaborating with versus instrumentalizing this plant. Sharing my personal history with tobacco as both a tobacco control researcher and a student of Indigenous tobacco ways, I explore how tobacco can be understood as a metonymic plant for both critical plant studies and human relations with the wider plant world through invoking the hermeneutic aspect of the medical and alchemical *pharmakon*.

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## Introduction

There is no plant more controversial than tobacco. And rightfully so. According to the Greek notion of *pharmakon*, the same substance possesses both toxic and curative properties depending on dose, set, setting, and matrix (Pendell 2010). The effects are not essential to the substance but relational potentialities manifesting according to enfolded contexts. Tobacco is the exemplum *pharmakon*. Traditionally regarded in many regions of the Americas as the most sacred of plants, the vehicle of prayer, a messenger between the visible and invisible, providing humans connection with the more-than-human world, tobacco holds a social role so central that merely recalling the spirit of the plant without even touching it fortifies (Russell and Rahman 2015). Intention, word, and steam of breath incarnate in human–tobacco relations.

Contrast this reverence with the harmful use of tobacco globalized by colonization and industrialization. Since tobacco became appropriated by colonial interests and subsequently intensified into an addictive substance through extractive processes, the plant's commodification has served as a tool for facilitating and perpetuating systems of domination under the guise of conferring adaptive benefits to said maladaptive systems. Rather than honored as sacred in its entirety—marveling at the beauty of its colorful flowers, the aroma of its blooming leaves, and the delicacy of its tiny seeds—only its intoxicating nicotine and its associated effects became desired by the colonial apparatus. Ripped from its religious-social-ecological context in the native Americas from whence it came, colonialism diminished the plant's role into a self-administered, settler-mediated drug to keep people hyped up as they turn the wheels of capitalism, grinding the materiality of the Earth into virtualized bits, ones and zeros of arbitrary value. This process converted the sacred tobacco plant into just another —albeit extremely potent and lucrative—site for extraction, with the tobacco industry spending US\$8.2 billion a year on advertising in the United States alone (U.S. FTC 2021). Tobacco has been so reduced to nicotine delivery that British harm-reduction advocate and tobacco industry-funded scientist Michael Russell often quipped, “people smoke for the nicotine, but die from the tar” (Elias and Ling 2018).

Taken up by a culture already stripped of its holiness (Wolf 1982), entrenched in addiction (Alexander 2010), and committed to violence (Davies 2018; Nixon 2011), tobacco became another bullet in the colonial arsenal of juicing people up to do things they had no desire to do (Scheidler 2020). Tobacco under domination served to override bodily and psychological circuit breakers like hunger and exhaustion (Klein 2005). Tinkering with biology in the various ways it does, tobacco could become a unifying plant, the hub around which a culture valuing humility and reverence could flourish, or it could become the ultimate addiction, extracted and impelled into addictive economies based on dependency, to be folded into a portfolio of other extracts and distillations like

sugar, alcohol, cocaine, opium, and gluten that hold in suspended animation the free wills of those addicted to them (Cross and Proctor 2014).

This relationship presents tobacco use as a key, if so far overlooked, area of study for critical plant studies and religious pharmacology. While psychedelic scholars such as Jeremy Narby (1999, 2021) have written treatises on traditional tobacco use, such scholars often lack the public health training necessary to accurately understand the full health and environmental impacts of industrialized tobacco, while other investigators miss the critical industry studies background necessary to understand the negativity of tobacco's poison *pharmakon* when it is captured; hence, these crucial distinctions—without othering the plant—have yet to penetrate social understandings of tobacco. As a scholar and practitioner with experience in public health, tobacco control, and critical plant studies, but also Indigenous tobacco traditions, I attempt, through an autoethnography, to bring into reflective equilibrium conflicting truths around tobacco: the industry that defiled it and the decontextualization from traditional Indigenous lifeways wherein tobacco now encounters us. This article passes between the worlds of exploitation and reverence to both better understand the nature of the *pharmakon* through the example of original tobacco cultures and appreciate tobacco and plants in general through introducing the concept of the *pharmakon* into critical plant studies and reminding religious studies of its contemporary relevance. I attempt to weave together both the biomedical and psychosocial spiritual dimensions of this plant to illuminate the unique dangers of commodifying trickster plants, plants whose powers can be harnessed for potent prayer or abused to great detriment.

Five hundred years of tobacco colonialism (Benson 2011), and over 100 years of industrial cigarette expansionism, have complicated Anglo-academia's and popular culture's forthcomingness to say anything good about the plant. People in public health who have battled the scourge of smoking are rarely receptive to sacred-use arguments because we know all too well that cigarettes kill two out of every three smokers when used as directed, killing more people in a decade than all the deaths of World War II (Doll et al. 2004; Pirie et al. 2013). And those addicted to tobacco often hate the substance as much as they hate themselves for smoking. A full 70 percent of smokers wish they did not smoke, and more than half have tried to quit in the past year (United States data, Babb et al. 2017; U.S. Department of Health and Human Services 2020). Rather than a tool for liberation, industrialization and greed have made this plant into a slave master, with those caught in its thrall immobilized by its grasp (McGilchrist 2007).

In this article, I contrast traditional forms of tobacco use—nonaddictive, non-hyped, non-chemicalized, nonindustrialized, non-marketed—as a plant messenger similar to the psychosocial spiritual role of Nike, the winged goddess of victory, emissary and messenger for Athena in Greek lore often depicted

carrying the staff of Hermes, against the colonial plague for which the plant has been deployed (Lewis 2017). According to the medical and alchemical *pharmakon* understanding of this plant as dual state—medicine or poison depending on dose, application, and countless other factors that must be attuned and attended to rather than *ex ante* prescribed and universalized—unconscious abuse of commercial tobacco creates a world manifesting the worries, anxieties, and hang ups of the most addicted. When not used as directed by the plant's own dictates, tobacco strikes back with a vengeance, especially in its manipulated form. Reflecting our relation with it, tobacco treats one as it has been treated, bringing either answers to prayer and potential healing or poisoning, dejection, and misery.<sup>1</sup>

In this narrative, I interject my unique experience as a tobacco control researcher, fighting against the ploys of the tobacco industry, combined with my concomitant tutelage as a student of Indigenous plant medicines of the Americas, learning the reverent ways of tobacco and other master teacher plants, and as a plant philosopher. Through this experience in contrasts, I hope to share not just insights about this peculiar and powerful plant but also suggest a way of approaching critical plant studies: if plants have ways they like to be, we can learn about those plural ways, move towards them, and concretely move away from exploitative relations in concrete fashion. If plants are the basis of life for us, unique as intermediaries of the biotic world, drawing energy from the sun and converting it to matter via photosynthesis, then *vegetal* ethics is not just a luxury or add-on but central to our continued existence and flourishing. Plant ethics and religious studies, in this view, are not two separate domains but interdependent in their co-arising. This is the *vegetal* ethico-onto-epistemology of the *pharmakon*.

### **Uncovering Layers of Resistance: From Scourge to Sacrament**

My own journey with tobacco has been somewhat unique. I never smoked in high school. Not only was I simply not attracted to cigarettes, but my father, as regional president of the American Heart Association and American Lung Association, told me that if I wanted to try smoking, he would buy me two packs of cigarettes and have me smoke all of them in my room with the windows and door closed, so I could really intuit via my external environment the full sensorial synesthetic experience of what cigarettes were doing to me internally. Needless to say, such a proposition was not attractive, and I did not give tobacco much thought, avoided secondhand smoke, and made my way through my youth and young adulthood unscathed by curiosity, peer pressure, or addiction.

Preparing for an academic life after my MA but before my PhD, I had the good luck of landing a research position at the University of California, San Francisco (UCSF) at the Center for Tobacco Control Research and Education. I had little knowledge at the time what tobacco control even was, more than

it aimed to reduce smoking levels and improve public health. But I soon specialized in accessing the unprecedented Industry Documents Library at UCSF ([www.industrydocuments.ucsf.edu](http://www.industrydocuments.ucsf.edu))—containing millions of pages of previously secret documents available through the tobacco industry’s and United States government’s 1998 Master Settlement Agreement—piecing together various narratives found there of purchased science, hidden knowledge, and manipulation of public trust. Hearing from the horse’s mouth—from consultants and managers to tobacco industry executives to industry scientists—about their meticulous plans for the subterfuge of public health and human agency, I became convinced that tobacco control was indeed a righteous enterprise, holding the industry accountable for harming and killing millions of people a year, in precision manner, just to make a buck (Proctor 2012).

My work in tobacco control transformed me into a (sometimes annoyingly) militant anti-smoking advocate, understanding the nuances of the industrial capture of marketing, shocked at the industry’s strategies of social engineering (before online social media) and appropriating science as a proxy war for policy (Elias, Hendlin, and Ling 2018; Hendlin, Anderson, and Glantz 2010; Hendlin et al. 2019). I published my findings in top journals, consulted for the state of California’s tobacco counter-marketing campaigns, and was rewarded for my efforts.

At the same time, the more I learned about tobacco, the more I pondered its allure. In doing research for one of my articles on what R. J. Reynolds called the “acceptable rebellion” of smoking (however ineffective) as metonymy and ersatz for impotent political revolutionaries to vent their angst (Hendlin, Anderson, and Glantz 2010),<sup>2</sup> I ended up reading *Cigarettes Are Sublime*. From this, I learned the curious fact that philosopher Mikhail Mikhailovich Bakhtin, left one winter with only a pile of tobacco and his finished manuscript but no rolling papers, in an exquisite self-destructive act of zen art proceeded to smoke page by page (starting from the last) his own manuscript to fulfill his addiction (Klein 2005).

What makes tobacco so addictive, so seductive? How could this substance mimicking and interacting with our acetylcholine receptors be harnessed for so much evil? Was the plant itself a menace to humanity? A blight on our planet? As I continued my research in tobacco control, increasingly I focused on the environmental impact of tobacco, including cultivation, drying (often with coal or wood), manufacture, packaging, distribution, sales, use, and disposal (an estimated 66 percent of all cigarettes are littered; they contain cellulose acetate [plastic] filters, introduced in the 1950s to ward off smokers’ concerns about the mounting science confirming their carcinogenicity, which do absolutely nothing to protect people’s health) (Hendlin 2018; Hendlin and Bialous 2019; Mock and Hendlin 2019; Otañez and Glantz 2011; World Health Organization 2017). Clearly, tobacco under industrialism is doing a world of damage.

In a pause from actively working on tobacco control, however, I started working with a different set of experts, Indigenous teachers of medical ethnobotany, and was disconcerted to see them working with the tobacco plant I had learned was so deadly—indoors no less—a veritable crime in the state of California. At first, I had visceral repulsive reactions. It took some time before I could disambiguate ceremonial tobacco use of unadulterated mapacho (*Nicotiana rustica*) from the pollution of smoked cigarettes; even then, I had a hawklike discernment surrounding addictive excess, even in ceremony, from strictly ritualistic application. Little by little, however, I began to understand what the *curanderos* (healers) were up to, allowing me to refrain from trigger judgments and feelings of fear in working with the plant.

This understanding of tobacco as protector and healer, messenger and intention anchorer, rather than just scourge, involved a long process of coming to realize that how these teachers understood their relationship to tobacco was the complete opposite of the Western addictive model. *Curanderos* and *curanderas*, knowing my story, worked patiently through my own layers of resistance, informing me that for native peoples of the Americas with millennia-long histories of working in medical ethnobotany and religious rites, tobacco is regarded as a messenger plant: praying with tobacco without smoking it, through taking a pinch in one's hand and then scattering it, offering it to the fire, land, or waterways, or in other observances, allows the prayers carried through the vessel of the tobacco to arrive at the intended spiritual destination. According to this understanding, once one has developed a devoted relationship to the plant, taking tobacco into one's own body is not even necessary to harness its power. Across much of North and South Indigenous America, tobacco is the quintessential messenger plant.

Conversely, the nervous habit of taking habitual smoke breaks to triage anxiety as an addictive bypass from feeling the full intensity and immensity of emotions relies on the plant as a crutch rather than as an ally. Rather than engaging tobacco with reverence or intentionality, the relationship becomes codependent, and the plant becomes treated as a vent for stress relief, reinforcing cycles of anxiety by binding them biochemically with smoking rather than focusing on the inner process of prayerful relationship and acceptance to resolve the underlying emotions. The act of smoking, meant in some traditions as a way to focus prayer and concretize intention, instead turns into a ritual of worry and escape—a compulsive, unconscious act that deepens distress rather than alleviates it. Through this circuit-breaker model of turning to tobacco for temporary relief of emotional symptoms rather than dealing with the intense, vulnerable introspection called for, the smoker abuses tobacco to reify the anxiety itself. Unconscious use of tobacco, accompanied by worry, is said to unwittingly effect prayer, transmuting it instead for the perpetuation of what is most feared rather than understanding the nature of the afflicting *ergregores*

(complexes of emotions), thus transforming their composition and state. Deploying the biochemical rush of tobacco to cover up rather than interrogate one's fears derives from the imperiling industrial supply and framing of tobacco as a drug, similar to how the pharmaceutical industry has opted for "disease management" rather than disease eradication as its goal (Hendlin, Han, and Ling 2024). Prolonging disease to make money off it is the optimization not of health but of extractable suffering.

The opportunity to come into presence, to make peace with other concerns or worries through internal, felt-sense alchemy, through gratitude for the here and now, and to unconditionally accept the present moment and trust that one can seek refuge in the plant just as one might seek refuge in the Buddha recognizes that partnering with the spirit of tobacco can help with certain struggles and that the plant can provide an aperture for reflection and communion. Thus, the fatal near truth of tobacco addiction hides in its poison the potential for transmutation, which traditional relationships of humility towards tobacco offers.

These aporia I witnessed and was taught as possible shifts in perspective from status quo thinking around tobacco have informed my continuing work in the field of tobacco control, as well as in critical plant studies. Learning from teachers who have developed and seek to maintain right relation with tobacco as a life compass has helped me understand plants as nonreductive intelligent beings, unassimilable to our animal-model categories, stretching notions of difference and otherness productively (Calvo et al. 2020; Hendlin 2021). Acknowledging the radical otherness of plants without placing them below us taxonomically or totemically (Marder and Hendlin 2016) provides us the chance to experience otherness without defaulting into familiar preset categories. Plant difference permits the opportunity of reassembling, dissolving, and rebranching our metaphysics as well as our geometries, which for plants may share deep coincidences (Houle 2018). The radical alterity of plants that resists anthropomorphism and reduction to animal categories and human instrumentality is part of their power to illuminate our own categories qua *pharmaka*.

Yet, since the advent of the commercial use of tobacco in colonial times, industrialized nations have developed a very different relationship with tobacco, and plants in general. Using this two-sided understanding of the tobacco plant as a guiding principle, the following sections discuss both industrialized and Indigenous relationships with tobacco and explore what lessons we can learn moving forward.

### **Tobacco: Colonialism and Industrialization**

Eating as few as three cigarettes can cause death to an adult (Stevens 2009). Indeed, many babies die each year from inadvertently consuming discarded

cigarette butts (Novotny et al. 2011). Tobacco, especially the adulterated kind mass produced as cigarettes, is a deadly poison (Rundlöf et al. 2015). The sale and consumption of commercial tobacco continues to be the greatest single avoidable cause of death (World Health Organization 2015). Because of its interface with Western society almost solely through the abusive relationship the tobacco industry has fostered, tobacco is often considered “the pariah of the plant world” (Ettinger 2022).

Yet, this colonial tradition of tobacco abuse—concentrating its power, extracting relevant alkaloids, and foolishly experimenting with admixtures aiming not for health or healing but strictly for addictiveness begetting increased profits—is not the only way tobacco has ever been regarded. This path amounts to a bastardization of tobacco’s many thousands of years of native use in the Americas. Indigenous tobacco use, for one, does not flue cure tobacco, meaning it remains harsh and unpalatable. Early on, the tobacco industry realized it could get people to smoke more cigarettes if they dried the tobacco in a specific way that neutralized its extremely high pH (Proctor 2012). Making tobacco less alkaline lowered the body’s physical reaction and repulsion to the substance, defanging the plant and opening up the path for higher doses and regularity of use.

Ignoring the flora of the biotic world, the tobacco industry in its predatory ensnarement overlooked the more than seventy species of tobacco that exist, focusing only on *Nicotiana tabacum*. The differences between these species are not superficial; their alkaloid make-up is diverse, and many varieties may be much harder to transform into addictive commodities.

Industry further exercised its instrumental control over the more-than-human-world by spraying tobacco plantations with DDT, which, when smoked, supercharged the cancerous properties of their already engineered cigarettes. In 1965, when even nonconsumable cotton was not permitted to have more than seven parts per million (ppm) DDT in it, tobacco leaf was sprayed to such an extent that it was found in some cases to have as much as 590 ppm DDT (Conis 2022, 172).

Tobaccosis—the totality of diseases resulting from smoking tobacco—is paired with the undetected “malignant nature and magnitude of the tobaccosis pandemic [that] went largely undetected during the first four centuries of its global march” (Ravenholt 1993, 176). That this destructive relationship, occurring since the globalization of industrialized tobacco occurred a century or so ago, has only recently been brought to global awareness reflects the delayed symptoms of tobaccosis:

[U]nlike microparasitic plagues, whose victims experienced pathognomonic disease manifestations within days or weeks of exposure, tobaccosis is an extraordinarily insidious disease entity of long latency resulting from exposure to tobacco for many years or decades and manifested by increased occurrence

of any of a broad spectrum of neoplastic and degenerative diseases ordinarily associated with advanced age . . . it is only late in the fifth century of the post-Columbian world's exposure to tobacco that the extent of tobacco's depredations is being fully revealed. (Ravenholt 1993, 176)

This disease of tobaccosis, despite its name, has more to do with the *Umwelt* of the plant—the built environment, the processing and manufacturing, the factory model, the globalization of Western models of competition (Hendlin and Bialous 2020)—than it does with any intrinsic aspect of the plant.

Yet, this infrastructure is precisely what refuses to budge, instead foisting the burden of disease on the plant itself. Smoking peaked in the United States in 1981. Largely due to the revelation of commercial tobacco's true health harms, the tobacco industry quickly tried to parlay widespread addiction onto other manufactured products, such as electronic cigarettes, further and further from the raw plant source (Dewhirst 2021). This has recently reached a fever pitch, wherein, to skirt regulations, tobacco as a plant has been discarded for its usefulness, with some manufactures now producing nicotine synthetically (from other nightshades, like tomatoes) in order to continue selling their legal drugs and avoid regulation (Jordt 2023).

Context has been lost, and tobacco has been commodified into the mass product of machine-rolled cigarettes, twenty to a pack. Historian of science Robert Proctor (2012, 540) describes how after tobacco was introduced to Europe, the invention of self-rolling machines “transform[ed] a rich man's fashion into a poor man's addiction.” As with so many other “democratized” versions of products, like chocolate and coffee, quantity was produced at the expense of quality. “Smoking has become an impoverishing luxury, the companion of benighted affluence” (Proctor 2012, 540).

Instead of realizing that industrialization was part of the problem—that the coveted and savored cigarette break was seen as one of the few respites from the accelerationism of global capitalism—industry was protected, as usual; the plant was demonized, as well as the smoker (Klein 2005; Proctor 2012; Virilio 1986). Protests that foregrounded this abusive relationship were met by industry brandishing the fact that the Nazis were one of the first Western powers to realize and take measures against their self-made tobacco epidemic (Proctor 2000). The constant comparison of tobacco control advocates to Nazis because of this historical coincidence has been a trope flogged again and again when the tobacco industry wishes to discredit public health measures against commercial tobacco (Schneider and Glantz 2008).

On a biochemical level, the abuses of tobacco by industry can be distilled into two contradictory moves that unleash its unique poisoning capacities. Industrialization diluted tobacco's self-defense mechanisms by using a milder form of tobacco (*Nicotiana tabacum*) and then flue curing the tobacco to make it less harsh. The meticulous removal of the plant's inherent circuit breakers

that mitigate against addiction, simultaneous to supercharging tobacco for addictiveness with ammonia, sugars, clove, menthol, and about 7,000 other chemical and organic additives, amounted to double adulteration by the tobacco industry. Such incisions and grafting hacks our bio-intelligence and associates smoking tobacco with the experience of these chemical molecules, leading the body to respond according to the theory of errant defense (Nowlin 2021). The additives and the deflationary reductionism of tobacco to nicotine or other decided-upon “active ingredients” desecrate and disable the entourage effects of the plant to protect itself and those it relates with from its poisons.

While the physical harms of commercial tobacco addiction have been widely studied and reported on, the psychological harms of tobacco abuse have been less studied. I am not talking about depression or other common psychological disorders but instead refer to spirit possession (Stewart 1946; VanPool et al 2024; Wilbert 1987, 155). If plants are capable of being allies, they can also dominate, eclipsing free will and the capacity for reflection and novel behavior. If traditional tobacco healing can help unwarp the mind and emotions, addictive tobacco abuse may produce the opposite effect. Tobacco makes an enchanting messenger but a cruel master (McGilchrist 2007).

The psychological and spiritual hooks and claws of tobacco in the abuser’s flesh may help explain why entire cultures become enthralled to it, sacrificing their public’s health at its altar. Just like with fossil fuels (Presti 2011), we can no longer separate ourselves from the substance because the substance controls us, rather than us understanding its dual potential as *pharmakon*, with its blessings and dangers. But it is not the substance as a metaphysical or ontological entity but rather our abuse of it that shows us our self-hidden abusive relationship with the unseen in four-dimensional manifestation: the many facets of relationship we commonly dismiss if we can get away with it, becoming inured to the meeting of entities in mutual association, revealed in these substances of great power. Tobacco provides a mirror into our coping and defense mechanisms, our particular agnotology, our (lack of) sensitivity, our willingness (or not) to consecrate the non-optional suffering of being alive. Commercial tobacco addiction is a tautology. You cannot have addiction without a medium’s commercialization (extraction towards an end different than the wellbeing of each actant in contact with it), and you cannot have commercialization without addiction (the drumming up and misdirection of desire).<sup>3</sup>

Rather than tobacco being an isolated case of appropriating a plant, the common denominator here is industrialism. The modern vilification of plants, including tobacco, cannabis, opium poppies, and others, has more to do with the evils wrought through their instrumentalization and commercialization than the essential aspects of the plants themselves. Although King James I (1604) issued his famous *A Counterblaste to Tobacco* (including “Serious Cautions” and “Witty Poems”), upbraiding the “common herbe” and “filthie smoake”

as “[a] custome lothsome to the eye, hatefull to the Nose, harmefull to the braine, dangerous to the Lungs,” the treatise actually focuses mainly on how his countrymen’s use exceeds medical need.<sup>4</sup> The *Counterblaste* mostly discusses the abuse of tobacco, how there are other (ostensibly better) remedies to address the ailments doctors and others purported it cures, and that it should not be used addictively. Contrary to popular belief, the *Counterblaste* mainly confronts and disputes that tobacco actually cures the maladies it is purported to. Instead, the real problem boils down to that “[c]ures ought not to bee used, but where there is neede of them, the contrarie whereof, is daily practised in this generall use of *Tobacco* by all sorts and complexions of people” (James I 1604). In other words, the *Counterblaste* identifies and warns against abusing the *pharmakon*.

James I (1604) further bigotedly writes: “[W]hat honour or policie can moove us to imitate the barbarous and beastly maners of the wilde, godlesse, and slavish *Indians*, especially in so vile and stinking a custome?” But the truth was, the English were not imitating the tobacco-honoring peoples of the Americas. Instead, they were abusing the plant, just as they were abusing other preexisting plants in their cache, and the people from whence they appropriated them. That the Roman distinction between *usus* (use), *usufructus* (usufruct), and *abusus* (abuse) had fallen out of favor in post-enclosure England did little to attenuate the violations between these categories, which previously were integrated into all aspects of life, with careful, well-maintained boundaries (Linebaugh 2014). By blaming Native Americans, instead of his own countrymen and the spoils of commerce, for the introduction and then abuse of tobacco in British society, James I commits the recurrent fallacy of overlooking the metamorphosis of a sacred plant into an addictive drug and then essentializing the former into latter (for an excellent overview of this colonial tendency, see Londa Schiebinger [2007]). I read this transformation of tobacco from a sacrament in traditional Indigenous societies to a scourge in industrial societies as the plant’s own defense mechanism against abuse rather than an intrinsic property of its relation or contribution to humanity *simpliciter*.

Another fallacy anthropologist Viveiros de Castro (2013, 489) confronts us with is the object essentialism involved in universalizing and generalizing Western cosmologies and relationships with the world, indicating that “taking native thought seriously is to refuse to neutralize it” (cf. Fisher 2009). Take, for example, the tobacco pipe. Apart from colonialized fetishizations or demonizations of it, some Indigenous nations describe it as an “instrument for asking [for] life,” according to Winnebago testimony, honored as “the foremost thing we possess” (quoted in Ziser 2005, 719). The metonymy of the tobacco pipe for the relationship with spirit, just as a culture’s relationship with tobacco so often is metonymic of its relationship with all plants, functions in Indigenous cosmologies as binding the seen and the unseen, the roots of life that feed us, and our role as inhabiting both heaven and earth (Russell and Rahman 2015).

## Indigenous Use

In contrast to the industrialization of tobacco as an addictive commercial product, Indigenous relationships with the tobacco plant provide an alternative model of interacting with a plant in a meaningful, healthy, and relational way. This insight is also reflected in my personal journey, as outlined previously: the further I leaned into experiential medical ethnobotany with my teachers, the more my understanding of tobacco metamorphosized, nuancing my tobacco control education in public health. Critical plant studies requests above all that we re-indigenize our relationship with plants for their own sake, as unassimilable metonymy for the wildness of the natural world (Kimmerer 2015).

Tobacco has been used by humans at least since we arrived in the Amazon, with archeological evidence dating this longstanding relationship back 12,300 years (Duke et al. 2021). Viewing this lineage of tobacco use as normative, and commercialization and abuse as historically aberrant, Ilana Berlowitz et al. (2023, 1–2) note that

in Amazonian traditional healing [ ] tobacco is . . . so fundamental, that in various Indigenous languages the generic term for “healer” is etymologically linked to the word for “tobacco,” for instance in the Yuracaré language, where *korrë-n-chata* (“healer”) literally translates as “he who eats tobacco”; or in the Asháninka and Matsigenka languages, where the term for healer (*sheripiari* and *seripigari*, respectively) translates as “the one intoxicated by tobacco.”

Indigenous Amazonian tribes have long-standing relationships with this plant in more replete botanical–cultural contexts. This contextualization embeds tobacco in religious, political, and social orders, with the plant occupying a central role as sacrament to regulate and balance collective action and sentiment with the more-than-human world. Taking in tobacco with the reverence of imbibing god connects these traditional cultures with the spirit of the plant as a living entity to be regarded with humility and care. Having ignored such important aspects of sensemaking for cultures other than one’s own—a cognitive injustice—industrial cultures and even today’s tobacco control advocates must further consider the multifaceted nature of tobacco, as Indigenous tobacco control researchers and educators have already done (Nez Henderson et al. 2021). To try on these Indigenous cosmologies, which view tobacco as a living entity whose spirit and botanical guidelines are not to be contravened, allows reframing the mirrored relationship through our relating with the plant as it has impacted the world through colonialism.

According to traditional Indigenous medicinal use of tobacco in the Amazon and Americas, tobacco helps us clear out the attic of our mind. It is prepared variously in water, as a tea, boiled down to a tar (*ambil*), pulverized into a snuff (*rapé*), given in its leaf form as an offering, and sometimes twisted into a plug,

shaved off, and smoked. Praying with tobacco is not esoteric. To commune with a plant and the reality it is connected with is mundane. It involves how we evolved as a species, providing feedback crucial to learning the signs of the world around us (Danard Wilson and Restoule 2010). In contradistinction, what is esoteric, I claim, is listening to the noise of our monkey mind and believing it to be real; listening to the myth of separation and reifying it.

For *vegitalistas* (plant healers), it is not only the herbal medicine that does the work but the person who prays the medicine into being medicine for them and calls into incarnation that plant in that moment as a form of medicine that encompasses the relationship between guardians of plants and their salutary qualities. This is not just a disembodied invocation but a deferential respect for the various possibilities a plant contains. *Vegitalista* navigation of plant properties involves technical skills including both material and spiritual attention to detail and knowledge of eliciting certain relationships. Rather than the poison global public health organizations track the tobacco industry's products to be, the properties of the plant evoked through abuse and unconscious use, Narby (1999, 3) writes in *The Cosmic Serpent* that in the Indigenous cosmologies of South America, the mother of ayahuasca is tobacco. The tobacco plant, in its varieties, has served those who have respected it for millennia. Original tobacco users view the plant as a carrier of prayers to the gods, a metaphysical bridge between the concerns of mortals and the life forces of the elements that direct them.

*Tabaqueros* (tobacco shamans) in the Amazon energetically clean off exogenous, harmful energies through the *sopla*, blowing tobacco smoke on various regions of the patient's body. A tobacco-smoke *defumaço* is considered one of the most potent forms of smoke cleansings, in part because of the particular power of tobacco, but also because of the alchemy of the smoke being blown with intention from the mouth of the healer (while other ritual cleansings are done by burning herbs and resins such as copal, sage, and so on from a handheld smudge pot, usually accompanied by fanning the smoke with feathers or leaves). Emerging from the mouth of the healer packing a prayer carried by the breath, the smoke thus infused creates a unique nectar for healing, blessing, and protection (Denny et al 2020).

Prior to colonization, there is no known instance of tobacco addiction, in part because of the harsh preparations and concoctions using *Nicotiniana rustica* rather than *Nicotiniana tabacum*, and in part because the use of this plant was connected to powerful ceremonial conditions (Narby and Pizuri 2021). With reference to Dale Pendell's (2010) *Pharmako* series, traditional tobacco preparations are rough and harsh, unlike the tobacco industry's "packaged pleasures" version, which flue cures it to take away the alkalinity, adds sugar to freebase the nicotine, and rolls it in addictively convenient cancer sticks that kill two-in-three smokers when used as directed (Cross and Proctor 2014).

The tension between the precolonial and postcolonial regard of tobacco reveals the metaphysical split between the most abused plant on Earth and its sacred use, interrogating the commercialization of tobacco. Viewing the health harms from tobacco as resulting not from the intrinsic properties of the plant but rather from the corporate infrastructure that adulterated and manipulated the plant for profit and repatriating tobacco to its Indigenous caretakers who understood its power not merely on a physiological level but also as a spiritual medicine to be carefully stewarded can be located as part of the mission of critical plant and religious studies. In accepting this charge, this narrative of sacred tobacco complicates the current globalized discourses around tobacco and nicotine extracts (in e-cigarettes, for example), as well as New Age appropriation of Indigenous symbology and mythology, lacking the proper relating and caretaking of the plant (in the case of Natural American Spirit cigarettes, a brand of R. J. Reynolds).

Sacred plants can act as enlightening messengers but terrible masters when used instrumentally as a shortcut to spiritual growth. This is a view shared by many traditions (Kimmerer 2013; Narby and Pizuri 2021), and, tying back to the general theme in the arguments presented here, encompassed by the Greek notion of *pharmakon*. According to the philosophy of the *pharmakon*, the tremendous destructive power of tobacco makes it a potent potential ally. The powers of allyship—the medicine of tobacco—will never be delivered by industry, however, for there is no money to be made from true health. No one makes money when people do not get sick. This is the Achilles heel of public health. Indeed, no one may even know the sickness they could have experienced when it is prevented deftly.

The difference between these two conceptions of tobacco is further explicated through the work of Iain McGilchrist (2009) in *The Master and His Emissary*, which describes the biological constriction of our right brain hemisphere activity through the dominance of the left hemisphere via the corpus collosum. The “metaphysical” split can be attributed to an imbalance of the hemispheres, as the left hemisphere is more dominant in control over known categorizations, attributing the value of things according to their instrumental value, as opposed to the right hemispheric approach to understanding the world, characterized by fluid engagement that changes the categories themselves. This is precisely the ancient distinction between cataphatic and apophatic, or affirmative and transformational modes of interfacing with reality and new stimuli (Dobson 2014). McGilchrist concludes that a left hemisphere-dominated culture can be a cultural explanation for a complete lack of proper understanding of the flora and fauna of the biotic world, among which tobacco is one.

The Peruvian Amazon, the likely origin point of the tobacco plant and its cultivation, has ministered a multi-millennia relation with the plant without the scourges Western capitalism brought to the plant and the people subjected to

this profit-engineered version of it (Russell and Rahman 2015). Recent medical and anthropological studies point to how tobacco used in traditional Indigenous healing contexts can help attenuate certain diseases, especially but not exclusively mental illnesses (Berlowitz et al. 2023; Stevens 2009). The psychedelic potential of tobacco is also coming to the fore, as tobacco contains harmala alkaloids, similar to other entheogens such as ayahuasca or Syrian rue (Berlowitz et al. 2023). This psychedelic potential reflects the spiritual outlook of members of cultures with traditional uses of tobacco. According to the cosmovision of the women of Pueblo Huitoto, Colombia:

We are the children of tobacco and coca . . . Ambil is the tobacco preparation which we use to clean our blood.

The bush we source tobacco for ambil is represented in this preparation through its dark color, which for us signifies looking further than our eyes can see and our ears can hear. It is this portrayal of guidance and direction we wish to give to the essence of tobacco. In our mythology, we explain that spiritual aspects of tobacco can be spoken of in terms of people asking for cleaning of their home, their maloca [temple]; but it has nothing to do with cleaning around the edges, instead we need to clean our heart, we must revise how we act with ourselves and the state of our heart, as this is indeed our true home. (Román 2007, 167)<sup>5</sup>

If we are to envision a way to move forward, framing traditional tobacco differently than its industry-captured version into which evolved consumer culture, it depends on a symbiotic understanding of the biotic more-than-human-world.

The recollections of one Westerner's unlikely path to making tobacco an integral part of his life through learning the ways of traditional Indigenous use suggest that such a path from abuse to reverence is possible:

After two spontaneous pneumothoraxes (lung collapses) in college, I realized that smoking was not for me. Consequently, I studiously avoided smokers or places like bars or taverns where people smoked socially. Traveling in Europe was difficult for me because of all the smokers there, and later the six years I traveled to Iceland to teach were challenging for the same reason. I never would have predicted that later in life I would actually drink tobacco juice or that smoking would become a daily part of my shamanic practice, but it has. (Stevens 2009, 18)

José Luis Stevens's path of using tobacco ceremonially occurred despite his negative health effects from the Western addictive path of using this plant, not

because of it. In other words, commercial tobacco abuse was not a gateway drug for traditional tobacco use. But seesawing from one extreme of the *pharmakon* of tobacco to the other, in this instance, provided discovery of the hidden potential of the plant through rejecting commercial unconscious use and becoming a student of the plant and its stewards' healing practices.

Tobacco, as a plant, is traditionally revered as a gift from nature. As such, it cannot be commodified without remainder. The tobacco plants and seeds I have received have been gifts from friends. I would be wary to ever buy a tobacco plant or otherwise introduce it into my life in commodified form. Such a gesture would implicitly disrespect the messenger aspect of the plant, disrespecting the gift through acquisitiveness, potentially courting sickness. If tobacco smoke is not prayer filled, then the vacuum becomes easily filled with the opposite. It is commonly said that worrying is praying for what you do not wish for. Unaware, non-ceremonial tobacco use may transmit such unfortunate emotional mind states to the gods with equal consequences as prayer-filled smoke, but in the opposite direction. As Stevens (2009, 18) recounts: "The Lakota and members of many other North American Indian Nations say that using tobacco during ceremony ensures that the truth will be told because the smoke reveals the veracity or insincerity of the prayers spoken." Thus, tobacco acts as a truth-teller when used as directed; and, according to the logic of the *pharmakon*, it can equally perform the role of the deceiver when those who use it themselves are deceived by their intentions and lack of relationality with the plant.

In some Amazonian cultures, *maninkari* ("those who are hidden," "good forest spirits") become visible to human observation they have ingested tobacco and ayahuasca (Narby and Pizuri 2021; Russell and Rahman 2015). That many Amazonian societies consider tobacco, including its smoke, as the primary aliment for helper spirits (Russell and Rahman 2015, 189) suggests that for those cultures, one must deliberately interact with that plant. Concentrating our spirit, sacrificing our conceits to commune with a plant, relieves us of the hierarchies of value upholding species or cultural domination delusions.

The earliest known European-written mention of tobacco by Oviedo y Valdes in 1535, referring to the Caquetio people of modern-day Venezuela, is symptomatic, denigrating as heresy tobacco rituals used as a practice of prayer:

[E]ach one is his own prophet, since, having twisted the leaves of this herb in a roll to the size of an ear of corn, they light it at one end, and they hold it in their mouth while it bums, and blow forth [smoke], and when it is halfburnt, they throw down what is rolled up [i.e., the cigar]. If the burned part of the tobacco stays fixed in the form of a curved sickle, it is a sign that the thing which they desire will be given; if the burned portion is straight, it is a sign that

the contrary of what is desired will happen, and what they hope to be good will be bad. And they believe this so firmly that no one nor any reason can be enough to cause them to believe anything else. (Quoted in Wilbert 1987, 11)

Union with one's creator through ritual is the most holy moment of communion exalted by every religion. The millennia-standing practices of *tabaqueros* and their cultures praying in ways unfamiliar to Christians reveal a depth of sacrifice and surrender as potent as any. By praying with tobacco, discontinuity with the *vegetal* world ceases as we inhale and exhale the smoke, a coproduction of this fiery plant and our own respiration. We breathe together, conscious of the delicate, precious, and grave tenuousness of this connection. Like an ember, we coax balance and sensitivity to the ecology around us when we take tobacco as a sacrament. Such relations cultivate anti-addiction: effacement of desire. Capitulation to a power greater than us operates on a level of trust that cannot be faked, providing a peace of mind unavailable for sale. Like cliff jumping, the fear that wells up before an act of bravery is the greatest gift in knowing ourselves and our world. Cradling the tobacco plant, working with its leaves, offers an open positionality, raising our hands to the light and rooting our feet in the convictions of our mycorrhizal community of symbionts, adopting a phytomorphic (plant-centric) orientation to the sacred.

### **Ontological Relationism as an Antidote to the Western Abuse of Tobacco**

That truth, beauty, and goodness could be connected, as Socrates suggests, is echoed in the relational ontologies of Indigenous cosmologies, which provide a potential guiding framework towards a paradigm shift in our addictive relationship with tobacco and other plants. Relational ontologies can be defined as “the fact that all entities that make up the world are so deeply interrelated that they have no intrinsic, separate existence by themselves” (Escobar 2020, xiii). Thus, to live together with others means harmonizing one's own interests with theirs, dialogically, iteratively, never taking them as static or for granted. Relational ontologies dovetail with Karen Barad's (2007, 381) notion of ethico-onto-epistemologies, which suggests that the relationship between the visible and the invisible is “diffractive” insofar as it is a “material-discursive phenomenon that challenges the presumed inherent separability of subject and object, nature and culture, fact and value, human and nonhuman, organic and inorganic, epistemology and ontology, materiality and discursivity.” Tobacco as an ethico-onto-epistemological technology of Indigenous peoples of the Americas, held in reverent relation, functions as a transmitter and disambiguator, the exact opposite of the tobacco industry's intentional deception against the plant and people to drive profits through addiction.

The question concerning tobacco then becomes one of purpose: Is relation with it transmitting disease or beauty? Separation or connection? If the latter, surely it is too much work to remain so prayerfully present twenty times a day smoking a pack of cigarettes (one could hardly do anything else). And if one prays with intention and the spaciousness ceremony demands, surely in honoring the tobacco plant one wishes not to abuse the plant nor oneself or others through titrating the tobacco with an extra 7,000 chemicals and the flue-curing process constitutive of industrialized tobacco manufacturing.

As if tobacco industry capture, firing up the consumptive culture of cigarettes, was not enough, we find ourselves in the midst of a new pandemic of e-cigarettes. Detecting another segment of the public that did not succumb to cigarettes, the tobacco industry extracted and concentrated the most addictive components of the plant further, hooking younger generations with candy flavors in these seemingly “safer” instruments of tobaccosis. These flavoring agents were, however, found to be harmful, with the first generation of e-cigarettes relying heavily on diacetyl, the buttered-popcorn chemical flavor known for causing “popcorn lung,” the aptly named *bronchiolitis obliterans* (Allen et al. 2016).

The more processed tobacco becomes, with the aim of addiction and commercialization, the more deadly it becomes. As Narby and Rafael Pizuri (2021) report on the evidence for traditional (snorted) snuff tobacco mixtures being much less carcinogenic than commercially manufactured ones: “Remarkably, the nitrosamine levels of the handmade [Indigenous] *rapés* were similar to those of Nordic snus [which are very low], whereas the commercial *rapés* had nitrosamine levels that were on average fifteen times higher.” Nitrosamines, which are known carcinogens, are a product of certain curing and processing practices and result from bacteria growing on the tobacco, degrading the plant’s alkaloids into harmful substances. Astonishingly, “[g]reen tobacco leaves contain virtually no nitrosamines” and therefore are not an intrinsic harm of tobacco but a side-effect manufactured by industrial processing (Narby and Pizuri 2021). In other words, traditionally made *rapés*—or multi-plant, tobacco-containing ash snuffs—were far less harmful to one’s health (at least along this crucial dimension of nitrosamine levels) than those manufactured by corporations. These contrasting levels of nitrosamine between Indigenous and commercial production reflect another form of the plant’s own defense mechanisms against abuse.

If the *vegetal* turn signifies a drastic decentering of animal models of being and relating in order for our species to remember our own queer plant nature and possibilities, rediscovering the *pharmakon* of plants provides fruitful passage. This does not mean simply adopting a metaphorical affinity with plants but rather recognizing the ways in which human existence is already entangled with *vegetal* modes of being: rooted in cycles of growth and interdependence

and responsiveness to the environment. Tobacco, the ultimate *pharmakon*, contrasting its colonial abuse and precolonial holiness, invites us to confront our fears of plants, which come from our own unprocessed projections onto the unknown (Schiebinger 2007). The uncanniness of vegetality, so foreign and yet constitutive of our mediated manner of being in industrial modernity, disintegrates the positivistic and naturalizing tendencies of technoscientific approaches to plants, and ourselves.

## Lessons Learned

The lessons drawn from our industrialized relationship with tobacco extend far beyond this single plant. The fundamental pattern of exploitation, reductionism, and instrumentalization has repeated itself across numerous plant–human relationships. In this sense, tobacco serves as a case study for a broader problem: our tendency to take plants out of their relational context, distort their ecological and cultural roles, and transform them into commodities optimized for capital rather than life. Tobacco is not an anomaly but a representative case of how industrial modernity relates to plants. The same patterns of exploitation, extraction, and commodification that transformed tobacco from a sacred ally into a public health crisis have been applied to countless other plants. Industrial agriculture and biotechnology continue to manipulate plants not in service of their ecological integrity or human wellbeing but to maximize profit and control.

Not all plants are as alluring or dangerous as tobacco. But the lesson of *usus*, *usufructus*, and *abusus* is applicable to all. The tasteless, genetically modified tomato (also a nightshade) may not kill us, but it certainly constitutes a break with the evolution of tomatoes and their varieties as self- and ecologically directed. Such genetic modification has not occurred in service of the plant soul, the agency of life as a totality (Scott 2000). Rather, attributes of what we assign to be relevant in the plant have been extracted to produce a simulacrum of the tomato more palatable to the conditions of global logistic companies, legible to the denuded heuristic of standardized optics alone (Druker 2014).

The trajectory of the tobacco industry—altering the plant's natural chemical defenses to make it more palatable, engineering its biochemical profile to maximize addiction, and distributing it globally with little regard for the health of humans or ecosystems—mirrors the broader logic of industrial agriculture. We see similar patterns in how corn has been hybridized to yield uniform kernels packed with sugar, or in how wheat has been selectively bred and processed into ultrarefined flour that fuels metabolic disorders. Whether through genetic engineering, selective breeding, or chemical processing, plants are manipulated to serve human convenience and market needs rather than to maintain their integrity in a web of interdependent relations. Philosophical naturalism need not be seen as black and white purity; yet, decrying naturalism for uncritical

embrace of unethical techno-apologetics is equally facile. The ordinary mustard plant, which has proliferated through human experimentation (and often chemical modification of its genome, the first wave of genetically modified organisms over a hundred years ago) into broccoli, cauliflower, romanesco, and many other of the less spicy brassica staples of our diet, serves as an example of a possible method of proliferation. Contra the abuse towards tobacco, or the tomato, *Brassica's* longwave 6,000-year domestication, with over thirty wild and domesticated species currently in cultivation, is the opposite of dead-end breeding. This suggests that honoring plant potentialities leads us to work with rather than against the plant's native offerings.

The stronger, more potent, and thus less palatable to addictive optimizing *Nicotiana rustica* precludes consumption in quantity except with serious devotion to the plant. One becomes very conscious of the spirit of this plant because it spits at you, holds nothing back in its unadorned harshness. The main strain of tobacco used by Indigenous peoples in South America, *N. rustica's* very unpalatability seems recalcitrant to capitalist metabolization. Brightleaf tobacco, on the other hand, also known as Virginia tobacco for its original cultivation location, regardless of where in the world it is currently grown, and burley tobacco—both varieties of *Nicotiana tabacum*—are the two dominant strains grown for commercial agricultural production. Worldwide, nearly six million tons of commercial tobacco were harvested in 2020 (Wikipedia 2022). To put this into perspective, the greenhouse gas emissions of the tobacco industry approximate half that of the oil giant Shell (Hendlin and Bialous 2020). Perhaps fittingly for the paradigmatic *pharmakon*, tobacco was the first crop to ever be field tested in transgenic form, in 1986 (Wikipedia 2022). China became the first country to approve commercial planting of a genetically modified crop—tobacco, as it turned out, in 1993—although as of 2022, only the United States still plants genetically modified tobacco (Wikipedia 2022). The *pharmakon* works in strange ways.

Christopher Columbus's first encounters with Native American tobacco use recorded tobacco as a healing agent (Wilbert 1987). As long as this precedent of tobacco as a healing herb was honored, tobacco appeared in the official lists of approved medicines, or pharmacopoeia, in Europe and the United States for centuries. It is no coincidence, perhaps, that the widespread use of cigarettes, thanks to the invention of the automatic rolling Bonsack machine and new forms of chemical processing (such as flue curing, which neutralizes the plant's pH), coincided with the period in which tobacco was removed from these pharmacopoeias (Proctor 2012). Mass production and health seem to be anathema to each other. Nonetheless, the echoes of the original healing powers of tobacco were doggedly touted, though now illegitimately, in their commercialized form, as "asthma cigarettes," which continued to be "sold well into the latter half of the twentieth century" (SRITA, n.d.; see Figure 1).



**Figure 1:** Cigares De Joy, Wilcox and Company, 1881. [https://tobacco-img.stanford.edu/wp-content/uploads/cigarettes/for-your-health/medicinal-cigarettes/medicinal\\_01-scaled.jpg](https://tobacco-img.stanford.edu/wp-content/uploads/cigarettes/for-your-health/medicinal-cigarettes/medicinal_01-scaled.jpg).

While I am sure the tobacco industry would love to sink its teeth into newly documented but timeless Indigenous ways of using tobacco to sell its therapeutic qualities in a pharmaceuticalized, packaged way, the effects will never replicate in such a setting built on extraction rather than communion. Such is the *pharmakon* of scientific research (Baker 2016; Open Science Collaboration 2015).

It would be more apt to treat such substances as ecodelics—keyed to the environmental, social, and psychological orientation of the takers (according to the biopsychosocial model of health and disease)—rather than merely psychedelic or individual mind-manifesting (Doyle 2011). Through this lens,

selling tobacco cures for the wrong reasons, such as profit on the part of industry and biological bypass on the part of the imbiber, will never succeed. I suspect that the *pharmakon* of plants perhaps serves as part of the universe's own circuit breaker against abuse: simply healing cannot happen from an instrumental place. Tobacco serves as the starkest lesson for us on this point; it can be a powerful emetic for depuration, but when simultaneously diluted, extracted, concentrated, and concatenated with other addictive substances such as menthol and sugar and made into a supernormal stimuli, it strangles the human body and spirit.

One of the main contradictions or false equivalences between the tobacco industry-directed efforts to make their additive-riddled reduced version of tobacco into a therapeutic medicine (such as e-cigarettes) even though actual use tracks much more with recreational addiction (Hendlin et al. 2024; Hendlin et al. 2017), on the one hand, and traditional Indigenous medical and spiritual uses of tobacco, on the other, is the extractive versus harmonizing aims. No matter what intrinsic properties this particular plant may have, in its relational nature as *pharmakon*, if the plant is honored in harmony with its origins, its ecology creation, and its offering (not taking from it more than it natively offers), it can and will provide healing. However, if a person or group's end goal for the plant is to profit off its properties, extracting those molecules deemed interesting and concentrating them at the expense of the other balancing or protective alkaloids and terpenes, the plant will release its venom (Kennedy 2014). The arrogance to think we can extract essential characteristics and get what we consider desirable features while ignoring the molecular intelligence of the plant's composition as a whole selects for saliency on a lower level of intelligence than that of the plant's evolutionary offering. Reductive selection, intending to get what is considered desirable without accruing a shadow from those lost balancing molecules, if not done wisely or for the collective good, violates the covenant the plant carries. The Baconian scientific paradigm of taking something apart to understand it, analysis through ripping apart wholes into pieces, shows little interest in the resplendent sharing that living beings embody (Merchant 1980). Plants as plural beings disrupt the standard carving-nature-at-its-joints model as they are simultaneously promiscuously plural—i.e., can be grown and regenerated from pieces (such as willows), grafted (such as pears and apples on the same tree), and so on, unlike animals—as well as cannot be easily divided into individual units (Hendlin 2020). Once a plant is established, it is impossible to decide where one begins and another ends, as plants ramify and share their bodies with conspecifics and interspecifics in instructive ways that belie our instrumental desires.

Regarded by many Indigenous peoples of the Americas as a plant committed to teaching humans (called a plant teacher or master plant in traditional Amazonian usage), tobacco commits to helping humans evolve and learn (Narby and Pizuri 2021). This more relational Indigenous perspective is in a

narrower sense reflected in Michael Pollan's (2002) *Botany of Desire*, where plant agency is positioned as providing humans with certain gifts in order to drive their own assisted propagation. Call it the "selfish plant" hypothesis. However, the other side of this relationship that Pollan does not fully explore involves the *pharmakon* of such relationships, especially perhaps with teacher plants. Of course, Pollan, with his Janus-faced discussion of the capacity for control potatoes bear, does touch on how overreliance on them leads to distortions in human society and branching forms of domination. Yet, Pollan does not explicitly acknowledge how abuse of plants can lead to them demonstrating to us our improprieties through exacerbating our misery. Such teacher plants, yes, may cultivate us in the many senses of that term when we properly respect them with our actions. But when we lack reciprocity in our cultivation of them, they show us the missteps of our actions and reflect back to us our breach of right relation through cancer, heart disease, discord, and inflammation—the very transgressions we commit against them. Such unflinching reciprocity can also be interpreted as a sort of teaching, even mercy, albeit a sort of tough love industrialized humans have had a hard time accepting.

Tobacco as an entheogen has potential ecodelic effects far beyond those normally experienced and ascribed by the tobacco industry and its consumers (Kennedy 2014; Doyle 2011). In some Indigenous occasions, its hallucinogenic qualities are respected, including on the biochemical level involving the monoamine oxidase (MAO)-inhibiting harmala ( $\beta$ -carboline) alkaloids *N. rustica* exhibits (Berlowitz et al 2023). My work on tobacco has benefited from the standpoint that plants are symbionts *par excellence*. Understanding tobacco from the standpoint of a *Doctorcito Tabaquito* (Indigenous tobacco doctor), phytomorphic representations do not work for storytelling in the same way zoomorphism does, as Western narratives fail to account for the open positionality (facing all directions) of *vegetal* life, as opposed to the centric (forward-facing) positionality of animal bodies (Plessner 1975). Helmut Plessner's excentric notion of humans (Mul 2014, 10) glosses the distributed networks of plants as more primitive in the evolution of selves. Yet, I believe Plessner overlooked the possibility that human excentricity was only necessary because our evolutionary excentricity or unhindered uniqueness was colonized by clock time and regimented industrialized movements and spaces that force routinization. Instead of feeling alien to the world, and outside ourselves, the open positionality of plants may offer us a mode of communion. In contrast to Plessner's dismissal of plant orientation towards the world, Charles Darwin's *Circumnutation of Plants* chronicles the excentric time and motion of plants, which, once entered into, re-embeds humans in the spirals of plant time. Plant time's cyclical undulations find expression in the musician Moondog's *Snaketime*, making meaning that never moves forward in an addicted linearity but follows the movements of plant heliotropism and geotropism, tracking the very rotations of the Earth and our celestial positionality.

## Conclusions

Tobacco is not simply a public health problem or a cautionary tale—it is a lens through which we can view the consequences of industrialized relationships. As the paragonal *pharmakon* plant, tobacco reveals the *versipellis*, or skin-shifting, nature of all plants, all substances, all technologies. There is no tool, inappropriately used, that does not become a lethal weapon. Good manners are crucial in determining what we receive from our relations. Axiology breathes as a practice when guarded through ongoing vigilance: the industrialization of tobacco, and its tremendous health and ecological consequences, is the proper target for tobacco control, not Indigenous practices that have preserved the plant's natural circuit breakers (*Sollbruchstelle*). The systemic dismantling of the intrinsic guardian system architecture that keeps relations healthy instead of harmful will inevitably become a major research field.<sup>6</sup>

Critical plant studies as a burgeoning field is rooted in honoring the strange sacredness of plants through recognizing their impenetrable otherness with curiosity rather than fear or domination. Rejecting positivist claims that our empirical, cladistic, taxonomic, or other botanical knowledge is exhaustive or final, critical plant studies at its best aims to honor the mystery that plant difference helps us reveal without being caught in ungrounded mysticism (psychological or scientific inflation or deflation). Converting tobacco into an addictive, harmful, and profitable drug shows unambiguously the stakes of plant wisdom in contrast to regarding plants as means to the short-term ends of industrialism “optimization.” Our relationship with tobacco—with plants in general, and indeed all our relations—is a reflection of the conditions we impose upon them. Industrial capitalism shaped tobacco into an agent of disease, resulting not because the plant is inherently death dealing but because it has been subjected to a corrupting system that amplifies its most addictive and malignant properties while discarding the fail-safes built into traditional cultural and ecological habitats. This is the result of Baconian science, in which experimentation entails “inquisition,” with the aim of knowledge wrought through technological “power to conquer and subdue” nature (Bacon 1870, 298). Power *over* rather than *with* turns out to equal self-undermining and deception rather than getting ahead. If plants, as living beings, reflect back the nature of our engagement with them, then the effects of our colonial relationship to tobacco are showing us the shadow side of our own so-called civilization.<sup>7</sup>

Plants are neither good nor evil. As in the animal world, the predator is not considered evil by the prey; such imaginings are only our anthropomorphisms. They are not objects, or scheming villains, but relations. A dodder plant (*Cuscuta*) is not the enemy of the tomato or chrysanthemum. The dodder's tentacle-like haustoria simply tap into the tomato's xylem and feed on its nutrients. If there are enough host plants, or the soil is inclement for dodders, then the hosts are largely unaffected. If the host has protective viruses, if the dodder attacks at the wrong time of day, or if it attaches to a resistant species or variety, then it fails in

its ectoparasitic lifecycle and dies, while the host lives (Chamovitz 2012). These representative and revealing plant relationships are simply different strategies of being, aided or thwarted by ecological conditions.

It is not that plants have either essential properties or are without substance. Such dichotomies entail misunderstanding plant ethico-onto-epistemologies (Barad 2007). Respecting the utter differences between plants and animals, as well as their complementarity, means bending our own psyches and bodies towards vegetality, just as their helio- and geotropism bends them towards the sun and center of the Earth. Adopting and adapting phytotropism as a habitus enables us to be not at odds with plants, nor to see them as mere resource, but to actually learn from them. Overriding their biochemical warning signs will surely result in perpetuating the industrial epidemics we experience today with tobacco, opium, and other plants abused for their pharmacophores. Just like we would wish for ourselves, respecting plants means accepting all parts of them, not trying to extract the expedient and dump the rest (Marder 2020). Their poisons can be our medicines if we appreciate their guidance and restraints.

In the end, I agree with the conclusions of Robert Proctor's (2012) magisterial *Golden Holocaust* that tobacco, like other *pharmakon* plant-drugs, is too powerful to be sold at a profit. To respect and keep intact the "fangs" of tobacco, its natural defense mechanisms against misuse, we ought not allow the commercial sale of it, the spiritually diluted and unprotonated, nicotinized manufacture of it. Instead, as traditionally practiced with honey until the last couple centuries, tobacco and its use ought to remain inside a gift economy and outside rentier and grift-seeking economies. Reducing the marketing and glamorization of tobacco to zero will change the biopsychosocial drivers of the vector of commercial tobacco's disease. Growing and gifting the leaf on a private basis beyond recompense, to be used reverentially, frees it from the debasing fate of commercialized objectification. Returning to phytochemically armed varieties such as *Nicotiana rustica*, *Nicotiana attenuata*, *Nicotiana quadrivalvis*, and *Nicotiana glauca* present in Indigenous use rather than the *N. tabacum* cigarette variety engineered to be smooth (and extra lethally addictive), will aid in directing right relationship between humans and tobacco.

As a tobacco control researcher, I revealed here my relationship with tobacco as one of steward and protector, demanding my active defense against the abuse of the plant through the tobacco industry's pecuniary instrumentalism. The lessons from the tobacco plant are not just about tobacco, either as a plant or a commodity; they suggest the indispensability of recognizing the difference between reciprocally relational versus extractive modes of being, both with plants and as a general orientation. Acknowledging the consequences of commodification alerts us to how we might work toward a different paradigm of *vegetal* engagement—one rooted in reciprocity, reverence, and respect; or else.

Such are the teachings of the *vegetal pharmakon*.

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## Notes

- <sup>1</sup> Reciprocal ontologies orient right relation as descriptive rather than normative. These claims that plants have certain ways they like to be treated and other ways that violate the unspoken but nonetheless real relations being with plants entails means such an approach is not just about ethics but more causally provisioned. The notion that plants have ways they like to be treated is analogous to saying there are certain ways dogs or humans like to be treated. We resist domination and sometimes act out when dominated. Examples of plant reciprocity (as an ethico-onto-epistemology) can be found in the work of Indigenous scholars such as Robin W. Kimmerer (2013) as well as that of plant philosophers (Hall 2011) and scientists (Bakker 2022).
  - <sup>2</sup> R. J. Reynolds Tobacco Company and their psychologists viewed smoking in a culture that knew its health harms as a self-conscious middle-finger against society, a rejection of what they painted as government and social norm overreach, and a return to “freer” times. This research suggests that the commercialization of products and addictions wrapped in the flimsy gauze of mildly transgressive empty gestures actually serves as an anti-revolutionary soma, a heuristic to fake out the honest impulse to actually, materially improve one’s world and agitate for justice. Instead of the hard work of organizing and the bravery of putting one’s body and reputation on the line to serve something greater than ourselves—like a livable habitat or the fair distribution of goods—instead, the industry has proffered the cigarette, the vape pen, and now synthetic nicotine as a feeble torch of self-immolation, a purely symbolic token of rejecting society’s dysfunction rather than coming to the master’s house brandishing fire and pitchforks. Such bait and switch illusions of dealing with emotional disquiet, domesticating a population, are not just the handiwork of tobacco manufacturers or that plant. In the 2004 film *Die fetten Jahre sind vorbei*, the protagonists discuss how marijuana “saps the revolutionary spirit.” Becoming a pothead might feel transgressive (because of its illegal or illicit status), but the social efficacy of smoking cannabis rarely extends past that jeering thought. To hammer the point home, Aldous Huxley’s *Brave New World* demonstrates how depending on pharmacological management reinforces totalitarianism and vice versa (further discussed in Wolin 2017).
  - <sup>3</sup> How these corresponding compulsions cash out will vary culturally.
  - <sup>4</sup> Apparently, Jeremy Bentham, in his *Principles of Morals and Legislation*, regarded King James’s *Counterblaste* as “the epitome of ‘antipathy’, or disapproval ungrounded in an extrinsic rationale” (Ziser 2005, 727). James’s perceived antipathy (or resentment) could equally be interpreted as utility—discouraging the commercial use of tobacco for the good of all. Given Bentham and his followers’ record of instrumentalizing the world (with Effective Altruists and Longtermists just the most recent apologists reinterpreting greed through virtue signaling), he seems to have been as incorrect about the lack of utility of banning the commercial use of tobacco as with most other things.
  - <sup>5</sup> “Nosotros somos hijos del tabaco y de la coca . . . El *ambil* es el tabaco que nosotros manejamos para la limpieza de la sangre. La mata del tabaco de *ambil*, se representa por medio de un color oscuro porque para nosotros significa mirar más allá de lo que estos ojos ven y oír más allá de lo que nuestros oídos escuchan. Este es el direccionamiento que nosotros le queremos dar a la esencia del tabaco. Nuestra mitología nos explica que la parte espiritual del tabaco le habló al hombre pidiéndole que limpiara su casa, la *maloca*; pero no se trata de limpiar alrededor de la *chagra*, sino que tenemos que limpiar nuestro corazón, tenemos que revisar cómo estamos nosotros mis-mos, cómo está nuestro corazón, esa es nuestra verdadera casa.” (Translation by the author).
  - <sup>6</sup> Agnotology, the study of the perpetuation of systemic ignorance and ignorance-producing systems (Proctor 2008), already goes in this direction. If we are to take Rudolf Carnap (1928) seriously, the earnest effort to weed out pseudoproblems will deliver us to understanding, consistently mitigating against instrumentalization and single-metric optimization.
  - <sup>7</sup> I am reminded of Mahatma Gandhi’s response when asked what he thought of British civilization: “I think it would be a good idea.”
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