

Time for a wake-up call: An historical and ethnographic approach to the regulation of plant-based stimulants

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With the proliferation of new stimulant substances – many of them based on plants used in “traditional” cultural settings in different parts of the world – a need has arisen to monitor not just the substances themselves, but also the social contexts in which they are being used. Most national legislations take their cue from the 1961 United Nations Single Convention on Narcotic Drugs, and thus categorize “drugs” by means of an essentially pharmacological frame of reference. This means that coca leaves, for example, are usually banned under the same provisions that apply to their principle active alkaloid, cocaine, whereas other plants, with different active ingredients, remain in licit commerce until specific measures are taken against them in particular national contexts. This has recently been the case with regard to khat, kratom, *Ephedra* species, and – though it is not correctly a stimulant at all – kava-kava. It also means that stimulants containing other, purportedly “non-problematic” alkaloids such as caffeine, theobromine, capsaicine or arecoline, remain completely outside the scope of legal controls, and are treated to all intents and purposes as “non-drugs”.

There are both historical and cultural dimensions to the value-judgements which underlie the current legal situation, and the resultant categorization is not – as the international narcotics bureaucracies would like us to believe – a totally accurate guide either to the health risks associated

with particular substances, nor to the potential for their misuse. At the heart of the misunderstanding lies a glaring inconsistency between the 1961 Convention, on the one hand, and the follow-up treaty of 1971, on the other.¹ In the first, plant materials derived from coca, cannabis and the opium poppy – as well as their traditional uses – were explicitly targeted for prohibition, with all non-medical or non-scientific uses deemed worthy of being “phased out”. The 1971 Convention, however, reversed the focus, concentrating on a newly invented category of “psychotropic” substances, and failing to list any plants as such in the relevant schedules. This has caused endless confusion as the conventions were translated into national laws, since governments had to decide

Keypoints

- The current legal dispositions regarding plant-based stimulants, as enshrined in the UN Conventions, are devoid of a clear scientific basis, and need to be revised.
- The treatment of the coca leaf is the clearest example of a confused, ethnocentric and value-laden approach to plant-based stimulants.
- A better understanding of the traditional uses of plant-based stimulants could prevent the spread of problematic patterns of consumption of their more concentrated, chemical derivatives.

which of the international precedents should steer legislation. In the end, most countries made a choice based on their own political realities, and thus the desired uniformity has been diluted, and new contradictions introduced. (*See box p. 5*)

Outside the strictly legal realm, the lines of conflict are often drawn on ethnic, gender or religious lines, with one person's "good plant" being conceived as a "dangerous drug" by rival social interests. A good example of this is the simmering conflict over the use of khat in the Horn of Africa, the Yemen and their overseas communities. Not only is khat routinely portrayed as the fuel of Somali piracy and lawlessness in Hollywood blockbusters, but its use among Muslim men is also condemned by related womenfolk, by environmentalists concerned at the over-use of scarce water resources, and even by the vocal lobby of alcohol-consuming Christians in the countries of origin. According to one's individual perspective, khat is either a harmless ritual lubricant or a symptom of social decomposition and terminal moral decline.

One other case, that of the coca leaf, is particularly illustrative of the cultural opposition between mainstream Western views, and those of societies once colonized by European powers. The last decades have seen a reversion of previous ethnocentric constructs that portrayed traditional coca chewing as a degenerative vice, and have opened the way to a better understanding of this plant. Formal challenges to the outdated assumptions on which current laws are based have multiplied in the Andean states, and in Bolivia a nationalist government has successfully re-negotiated its adherence to the Single Convention, reserving the right not to apply in its territory all the offending articles that called on governments to phase out the traditional use of coca. In Argentina, too, the return of democracy in the mid-1980s overturned the prohibition of coca that had been perpetuated by previous military governments. Significantly, the

underlying motive for this change was not simply a defence of indigenous customs, but rather, the recognition of a distinct regional identity – shared even by immigrant middle classes, who frequently use coca leaves as a tea and a masticatory – in the north western provinces of Salta, Jujuy and Tucuman.²

These, and other, examples offer precedents for what is involved in the introduction of plant stimulants into new cultural contexts. Essentially, what is at stake is a process of historical change, with once-closed societies being exposed to novel patterns of consumption resulting from globalization and the expansion of world trade. This involves an on-going, and often uncomfortable, negotiation of power and legal definition with cultural conservatives, many of whom are in principle opposed to any new-fangled drug habit. On the part of users, who often view themselves as being in the vanguard of social change, it requires the pursuit of innovative forms of cultural legitimation – patterns of behaviour, rituals, and belief systems – backed up by social controls which may, or may not, acquire the form and substance of explicit laws. As will be argued in the next section, history shows us that informal controls arising from the experience of drug users themselves often offer a more effective discipline than a mere recourse to restrictive legislation.

Caffeine is a jealous god

By far the most widely used plant stimulants are the different species that contain variants on the alkaloid xanthine, very close in chemical structure to the best known of the group, caffeine, first identified in coffee. These also include tea, mate, guarana, and the closely related theobromine present in chocolate. Since the seventeenth century, at least, they have enjoyed a long history as major world trading commodities – in the case of coffee, tea and chocolate – or as products with a large regional market outside of their localities of origin – mate

and guarana. Forms of consumption have in some cases remained largely determined by pre-existing cultural practices, as with the teapot and tea cup introduced from China, or the mate gourd taken from an indigenous Guarani context and faithfully copied by successive waves of immigration into Uruguay, Argentina, Paraguay, Chile, eastern Bolivia and southern Brazil. In other cases, notably chocolate, the substance was entirely reinvented by changing the nature of its composition and the way in which it was consumed – from the Aztec chocolatl (cocoa and hot chili pepper) to the European mix with milk, sugar and vanilla.³ Coffee and guarana provide an intermediate case: they have largely lost their original ritual settings and modes of preparation, but continue to be used essentially as beverages, which preserve the basic form of pharmacological uptake.⁴ All of these stimulants have sustained major agricultural, trading and industrial economies, and no doubt this feature – combined with a generally benign effect – explains why they have never attracted the opprobrium unleashed on other plants. Caffeine is a “jealous god” both in the sense that the economic interests it sustains do not welcome competition, and in that its different constituent species are generally portrayed as healthier and more “natural” than other plant stimulants, not just through marketing propaganda, but through an almost-unanimous cultural consensus and well-developed codes of consumption.

Indeed, what is notable in all the well-established forms of caffeine ingestion is the rather precise titration of the dose that these allow and, indeed, encourage. Caffeine lasts three or four hours in the system, so in principle it would be easy to increase dosage over time. Caffeine overdose, however, produces a number of unpleasant side effects, both physical and mental, and thus rituals and preparations have evolved to deliver optimal benefits and minimal distress. It is surely significant that a large consumer market for pure caffeine

has never emerged – the substance can be bought over the internet, and is employed industrially in countless mixtures, usually in a pretty low concentration. It only finds an illicit use in combination with heroin (where its principal function, apart from a mild stimulant kick, is to facilitate the volatilization, or “chasing”, of smokable forms of the drug).

Only in recent years have relatively high-dose caffeine drinks become popular, and even these are normally combined with antagonists such as taurine, to moderate the undesirable symptoms. Though occasional deaths have occurred as the result of accidental caffeine overdose, these do not appear to have resulted from any premeditated “binge” pattern of ingestion.⁵ It is, therefore, extremely unlikely that we will ever witness a major and sustained outbreak of high-dose caffeine consumption, and patterns of combination with alcohol will probably stabilize at current levels. There is, after all, an optimal point in the euphoria to be achieved by combining caffeine and alcohol; too much of either produces rather unwelcome forms of intoxication.

In short, caffeine-based stimulants are relatively self-limiting and problem-free, even if evidence shows a link with certain gastric and vascular disorders, particularly among individuals with a high degree of susceptibility. In this context, it is not surprising that some public health crusaders (particularly in the USA) have called for restrictions on coffee drinking, and a burgeoning market for caffeine-free beverages has become well established in the health food market. Overall, however, caffeine in its different forms has become well integrated – historically and culturally – across a wide range of societies in virtually every corner of the globe. This experience shows us that commodity capitalism does not necessarily lead to abusive forms of marketing, nor does an absence of legal controls lead to spiralling consumption and undisciplined

over-indulgence, as many puritan voices of the seventeenth century feared. Caffeine-based drugs lay out a path for the effective social disciplining of any other, competing stimulant, by showing that the development of cultural norms and rituals of ingestion ultimately offer a much more effective approach than moral condemnation or outright prohibition. It is ironic that caffeine has achieved this admirable status by becoming a *non-drug*, both at the level of public perception and in terms of international legislation.

The plants on the borders of legality

Between the caffeine-based stimulants, on the one hand, and the coca/cocaine complex, on the other, there lies a territory which was barely contemplated in the 1961 Single Convention, but which has acquired much greater visibility in the ensuing half century. Habits that were once exotic and localized have begun to go global, following the paths of tourism and economic migration, and keeping pace with a generally expanding interest in psychoactive plants. In some cases, this expansion has been slow and hesitant, and largely restricted to the ethnic groups who already used such plants in their home territory. Such would be the case of the cola nut of West Africa, and the betel complex of the Far East. In the latter, used by tens of millions – from Bengal in India, through South-East Asia to Indonesia, the Philippines, and New Guinea – a fresh betel leaf (*Piper betle*) is combined for flavour with shredded nuts of the *Areca catechu* palm, which contain the active alkaloid, arecoline. Paralleling the use of coca, this mixture is potentiated by the addition of slaked lime, which renders the taste sweeter and makes the arecoline more bioavailable in the human organism. In some places, notably Burma, various other herbs and spices and sweets are added to the mix as well. Particularly in Thailand, betel is often combined with tobacco, which probably explains local perceptions that the

chew is “addictive”. To date, no evidence has been produced of a physical dependence on arecoline itself.

Many nineteenth century travellers remarked on the obvious similarities with coca leaf chewing, and indeed subjectively the effects are not that dissimilar. But a market for pure arecoline (which doesn't have the anaesthetic properties of cocaine, and therefore attracts little medical interest) has never emerged. The drug has not been included in the United Nations schedules, and to this day the ingredients may be found in any large Western city with immigrant communities from the region of origin. Furthermore, there is almost no evidence that betel chewing has ever penetrated non-Asian communities; even tourists returning from a holiday in Thailand, where they might well have tried the preparation (widely available in markets and next to street food stalls), show little interest in maintaining the habit at home. Like coca chewing, the experience of holding something in the mouth is culturally alien to most Westerners, but unlike coca – whose alkaloid is the mainstay of the illicit stimulant market – arecoline is not part of the register of underground stimulants. Perhaps it is awaiting an enterprising chemist who could innovate on the natural compound and produce a more noticeable effect.

That such a thing is possible has been demonstrated in the last decade by the parallel case of khat (*Catha edulis*), whose main active principle, beta-cathinone, has been synthetically reproduced in the clandestine market. It is now known by various street names including mephedrone, methadrone and *miao-miao*, and it briefly (circa 2008) replaced MDMA as the drug of choice on the North European club scene. At the time, the popularity of this drug depended on the similarity of its effects with various synthetic phenethylamines, and on the fact that it could be marketed legally, until put

Some history of plant control: an unresolved contradiction⁶

A clear contradiction exists in the way psychoactive plants are dealt with in the 1961 Single Convention on Narcotic Drugs and the 1971 Convention on Psychotropic Substances, for they are included in the first and explicitly excluded in the latter. The 1961 treaty clearly aims to “phase out” traditional uses, particularly of coca and opium, while the 1971 document focuses on chemical substances and permits exemptions for plants having long-standing cultural uses. The rationale for the 1961 approach was to control cultivation, and thus reduce production of these plants to the amounts required for medical and scientific purposes. This was considered a very difficult target to achieve, so long as widespread local consumption continued in the main producing countries.

The 1961 Single Convention, therefore, brought into being an international drug control system whose agenda had been set by the dominant powers of the developed world. Particularly in the United States, concern about the non-medical use of plant derivatives such as heroin and cocaine led to pressure being exerted on producing states to end any form of traditional use of the raw plant materials. Thus, opium, cannabis and coca leaf were placed under the same controls as extracted and concentrated alkaloids like morphine and cocaine. Debates of the time ended up in largely unresolved questions about “indigenous medicine”, “quasi-medical uses” and “traditional uses”, and became embroiled in the precise definition of the plants or derived substances that should be placed

under control. An initial attempt to find a solution using the phrasing “medical, scientific and other legitimate purposes” appeared in the original draft, but was voted down as the negotiations proceeded.

The issue of how to deal with traditional uses of certain plants came up again at the 1971 conference, especially with regard to mushrooms containing psilocybin and the peyote cactus containing mescaline, both of which are hallucinogens listed in the schedules of the 1971 Convention. Then as now, mushrooms and peyote were used in the religious and healing ceremonies of Mexican and North- American indigenous groups. Contrary to their posture during the 1961 negotiations, this time the United States authorities agreed to “a consensus that it was not worth attempting to impose controls on biological substances from which psychotropic substances could be obtained... The American Indians in the United States and Mexico used peyote in religious rites, and the abuse of the substance was regarded as a sacrilege.”⁷ By excluding from the schedules plants from which alkaloids could be extracted, while listing the alkaloids themselves, the 1971 Convention deviated, with good reason, from the guiding principle of zero-tolerance that had been applied in the 1961 Single Convention. The whole concept of “psychotropic” substances was itself a distortion of the logic behind the control framework, as the term lacks scientific credentials, and was originally invented as an excuse to prevent the much stricter controls of the 1961 Single Convention being applied to the wide range of largely synthetic, psychoactive pharmaceuticals included in the 1971 Convention.

on the relevant schedules. The profusion of slightly-tweaked variants and congeners of the cathinones has subsequently led to new, fast-track methods for banning new substances in various national jurisdictions, and in at least one case (Ireland) to a blanket law covering any new, as-yet undiscovered drugs that mimic the effects of any of those already on the list. Across the board, inconsistencies in the UN conventions have produced a plethora of national initiatives with confused objectives and uncertain outcomes, and have led the International Narcotics Control Board (INCB) to call for new bans at both national and international levels. In this, it has considerably overstepped its mandate, and encroached on the territory of the World Health Organization's Programme on Substance Abuse, the organ officially charged with recommending the inclusion of new substances on the relevant schedules.

The implications of these developments for any natural plant compound found to have psychoactive properties could be quite alarming, and have led to an increasing number of prosecutions of possession or supply of other plant materials, in addition to the classic trio of cannabis, opium poppy and coca. In these latter cases, the 1961 Convention had specified exactly which parts were to be banned: only leaves in the case of coca, only the capsule exudate in that of the opium poppy, only the female flowering tops (minus the seeds) and the prepared resin in cannabis. Living plants *per se* are still not subject to the Conventions, except in those cases where they are being grown to act as a source of supply to the illicit drug market. In theory, crop eradication may only be carried out where this link has been clearly demonstrated; a fact often ignored in practice, notably in Colombia, where coca on indigenous lands, clearly destined for traditional uses, has not infrequently been targeted as well.

In the UK, specific legislation had to be

enacted in Parliament to ban mushrooms of the genus *Psilocybe* (The Drugs Act of 2005), since the fact that they contained psilocybin had previously not been enough to secure a conviction in the courts. Numerous other cases continue to drag on through the judicial system in various countries, mainly concerning sundry mescaline and DMT-containing species – such as the sanpedro cactus (*Echinopsis* spp.) and ayahuasca (a mix of *Banisteriopsis* and *Psychotria* spp.) – since their constituent alkaloids were clearly targeted by the 1971 Convention. Convictions are on the increase in some jurisdictions, even if they are usually subject to lengthy appeal procedures. In the case of the US Federal government's prosecution of the use of peyote by the Native American Church, a full century elapsed between the onset of legal action in the state of Texas, and final acquittal by the Supreme Court in Washington.

The recent panic over “legal highs”, or new psychoactive substances (NPS), has thus allowed national legislators to pilot novel forms of prohibition, well beyond the now-cautious measures contemplated in the United Nations conventions. The crack-down on khat in the Somali community – initiated in the US in the 1990s, and since carried on by many European states, most recently the Netherlands and the United Kingdom (2013) – provides the most glaring example of this process, being generally taken without formal political debate and often against the express recommendations of the relevant government advisory committees.⁸ Although announced as measures designed to “protect a vulnerable community”, these have had rather the opposite effect, strengthening the hand of Muslim fundamentalists and destroying the only secular institution which provides an alternative social focus to the mosque. The price of khat in Western markets has rocketed, quality has declined even further, and an illicit drug trade has been created where none existed previously. As a final consequence, a new semi-refined cathinone

powder has appeared on the scene, producing stressful and even psychotic reactions, and further marginalizing users from the mainstream. Does this sound familiar?

Other examples abound of the grey areas currently being colonized by prohibitionist regimes. Kava (*Piper methysticum*), a perfectly legal mainstay of Melanesian and Polynesian society in Vanuatu, Samoa, Tahiti and other Pacific islands, was introduced in Australia in the 1960s and initially performed an important role in treating the chronic alcoholism of aboriginal society.⁹ With time, however, its alternately stimulant, euphoric and tranquilizing effects came to be viewed as a dangerous addition to the native pharmacopeia, and it was banned – with no visible improvement to the extreme marginalization of aboriginal social groups. The importation of kava is also prohibited within the European Union, though the legal basis for this remains rather unclear. Like khat, kava is best consumed fresh, so impediments to licit imports in effect destroy any possibility of the plant finding a wider market.

Similar measures were taken in various countries circa 2004 to close down the market for the Chinese *Ephedra* species known as *ma juang*. Widely used as a tea in traditional medicine, and with a buoyant niche market appearing in the form of powdered capsules in Amsterdam and other Western cities, *Ephedra* acquired the stigma associated with its principal active ingredients, ephedrine and pseudoephedrine. Once anti-congestants used universally in cold and ‘flu remedies, these drugs were replaced industrially by their synthetically produced equivalents - leaving the natural compound to re-discover itself as a principal precursor for illicit meth-amphetamine. The plant thus came to be banned not for its own properties, but for the effects of a potential product of transformation – a precedent which could open the gates to the

criminalization of a considerable share of the world’s flora.

One final case that well illustrates this theme is that of the Thai stimulant kratom (*Mitragynia speciosa*), first prohibited in that country in 1943, when it was considered a rival to opium and a threat to the government revenues generated by the official opium monopoly. Kratom and its principal alkaloid, mitragynine, have now also been banned in Malaysia, Burma, and Australia, and both the USA and European states are considering measures to counter its widespread availability on the internet. Simple decoction can turn the fresh leaf into a concentrate, making it relatively easy to market world-wide, in the form of a dried paste. In Thailand itself, kratom prohibition has favoured the development of a new hybrid product known as 4x100, a drink whose problematic consequences derive both from the social marginalization of its users, and the addition of adulterants: principally benzodiazepines, and the dextromethorphan present in cough mixtures. Although the plant itself has well-documented analgesic properties – and has been widely used in Thailand for decades, not least as an aid in opiate withdrawal – its characterization as an illicit drug looks set to engender all the unfortunate consequences, in social and medical terms, that it could never have managed to produce on its own. The record of the official response to kratom consists, sadly, of an exemplary case of harm aggravation.¹⁰

Coca, a sign of misunderstanding at the United Nations

Half a century has passed since the 1961 Single Convention on Narcotic Drugs came into effect, with its listing of the coca leaf, alongside cocaine, in Schedule 1. Although this classification allows for the leaf to be used for scientific and medical purposes, it was specifically designed to eliminate all traditional uses as a stimulant and herbal

medicine. In the last decade – building on an ambiguous recognition of traditional uses inserted in Article 14 of the revised 1988 UN Convention, which deals basically with crop eradication¹¹ – Bolivia has successfully challenged the requirement to criminalize the traditional coca market within its borders.¹² Though this constitutes a rare political reversal for the cultural prejudices enshrined in UN legislation, the coca leaf still remains an illicit commodity, as prohibited in international trade as its refined alkaloid cocaine.¹³ While formally legal under the national legislation of three states (Peru, Bolivia, Argentina), and officially tolerated in indigenous territories in Colombia, coca is still routinely seized and burned throughout the region – not just in the major producing countries (Colombia, Peru, Bolivia) but also in places with little or no production, and a history of legitimate indigenous use, such as Chile, Brazil and Ecuador.

With a population of habitual users verging on the ten million mark, it is perhaps surprising that the condemnation of coca has not been more forcefully questioned at the United Nations, particularly in the context of human and cultural rights challenges to the underlying ethnocentric assumptions of the Single Convention. The case for the inclusion of the coca leaf in Schedule 1 of this treaty has been shown, on more than one occasion, to constitute an outright scientific fraud, perpetuated at a time when local elites willingly aligned themselves with the views of the metropolitan powers.¹⁴ Likewise, the machinations of the Coca-Cola Corporation to keep their decocainized coca essence beyond the scope of the treaties demonstrates a flawed double standard, which hardly does credit to the supposed public health objectives of a total coca ban.¹⁵ Coca in fact makes only the most marginal contribution to the world's most popular fizzy drink, but its inclusion – albeit in the most infinitesimal traces – is mandated by the Pure Food and Drugs Act, which

requires any product with a plant name in its title to actually contain something of that plant.

A renewed respect for the ancestral uses of this plant in its region of origin, combined with the spread of novel methods and contexts of use into new territories – President Morales of Bolivia once tried to launch and export a rival, autochthonous soft drink called Coca-Colla – have so far failed, however, to ignite the long overdue reconsideration of coca's legal status, still anchored in the “ready extractability” of its alkaloid content. Only an understanding of the usefulness of natural coca products for the new generations (principally as a mild stimulant and food supplement, but also as a properly medicinal agent in numerous gastric and nervous disorders), can begin to change the terms of the debate, and in so doing, suggest new policy approaches to the problems associated with the use of its chemical derivatives. Though drug-use prevalence figures in Peru and Bolivia are notoriously undependable, most observers agree that the ready availability of coca has played a significant role in preventing the emergence of any widespread, problematic use of its concentrated forms.

Official initiatives to reconsider what previous generations would have called the “virtues” of the coca leaf are today largely restricted to Bolivia, where the plant has acquired the status of a potent national symbol, and is protected as a natural resource by the 2008 Constitution. Elsewhere, one must look to the consuming market in order to discover what is really going on, away from the recurrent propaganda (“Coca also has its fruits: Corruption, violence, terrorism.”) financed by so-called prevention and education programmes. Although collaborationist sociology has been insisting for decades that the traditional use of coca is disappearing under the impact of modernization, this appearance has largely been maintained by a focus on sampling in



social sectors in relative decline – miners and small farmers. In considering urban and particularly youthful/innovative populations, rather the opposite has actually occurred, as coca has spread into social groups who would not have used it in the past. Mention has already been made of the case of north western Argentina, where since the mid-20th century it has become entrenched not only among economic migrants, but in student and professional circles as well. Similar phenomena have occurred in the lowlands of eastern Bolivia, in the Atacama Desert of northern Chile, and throughout Peru.

Two cases merit special attention, since they have taken place in the least likely places. In Colombia, coca cultivation by the 1960s was limited to a few small and isolated indigenous reserves, and the fledgling cocaine industry largely processed

semi-refined *pasta* brought up from the Andean republics further south. The spread of coca as an illicit cash crop in the last three decades gave the plant a somewhat negative identity in political and media circles – capitalized by the *La Mata que Mata* (“The Bush which Kills”) propaganda campaign. Paradoxically, this drew attention to traditional uses of the plant which were very much a minority pursuit until recently, and a market for coca teas, flours and tonics sprung up in defiance of the prohibition which still weighs on the leaf in most of Colombia. Nasa indigenous leaders even successfully challenged the *La Mata que Mata* campaign, claiming it was a mark of disrespect to their culture, and the campaign had to be withdrawn from the airwaves.

Another unlikely example of the recent expansion of coca concerns the city of Lima, once capital of the colonial viceroyalty that

stretched over much of South America, and a bastion of anti-coca establishment opinion. Virtually all the “scientific” evidence used to condemn coca at the World Health Organization in the 1950s, and subsequently in the UN Single Convention, was produced by the psychiatric hospital in Lima, and thus it is ironic that half a century later the *Hospital de Policia* should pioneer the use of coca products in geriatric care. Though cultural prejudice largely precludes traditional coca chewing in urban contexts in Peru, an expanding market has emerged for all sorts of other preparations, which can be assimilated in less visible ways. Reason is finally being given to Hipolito Unanue, the founding father of modern Peruvian medicine, who in 1794 published a booklet describing coca as “the major tonic of the vegetable kingdom”.¹⁶

New methods, new markets

A characteristic feature of the introduction of stimulant plants into new cultural contexts is the inescapable push-and-pull that occurs between tradition and innovation. This is the case both with regard to actual preparations – guarana in glass-ampoule, partying doses is a far cry from the highly diluted drink used in the Amazon – as well as with the use of admixtures: the pervasive introduction of sugar in many preparations, or the substitution of traditional alkalis such as ash and slaked lime by bicarbonate of soda, in modern-day coca chewing. Social contexts for the use of any substance also inevitably change, with the survival of the age-old Paraguayan custom of drinking mate in a circle providing an exception, all the more remarkable for its adoption by a largely European-immigrant population. Though traditionalists may decry any departure from established practice, new rituals inevitably emerge in novel contexts, and provide new identities for their hosts. Where would British society be without the addition of milk to tea?

Often this change goes well beyond simple physical processes, and enters a properly ideological realm. Plants once considered sacred or magical, in their cultures of origin, become secular and profane – mere commodities, rather than gifts from the gods. There is, in this process, a loss of finesse and understanding accumulated over centuries, but there is also a gain, as the product enters new markets and produces entirely new forms of sensibility and social interaction. The underlying pharmacological event, in any case, remains largely the same: the short-lived boost provided by the capsaicine in hot chili peppers is indistinguishable whether it is absorbed in liquid form through the nose, as is the ritual custom among the Tukanos of the upper Rio Negro, or out of a sauce bottle on a supermarket shelf. In their general usefulness, stimulants are quite naturally absorbed into human cultures right across the board, even those with taboos on alcohol or the psychedelics.

The most illustrative case of how Western society has stumbled, and failed to understand this process, remains that of coca and cocaine, poised a hundred years ago to repeat the trajectory of the caffeine-based drugs, and become a household staple. The mistaken, chemical-reductionist view of the nineteenth century – which saw in cocaine, in Sigmund Freud's words, “the true agent of the coca effect” - is largely responsible for this unfortunate turn of events, as the newly identified alkaloid went from panacea to scourge in the space of three short decades. In the process, coca leaves themselves, as well as countless semi-industrialized preparations, came under the same blanket condemnation, where they have remained to this day, despite the fact that few authorities would still maintain the view that they are seriously dangerous drugs. We are thus left, from a public health point of view, with the worst possible result: the widespread availability of illicit, concentrated and contaminated products such as crack, and an undeveloped, absurdly

penalized and geographically restricted outlet for the natural forms which could take their place.

And yet, there are signs that the consuming market may operate the changes that policy makers are too scared, or ignorant, to envisage. Mention has been made of the sea change in Colombian perceptions of the coca leaf; one particularly interesting aspect of this has been the adoption from the upper Amazon of a pulverized leaf-and-ash preparation known as *mambe* or *ypadú*, which reproduces the traditional effect of chewing whole coca leaves. More manageable for the novice user, more practical to store and carry around, powdered coca appeals to a generation who have been previously exposed to cocaine, and recognize in the herbal form a less stressful, more lasting and beneficial effect. The slow drip of alkaloids into the bloodstream, together with other nutritional benefits (its high calcium content, for example) has been recognized among users as one possible long-term answer to the problems posed by the domestication of cocaine.

In conclusion, the history of the diffusion of stimulant plants teaches us a modest lesson in inter-subjectivity, of the interaction between our species and the various members of the vegetable kingdom endowed with properties useful to our own organism. It may not be possible to reproduce traditional concepts of the “spirit” of a plant in new cultural contexts, and it may be that ritual practices, physical preparations, and the attendant value systems will inevitably change through time and distance, and across cultural boundaries. But the essential interaction, the pharmacological interface, must of necessity remain similar to all members of the human race. To this extent, the chemically-based frame of reference adopted by the UN Single Convention – of which mention was made at the beginning of this piece – is mistaken not so much in its conception, but rather in the culturally-

loaded and falsely “scientific” manner in which it was applied to different plants. A political history has produced the distortions to which we are now witness; a political future will have to try and sort out the mess.

Endnotes

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1. C Hallam, D Bewley-Taylor, M Jelsma. 2014; “Scheduling in the international drug control system.” Amsterdam: TNI *Series on Legislative Reform of Drug Policies No.25*
2. Ricardo Abduca and Pien Metaal, 2013; “Towards a legal coca market: the case of coca leaf chewing in Northwestern Argentina” Amsterdam: TNI. *Series of Legislative Reform of Drug Policies, No. 23*
3. Marcy Norton 2008 *Sacred gifts, profane pleasures*. Ithaca, N.Y.: Cornell University Press.
4. Michael van Straten 1994 *Guarana*. Saffron Walden: C W Daniel.
5. www.vice.com/en_uk/read/how-much-caffeine-will-kill-you-127
6. Text based on the work of Dave Bewley-Taylor and Martin Jelsma. “Regime change: Re-visiting the 1961 Single Convention on Narcotic Drugs.” *International Journal of Drug Policy*, August 2011.
7. E/CONF.58/7/Add. 1, p. 38).
8. A Klein, P Metaal, M Jelsma. 2012 “Chewing over Khat prohibition: The globalisation of control and regulation of an ancient stimulant”. *Series on Legislative Reform of Drug Policies No. 17*.
9. V. Lebot, M. Merlin, L. Lindstrom 1992 *Kava: The Pacific Elixir*. New Haven CN: Yale University Press.
10. Pascal Tanguay 2011 “Kratom in Thailand: Decriminalisation and Community Control?” Amsterdam: TNI. *Series on Legislative Reform of Drug Policies No.13*
11. United Nations Convention against Illicit Traffic of Narcotic Drugs and Psychoactive Substances, New York, 1988. Article 14b: Each Party shall take appropriate measures to prevent

illicit cultivation of and to eradicate plants containing narcotic or psychotropic substances, such as opium poppy, coca bush and cannabis plants, cultivated illicitly in its territory. The measures adopted shall respect fundamental human rights and shall take due account of traditional licit uses, where there is historic evidence of such use, as well as the protection of the environment.

12. TNI/WOLA Press release: "Bolivia wins a rightful victory on the coca leaf", January 11, 2013.

13. P Metaal, M Jelsma, M Argandona, R Soberon, A Henman, X Echeverria 2006; "Coca yes, cocaine no?" Amsterdam: TNI. *Drugs and Conflict Debate Papers No 13*.

14. A Henman, P Metaal 2009; "Coca myths". Amsterdam: TNI. *Drugs and Conflict Debate Papers No 17*.

15. Mark Pendergrast 1993 *For God, Country and Coca-Cola*. London: Weidenfeld and Nicholson.

16. Hipolito Unanue 1794; "Disertación sobre el aspecto, cultivo, comercio, y virtudes de la famosa planta del Perú nombrada COCA." Lima: Peru. *Mercurio Peruano no. 372, fols. 205-257*.

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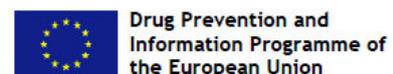
TNI's Drugs & Democracy programme has been analysing trends in the illicit drugs market and in drug policies globally. The programme has gained a reputation as one of the leading international drug policy research institutes and as a critical watchdog of UN drug control institutions, in particular the CND, the UNODC and the INCB. TNI promotes evidence-based policies guided by the principles of harm reduction, human rights for users and producers, as well as the cultural and traditional uses of psychoactive substances. The strategic objective is to contribute to a more integrated and coherent policy where drugs are regarded as a cross-cutting issue within the broader development goals of poverty reduction, public health promotion, human rights protection, peace building and good governance.

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