

Becoming coca: A materiality approach to a commodity chain analysis of *hoja de coca* in Colombia

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Coca is a controversial plant, existing on the boundary between legality and illegality. This study aims at providing an analytical technique for discussing the problematic of coca in Colombia. Using new theoretical propositions in human geography, a more-than-human approach is adopted to encounter coca holistically. The results are a narrative account of coca's social life as experienced by the researcher following its network of non-cocaine derivatives. An analytical section invokes the Foucauldian *dispositif* to the drug trade and utilizes concepts of informed materials and technological zones to describe coca outside a political economy discourse. The research finds that coca's dynamic materiality complicates it as a commodity and that these conventional approaches do not fully encapsulate this complexity. By grappling with the messiness of coca's materiality, this paper reveals the multiplicity and interplay of coca's definitions, which lie at the heart of many conflicts.

Keywords: coca, Colombia, commodity chain, drug trade, materiality, technological zone

For Spinoza, the world is in constant movement, involved in a constant process of self-construction. It is always becoming because matter is internally disposed to create its own motion (Thrift, 2003: 111).

Introduction

Coca (*Erthyroxylum* sp) is a controversial plant, existing on the boundary between legality and illegality. As an illegal commodity, it implicates traditional coca producer countries (Colombia, Peru and Bolivia) as well as cocaine consumer countries, most notably the US. US-Colombia relations largely centre on coca eradication, which has brought a flow of aid, mainly as military assistance under 'Plan Colombia' since 2000 (Tickner, 2007; Fukumi, 2008). These sponsored eradication programmes range from spraying herbicides on coca cultivation (aspersion), which has been criticized for its environmental and health repercussions, to crop-substitution initiatives and even manual crop removal, which is dangerous in the light of allegations that the cocaine trade finances the Revolutionary Armed Forces of Colombia (FARC) guerrillas.

Conversely, coca's role as a legal substance dates back centuries in Andean cultures where chewing *hoja de coca* or coca leaves – *mambeo* in Colombia – is a sacred and customary practice among indigenous Andean communities. Recently, state intervention in Peru and Bolivia has enabled an increase in the production of legal coca products, creating a lucrative global market. In Colombia, where indigenous groups have a constitutional right to cultivate coca for traditional use, two indigenous groups, the Kokasana and the Cocanasa from the southernmost and southwestern Pacific departments of Amazonas and Cauca (UNODC, 2007: 9) respectively, also manufacture coca products. In 2004 the Cocanasa started distributing CocaSek, an energy drink made from coca leaves (Henkel, 2006), to retailers beyond their reserves. In 2007,

however, President Álvaro Uribe revoked the right to supply legal coca products beyond indigenous reserves, a decision that has been widely condemned in view of the contrasting coca policies of Bolivia and Peru, as well as speculation that the naming rights case that Coca-Cola lost against CocaSek was a possible trigger (Henkel, 2006). Since 1904 the Coca-Cola Company has used coca leaves with the cocaine alkaloid removed to produce the Coca-Cola range of drinks, and continues to do so despite coca being a banned substance under the 1961 Single Convention on Narcotic Drugs (Karch, 2006).

The interconnectedness of these situated coca events requires a unique analysis to make sense of this entanglement of connections or hybrid actor network (Foster, 2006: 293). Some previous studies have employed a traditional value chain approach to cocaine (Wilson & Zambrano, 1994) whilst others that have used historical narratives of coca/cocaine commodity chains (Gootenberg, 2006). Anthropological accounts of coca, such as those by Anthony Henman in Colombia ('Antonil', 1978) and more recently Cusicanqui (2005) in northern Argentina as well as Taussig's (2004) in-depth account of gold and cocaine in Colombia, provide novel insights into the politico-cultural aspects of the plant. However, geographical accounts remain in the realm of political ecology (Young, 2004) and geobiopolitics (Sanabria, 2004; Corva, 2008). Although these provide useful frameworks through which to understand the plant, they underplay the interconnectedness of the coca network. I therefore employ a materiality approach within a commodity network analysis in order to disrupt the traditional dualistic discourses surrounding resource studies. This is an amalgamation of the thicker circuits of culture approaches employed by authors such as Cook *et al.* (2006) and actor network theory based studies (e.g. Whatmore, 2002).

In his overview of commodity geographies or critical fetishism, Foster (2006) notes the gap in the literature for mapping illicit commodity networks, which this paper addresses. By adopting a materiality approach in a sector that has been dominated by a political economy focus centred on the realist paradigm of US foreign policy (Fukumi, 2008), I aim to 'acknowledge the embeddedness of social action, whether it be embedded in the world of things, bodies, networks or socio-ecological relations' (Bakker & Bridge, 2006: 18). Through the analysis of a boundary substance, I explore coca's materiality using Bennett's (2004) concept of 'thing-power' which focuses the researcher on the everyday liveliness of 'less specifically human' actants that nevertheless have an effect on us.

However, a simple focus on materiality is an insufficient analysis for the coca/cocaine complex, which is a unique research subject to follow because of its multiplicity and transitivity. As a material within conflicted political space, coca is surrounded by different Deleuzian assemblages that define it as a particular entity – usually cocaine. These practices themselves transform coca as a material object and the result is a snowball effect of self-perpetuating redefinition. In order to animate this, I explore the constitution of coca as an 'informed material' – the idea that the identity and properties of a material are not intrinsic, but 'are dependent on relations with other entities, including information' (Barry, 2006: 242). In order to monitor progress and inform policy as well as for lobbying purposes, these coca assemblages are dedicated to metrological practices. I therefore also use Barry's (2005: 239) concept of technological and metrological zones as 'space(s) within which differences between technical practices, procedures and forms have been reduced, or common standards have been established'.

Drawing these threads together is Foucault's '*dispositif*' as used by Callon (1998). Peeters and Charlier (1999) describe the *dispositif* as an intermediary figure, on the one hand giving the idea of a structural approach and homogenous order and on the other,

a rhizomatic approach of open, complex ensembles which brings with it notions of the hybrid. By using this concept of the *dispositif*, I describe the drug trade as a set of assemblages and processes that create disciplined bodies/states from 'narco-delinquents'/'narco-space' (Corva, 2008) through the illiberal policies (e.g. Plan Colombia) of both governmental/supranational agencies and narcocapitalists and their opponents. This renders those most affected powerless because they are unable to engage with the evidence, debate and response.

The combination of approaches employed in this study provides a holistic encapsulation of the coca assemblage. Through a reworking of the *dispositif*, I aim to capture the thingness of coca whilst simultaneously analyzing the human-centred metrological practices that co-constitute it. This is my following of coca.

Research reflexivity

A diary with a few scrappy mementos, a laptop folder full of photos and videos, 386 MB of audio clips, books and papers (mostly in Spanish), an *Español-Inglés* dictionary (exposing myself as a gringa) and two boxes of Nasa Esh's coca tea: this list exhausts what is tangibly available to me to recount 'the social life of coca in Colombia'. And yet, I cannot help thinking that with all the theoretical underpinnings underlying the process of my research, very little of the final document will reflect the integral process of research 'co-fabrication' (Whatmore, 2003). 'Becoming coca' is not a straightforward procedure, but instead looks more like Figure 1.

The mental chaos that ensues when researchers attempt to tell stories where there is no real focus, beginning or end-point other than the object of study itself is described in Cook *et al.* (2006). These "'(un)disciplined" . . . risky ventures . . . can do your head in' (Cook *et al.*, 2006: 657), because so many things that do not come together in theory turn out to be closely bound in practice. Following or becoming your research subject means letting go of that fixed origin/end-point that we deem necessary for research, but rather requires a method of 'get[ting] inside networks, go[ing] with the flows and look[ing] to connect' (Mike Crang, 2005 cited in Cook *et al.*, 2006: 657).

My journey from uninformed student barely making the connection between the Andean plant and the 'champagne drug' to coca savant is such an account. It illustrates the hybrid nature of coca in its various guises as well as the multitude of networks within which it performs its materiality. Coca is simultaneously one of the most and least easily accessible commodities. The process of discovering coca not only transforms the plant as research subject, but transforms the researcher as s/he makes and breaks connections, absorbs literature in different localities, transports her/himself according to the demands of the research subject and becomes a part of the network.

What follows is a written account of the circulating commodity as encountered by me, which is by no means a finite delimitation of the coca network.

The coca journey

Reflections of a researcher

9 AM lecture: a packet of dried leaves and Lupi teabags are passed around to be put into boiling water. 'It's *mate de coca*: coca tea from Bolivia. Illegal in England because it is the same leaf that is used to make cocaine', our lecturer explains. Intrigued by this clandestine activity, the class is suddenly awake. Or is it just the stimulating effect of the coca tea?

This defines the coca plant. You are never quite sure whether you are constructing your reaction to the plant based on the effect its alkaloids (e.g. cocaine) have on your

system or whether you are simply reacting to your perception of what this effect should be. As Henman states, 'the effectiveness of the alkaloids is dependent to a greater degree on the biological and mental state of the coca chewer, than it is on the actual pharmacological properties of the leaves themselves' ('Antonil', 1978: 128). However, the beneficial results of coca tea are not limited to indigenous fancies, but have permeated all sectors of society. Four months later, a chance encounter with a lady working in the Colombian Ministry of the Environment, Housing and Territorial Development (MAVDT) (Bogotá, 7 July 2008) allowed an insight into the power of this sacred Andean plant:

I first heard about coca tea three years ago and I tried it because I suffered from severe stomach pains due to an inflamed colon. As soon as I drink it, the pain stops immediately and now I always have it in the house for emergencies. Now I drink less coffee and more coca tea; it is healthier, more enjoyable and digestible . . . [and] delicious.

Indeed, the taste and look of the tea contributes significantly to its medicinal reputation. It can range from a light, yellowy-green with a very faint taste (Colombian Nasa Esh's tea) to a darker brown-green with a sharp, yet earthy smell (Peruvian Wawasana/Bolivian Lupi tea). Although the taste can initially be overpowering (especially if made directly from the leaves and not from teabags), it soon grows on you as its sweet undertones become apparent. It is therefore not surprising that after an internet search I discovered an entire world of coca products, consisting mainly of tea from Peru (and their state-run coca company Enaco) and, to a lesser extent, Bolivia. Coca tea can now be found on shelves as far away from its 'native' origins as South Africa, Japan and the Czech Republic.

The question that arises at this point is, why are legal coca products centred on Peru and Bolivia when Colombia is the world's biggest coca grower? Simple answer: Colombia contributes the major share.¹ But why Colombia, and why this particular form?

Cocaine experimentation

The idea for my Colombian coca journey is rooted in a BBC (2008) documentary by the former Blur bass player, Alex James. His mission: to discover the Colombian side of the cocaine chain, beginning with a visit to coca plantations in Nariño, then to the San José del Guaviaré military base anti-narcotics programme and on to a *chongo* (makeshift cocaine lab) in the jungle before ending up with a dealer in his hotel room. It was a striking story of how cocaine had infiltrated the country so extensively to become Colombia's 'national product'. I was also sucked into Alex James's Colombia-as-cocaine-world because, despite focussing on quasi-(il)legal coca, it was impossible to ignore the shadow of the drug trade looming behind the coca plant. My invitation to attend a coca festival² in Cerro Tijeras, Cauca Department as part of my journey was to reinforce this dark aspect as I saw and heard firsthand accounts of its direct impacts on the lives of Colombia's people.

From a transnational commodity chain perspective, Wilson and Zambrano (1994) spin an enthralling tale of cocaine as a Colombian commodity through its production chain to export, distribution and consumption. They offer the economic incentives for the persistence of the drug trade as 'Latin America's only successful multinational' (Peruvian President García, quoted in Wilson & Zambrano, 1994: 309). This had occurred in spite of the US war on drugs spearheaded by President Nixon and then extended by Reagan in the 1980s through Congressional legislation (despite the evident clash of this 'transnational illiberal narco-governance' (Corva, 2008: 188) in Latin America with his neoliberal agenda). The US-Colombia link forged by cocaine is of

immense economic and political importance, not only since the inception of Plan Colombia, but also because the most profitable stage of the cocaine industry lies in the US – its distribution network (Wilson & Zambrano, 1994). The introduction of crack cocaine in the mid-80s created another US market opportunity for increasing profit margins, and since the highest value is added in the global north (Allen, 2005), the bulk of the profits of this lucrative industry enter the US financial system, not Colombia's. Furthermore, the US supplies most of the chemicals necessary to make cocaine – as flagged in italics in the following process (Wilson & Zambrano, 1994):

Pasta básica recipe:

1 kg ground coca leaves, mixed with a handful of dried cement and a half litre of petrol

Add cold water and *sulphuric acid*

Drain gasoline leaving the paste behind

Boil paste and add reagent (e.g. *potassium permanganate*)

[From this basic paste, the final cocaine *hydrochloride* product is then produced in clandestine laboratories before export.]

But Colombia has not always been at the forefront of cocaine trafficking. In the 1950s–60s the cocaine trade was dominated by Cubans and Chileans (Fukumi, 2008), and until the 1970s the cocaine business itself was a 'small cottage industry run mainly by Peruvian and Bolivian nationals' (Wilson & Zambrano, 1994: 304). In the 1970s the Cubans and Chileans sought direct trade with Colombian organizations that had experience from the marijuana boom and were strategically located, being on the Caribbean coast for access to US cities such as Miami and on the Amazonian border for easy access into Peru (Fukumi, 2008). The Colombians then started challenging the Cuban monopoly because of their direct contact with the US through men such as Carlos Lehder, marking the rise of the infamous Medellín traffickers led by Pablo Escobar (Fukumi, 2008). By the early 1980s the cocaine trade had become a 'far-reaching multinational predominantly run by Colombian organisations' (Wilson & Zambrano, 1994: 304) and the trafficking routes moved into Mexico. In essence, the initial structure was that coca leaves and paste were produced in Peru and Bolivia, and transported to Colombia for manufacture into cocaine, but due to their continued control over the industry, coca cultivation slowly shifted into Colombia, which then became the major producer country that it is today (Fukumi, 2008). Since the dissolution of the Cali cartel, coca cultivation in Colombia has tripled, prompting radical reactionary policies like Plan Colombia to be implemented (Karch, 2006: 166).

To give an idea of the scale of the cocaine industry in Colombia, the Cali cartel had an estimated USD 7 billion annual income in the mid-1990s, and before the industry collapsed in the mid-1980s it reportedly employed 30 per cent of the population of Medellín (Fukumi, 2008). 'Medellín became addicted – not to cocaine, but to the effects of cocaine – to the money, scandal and power created by cocaine, to the novelty of consumption and the eruption of the late twentieth century capitalist culture made possible by cocaine' (Roldán, 1999: 171).

Coke, charlie, crack, freebase, cocaína, chang

Coca, in its illegal derivative form as the drug cocaine, has infiltrated Colombian society so insidiously that today the country's story is as inextricably bound to the plant as it is to FARC guerrillas. The transformation of an ordinary-looking plant cultivated in the Andes into a multi-billion dollar industry proves to be a fascinating story.

Coca was first officially defined as a global ‘problem’ with its inclusion in the 1961 Single Convention on Narcotic Drugs, but the evolution of international drug control measures can be traced to the US Pure Food and Drug Act of 1906, which originated with a ‘witch-hunt’ against the Coca-Cola company (Karch, 2006: 117–29). The US government was the first to make drug control policy a topic for diplomatic debate, thereafter introducing a wave of initiatives curtailing the illicit trade not of coca products but in opiates (Karch, 2006: 131). In 1922 the US Congress strictly limited the import of coca leaves into the country to small amounts for ‘legitimate, medical purposes’ and the manufacture of Coca-Cola (Plowman, 1982: 347). With more than half a century of groundwork it is not surprising that the 1961 Single Convention makes not only cocaine, but also its plant of origin, illegal.

The inclusion of the coca leaf under the 1961 convention has been panned as an ‘historical error’ (Jelsma *et al.*, 2006: 4). Article 14 (2) of the 1988 UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances states that ‘The measures adopted shall respect the 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’; yet even coca tea is illegal under the convention although it is considered harmless in several South American countries (Jelsma *et al.*, 2006: 6). The main reason given for including the coca leaf in Schedule 1 was because cocaine is readily extractable from it (WHO, 1993). However, this opportune classification has more recently been challenged by those who believe its inclusion on List 1 as being more politically motivated than driven by science. At the United Nations Commission on Narcotic Drugs session held in Vienna in March 2009 (UNODC, 2009), Bolivian *cocalero* President Evo Morales³ again called for its exclusion from List 1, and so the debate continues.

La planta sagrada

An interviewee from the Yanacóna people described coca as ‘*una hoja sabia . . . sagrada*’ (a wise leaf . . . sacred) (pers. comm., Popayán, 3 July 2008). Mortimer (1901: 7) calls ‘*Khoka* the tree beyond which all other designation was unnecessary’. It is ‘*esh*’ in the native tongue of the Nasa people of Cauca – a distinct, harsh and powerful sounding word, which carries with it all the significance and symbolism of the plant.

Mambo is the oldest tradition of using coca leaves and has been documented by countless sources over the centuries. As Anthony Henman⁴ (pers. comm., Monmouth, Wales, 24 June 2008) explained in an interview, although forming an integral part of all sacrifices to the gods, chewing coca was not restricted to priests or shamans and everyone kept some dried leaves and lime in a special pouch within easy reach. Measuring the correct amount of alkaline powder to mix with the leaves so as to achieve the desired effect without burning the mouth is a precise art that came with years of experience (also see ‘Antonil’, 1978). Although the numbness that spreads through the mouth when the cocaine alkaloid is released by the leaf–ash combination, it is the heat produced that is the vital aspect of *mambo*, which is memorialized in mythic narratives.

I must admit, however, that despite chewing coca myself, I never really experienced this heated sensation and the numbness of my mouth was only transitory. Nor did coca overcome my English-Spanish barrier as a conversation stimulant (although it had helped Henman during our three-hour interview in Wales). In fact, whilst a huge packet of coca was being passed around at the discussion meeting on my first night at the coca festival, my only impressions after I grabbed a handful of leaves and started chewing were of the harsh, bitter taste of the leaves – with the odd sensation of chewing crunchy vegetation – and the relief I felt on finishing my handful. From then on, I stuck to tamer



Figure 2. *The potted coca plant on a rooftop in Popayán city, Cauca Department, Colombia (author's photo, 29 June 2008).*

alimentary versions of coca. However, before recalling my gastronomic coca experience, which is the culmination of this narrative section, I wish to touch briefly on the spirituality of coca.

A chance encounter

'Laura, guess what, there is a coca bush growing upstairs, come look!' Santi shouted to me one Sunday morning in Popayán, the capital city of Cauca Department. The owner and cultivator later explained why he had a coca plant growing on the roof (Figure 2) in the middle of the city whilst showing us his packet of dried leaves (hidden in a pile of boxes that were casually lying next to the stairs) and his container of ground limestone.

His story was one of premonition, ritual and *energías* (energies). The most striking description was the use of coca (sometimes with *aguardiente blanco*, a potent locally-brewed alcohol) to communicate with *energías* (observing and expelling the good and the bad) and as a stimulant for premonitions including locating and observing physical and spiritual sickness or other problems within a community. The cosmological aspect or cosmovision of coca forms an intrinsic part of the significance of the plant.

Arroz mixto con coca by motorbike

Attending the coca festival in the Cerro Tijeras indigenous reserve entailed travelling by various modes of transport across southern Colombia, culminating in an hour-long pillion ride over five mountains to reach the community of Altamira in north Cauca. Although exhilarating, I was glad to finally alight. These travelling experiences, although distinct from my project itself, set me thinking about coca's accessibility. Had I not had a friend at Oxford who had a friend in Colombia whose boyfriend in Bogotá worked on human rights issues with Carlos who was based in Medellín and had been invited to present a talk on the political economy of drugs at the coca festival, this particular following would have

been completely closed to me. This fortuitous encountering typifies coca. Although I stumbled upon it on different continents in the most random locations such as lecture rooms, rooftops and health stores in chic Colombian malls, it was at the same time extremely difficult to plan an encounter, and despite my best efforts, I never managed to see a coca field and had to be satisfied with descriptions. Notwithstanding these setbacks, once I settled for the gastronomic coca experience I was not disappointed.

Within my first half-hour at the top of the mountain, I had sampled ground coca with salt and coca biscuits, was presented with *arroz mixto con coca*, a savoury rice dish with coca sprinkled on top, and then the hugest slice of coca cake with pink icing. All this, of course, washed down with coca wine. I had also conversed with a boy on sale duty on the various coca products on offer at the festival, what they contained and how they were used. The inventory included coca soap, coca tea, CocaSek, coca wine (CocaBeka), coca yoghurt (Yogofruta) and various other culinary delights.

For dinner we had meat dipped in a *salsa de coca* and the next day there was a coca mayonnaise dip – *delicious!* As much of a shock to the system as this proved, one of the most surprising things was to learn what an integral part coca plays in the nutrition of Andean people and how recipes were still passed down between generations. A booklet by Fuertes (2006) detailed how coca could be an answer to malnutrition and came complete with coca recipes for fruity and maize concoctions like *crema de dodo de coca* and *cocapi* respectively, and even coca ice-cream! The nutritional benefits of coca are well-known and its high calcium content is often referred to, but there has been little discussion of its use as a supplement for fighting malnutrition.

In Peru and Bolivia where the indigenous Andean population is more numerous, where coca is more freely available, even if not less stigmatized, and where different 'legal' forms of coca are accessed more readily, there is an established industry of coca products. However, in Colombia, the revival of this alimentary coca culture can largely be attributed to the entrepreneur David Curtidor and his wife Fabiola Piñacue Achicue, who is the creative genius behind the variety of products I was introduced to at the coca festival (Figure 3). Their business began in 1997 when David and Fabiola started selling coca tea to students outside the Javeriana University in Bogotá and took off from there (Henkel, 2006). In an engaging interview, David recounted the obstacles they faced trying to create a successful industry for 'legal' coca products, including the ban on coca products outside indigenous reserves and other legal issues arising from the trademark infringement case pursued by Coca-Cola, and problems with sourcing leaves, which were often confiscated by the narcotics police. One of the main reasons for the festival was not only to showcase what can be done with coca, but also to discuss future possibilities.

However, resistance to the commercialization of this plant also comes from within indigenous communities themselves, including from a traditional standpoint, where *mambo* is regarded as coca's sole function as a sacred plant whose properties should be guarded for those who truly understand its significance. There is also opposition to the political struggle for legalization which is a necessary step in the commercialization process. An ongoing project against the repercussions and persecutions arising from coca's status as an illegal substance is largely helmed by the academic activist group Mama Coca (see further at www.mamacoca.org).

The strongest message that I carried away as I journeyed back down the mountains was of the combination of western commercialization and indigenous Andean traditions and culture. Coca was not going anywhere fast. The modernization of coca usage has been documented by Cusicanqui (2005) in northern Argentina, but the current momentum seems to be a trend destined for global consumption.



Figure 3. David Curtidor (holding a can of the infamous CocaSek) and his wife Fabiola Piñacue Achicue with a display of some of their coca products at the first coca festival in the Cerro Tijeras indigenous reserve, Cauca Department, Columbia (author's photo, 5 July 2008).

This has led me to contemplate other 'western' coca inventions, the most famous of which is Vin Mariani (Figure 4), a creation of the Corsican Angelo Mariani, which consisted of wine with coca leaf extract (Mortimer, 1901).

The continual transformation of coca, whether in its physical composition as a commercial product or even as a plant that can be grown surreptitiously under banana plants and coffee trees, was fascinating. But despite coca's agency in this network, was I not focusing so intensely on this materiality that I was forgetting that interaction is a two-way process and that there may still be some element of human and environmental agency to be addressed? Then an analytical method hit me whilst reading Jane Bennett's (2004) *The Force of Things* on returning to Bogotá. Her interpretation of Spinoza's concept of nature as a place where bodies interact in order to enhance their 'power of activity' as well as where humans and their thoughts become part of a 'mobile set of material assemblages' (Bennett, 2004: 353, 364) encouraged me to look not only at the thing-power of coca, but also at the entire coca assemblage that included humans interrelating with the plant. Within networks, certain materials like money, oil and drugs attract more focus, thus creating a greater number of connections with other entities and thereby increasing their power of activity. These can be seen as peaks within a 'flatter' network, with the increased connections acting as scaffolding to maintain the peak. Coca is one such 'peak actant'.

But what is so significant about certain materials that they generate so many connections? This cannot be answered by focusing on the material alone, but must consider the rest of the network and the other key actants interacting within it. In the next section, by including humans and their interventions in the coca network, I attempt to analyze coca as a peak actant using the *dispositif*.

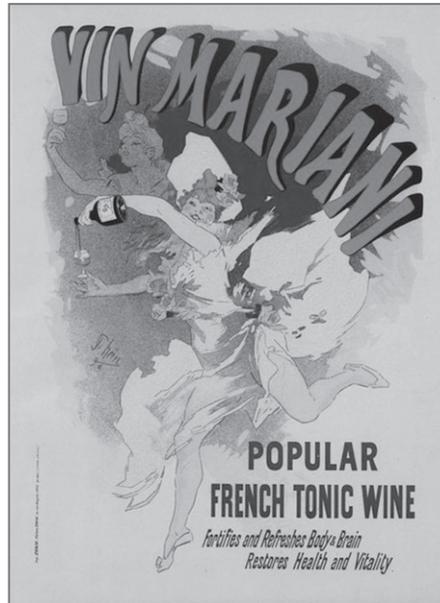


Figure 4. The marketing of Vin Mariani employed not only posters such as the one pictured above by Jules Chéret (c. 1894), but also celebrity endorsements which included Pope Leo XIII, who was said to have sent Angelo Mariani a golden medal showing his ecclesiastical approval of the beverage (Mortimer, 1901).

The *dispositif* of the drug trade

An informed material

Here I apply Barry's (2005) concept of 'informed materials' to define coca as a material that can embody information. One of the most useful aspects of a journeying research method is that it allows the research to follow paths that result from chance encounters and similarly to explore the temporal element of how a material is constituted. Historically coca is a peak actant within the Andean indigenous network. It is embedded within the history and culture of the Andean peoples and this role is reinforced through practices such as coca chewing and even the more recent generation of products like coca soap and flour which modernize traditional forms of coca. This revival is not limited to the Andean coca producing countries. Interestingly, in Argentina, there has been a cultural reinvention of coca among the provincial elite in the northwest, where chewing coca leaves 'does not function as a marker of ethnic or class affiliation' but rather as 'a symbol of regional belonging' – proudly affirmed in opposition to the Eurocentric norms embodied by Buenos Aires (Mario Rabey, 1989 cited in Cusicanqui, 2005: 131). While historically consumed among the indigenous peasant and working classes here, this modern coca tradition surfaced in the 1920s with the 'urban elite's romantic rediscovery of the gaucho' (Ricardo Abduca, c. 1994 cited in Cusicanqui, 2005: 131), although arguably its spread can be traced back to its adoption among so-called 'Turks' – migrants from Syria, Lebanon, Palestine and other cultures with similar practices, who settled large numbers in northern Argentina and southern Bolivia (Rabey, 1989 cited in Cusicanqui, 2005: 132). In contrast, the revolution that coca has stirred within the ranks of indigenous communities in Andean countries is manifest as a more openly political defiance, espoused in Colombia, for example, by activist and lobby groups such as Mama Coca and Project Kokasana.

Coca is not only historically informed by indigenous Andean practices and cultural belief, but also by accounts of conquistadores and scientific documentation. Colonial perceptions of indigenous practices like *mambo*, which was seen as ‘an idle and offensive habit’ (Mortimer, 1901: 9), informed the authorities’ and the Catholic church’s negative response to the plant. A scientific event of coca transformation occurred with the isolation of the cocaine alkaloid around 1859. The economic significance of the cocaine revolution this sparked off is evident in the countless coca and cocaine based products that were churned out in the West, from Vin Mariani to the Lambert Company’s Wine of Coca with Peptonate Iron and Extract of Cod Liver Oil, to medicinal cocaine products like the Az-Ma-Syde catarrh cure which came with a money-back guarantee to cure asthma (Spillane, 2006: 24–27). This economic coca revolution (currently being mirrored by indigenous people trying to revive the appeal that coca had in the mid-to-late nineteenth century) is another aspect of information embodied in the plant’s materiality. I argue that one way of understanding coca is as an informed material within which historical information is embedded, thereby constructing the complex material that it is today.

The scientific definition of the plant has a similarly convoluted and contested history. According to H.H. Rusby (1900, quoted in Plowman, 1982: 20), ‘It is doubtful if anyone ever wrote or approved a definition of “coca” without misgiving’. Samples of different coca plants circumnavigated the world as a means of identification for new species claims, or for documentation purposes, or even as gifts. The (re)commercialization of coca that began in 1884 – the same year the ophthalmologist Carl Köller discovered cocaine’s stimulatory and anaesthetic properties and Sigmund Freud published *Über Coca* – increased its potential as a cash crop, particularly in tropical European colonies such as Java, which soon became a leading exporter, and further encouraged scientific investigations (Plowman, 1982).

It was not only the scientists that contributed to this taxonomic fervour, but individual plants too. The most famous of these is London’s ‘Kew Plant’, a native Colombian species *Erythroxylum novogranatense* var. *novogranatense*. Plowman (1982) traces this plant’s contested origin (initially misquoted as a gift from the Bishop of Huánoco in Peru despite a being a Colombian variety), as well as that of its alleged relatives and progeny, and finds possible links to a plant received by botanist E. Regel in Germany in 1869 as well as to plants in the Botanical Gardens at Hyères in France, and at Bogor in Java, where the first coca plants were sent from Belgium in 1875. He further attributes the Java connections to the Belgian H. Linden Company that shipped plants and seedlings previously grown or imported into Europe to Dutch Java for cultivation. The transnational interconnectedness of coca’s travels around the world as herbarium samples, seeds, leaves and even entire plants is emblematic of Latour’s (1999) circulating reference; the ongoing transformation and multiplication of materials through scientific research and, in this case, commercial interests too.

This continues today despite the advances in herbarium taxonomy. The United Nations Office on Drugs and Crime (UNODC) coca survey refers to a study on the varieties of coca found in Colombia conducted at the University Francisco José de Caldas in Bogotá, which analyzed 439 samples and identified two species and three varieties – despite the existence of many more vernacular names (UNODC, 2006: 37–9). Even with complex Linnaean nomenclature, there is ongoing debate in describing and classifying these species and varieties. The botanical practice of repetitive sampling creates a method of layering information onto the body of the plant. The botanist attributes characteristics to the plant in order to identify it, but simultaneously transforms it by

embedding this knowledge and practice in its materiality. Coca's complexity arises from its constant transformation, multiplication and redefinition through a variety of practices. Recognizing these assemblages and multiplications is a necessary step for developing a global coca agenda.

Coca metrology

Barry's (2005) metrological zone is a valuable conceptual tool through which to discuss coca's calculative elements within the *dispositif*. To be an efficient drug cartel-busting, cocaine-eradicating force, UNODC requires figures, numbers and charts from all its focus countries to measure its 'success'. Colombia is one of its key countries in the war on drugs and the annual coca survey (e.g. UNODC, 2006; 2007), a joint project by UNODC and the Colombian government, closely monitors the progress against the drug trade in Colombia through scientific and statistical methods. Controversially, one could argue that it is merely a practice justifying the controversial practice of coca eradication.

Plan Colombia's contemporary objectives fall under two categories: fighting the US-centred global drug trade and providing military assistance to eradicate FARC's income base, allegedly dependent on cocaine production. Coca aspersions by the Colombian government require monitoring, documentation and proof of results in order to justify the highly discredited policy. During an interview in the Ministry of the Environment (anonymous, MAVDT, Bogotá, 8 July 2008), I was shown documents recording this practice, including lists of equipment per mission (helicopters, computers, and so on), and was informed that the environmental effects of the broad-spectrum herbicide glyphosate were carefully monitored; that soil and water tests were done before and after spraying and again six months later and that there were no long-term effects indicated by this data. In fact, only 10–14 per cent of glyphosate in the country is used for coca eradication and the rest is for commercial use to control weeds in other crops such as rice and palm and is thus considered safe. The herbicide kills the leaves, not the roots, and so plants are able to regenerate (WOLA, 2008a: 14). This was documented by the BBC (2008) footage showing coca plants growing where there had been aspersions only four weeks earlier, though the damage to surrounding banana plants was more severe.

I was also told during this same interview that glyphosate is a category four herbicide while the chemicals used by coca cultivators (like paraquat) are category one and therefore more toxic. It begs the question of how herbicide classification takes place. The science determining glyphosate as safe is disputed by activists citing the health problems of people living in the areas where the herbicide is sprayed (WOLA, 2008a; 2008b). This dispute exists because the metrological zone in which herbicides are classified does not include the people who suffer the effects of the classification. Using a Stengerian cosmopolitical argument, the lack of lay involvement in the classification process exacerbates the issue.

A major repercussion of Plan Colombia is that coca plantations have moved into national parks because aspersions are forbidden there. The cocaine 'curse' has thus spread into one of the most biodiverse areas in the world. Manual eradication, proffered as a plausible solution especially in national parks, increases exposure to the hazard of landmines planted in coca fields to deter this (pers. comm., anonymous, MAVDT, Bogotá, 8 July 2008). Clearly, incurring the deaths of civilians as well as soldiers clearing plantations is not the best alternative, but it is apparently the only option to continue with 'environmentally friendly' coca eradication. However, with so much uncultivated land in Colombia, all that such current eradication programmes seem to be achieving is the displacement of the problem and even more environmental damage (TNI, 2007).

Aspersions opponents cite other examples of Plan Colombia's failures using the government's own figures as evidence. The loss of livelihoods and displacement of people due to practices by both those in the drug trade and those trying to eliminate them have become human rights issues, bolstered by charges that the aspersions are in themselves causing an '*ecocidio*' (ecocide) as well as an '*etnocidio*'⁵ (WOLA, 2008b: 104–5).

Apart from the rights-based argument and directly contradicting the statistics and numbers supplied by the government through a differing interpretation, there are three other key arguments put forward by the pro-coca camp. The first refers to the nutritional and medicinal properties of the plant (e.g. Fuertes, 2006; Jelsma *et al.*, 2006). The second is the assertion that coca is the only viable plant for some producers both because they are forced by the FARC and drug cartels to grow coca and because it makes financial sense (Smith, 1992). According to the activist economist Hector Móndeagon, in the current land allocation format (i.e. 0.5 of the 4–5 ha cultivated by campesino families dedicated to coca) the economy of coca cultivation 'depends fundamentally on the necessity to sustain the families of campesinos and indigenous people . . . it is a form of survival' (pers. comm., Bogotá, 27 June 2008). The BBC (2008) documentary corroborated this in an interview with a coca cultivator who said that 'the spraying was affecting everything, even food and so they would die of hunger . . . they grow coca because they have no choice, but if the government offered alternatives nobody would grow coca' (also see TNI, 2007). Data in an earlier coca survey (UNODC, 2006: 61) also corroborate this livelihood scenario, showing that only 9 per cent of coca cultivators sampled in 2005 had been offered any support to abandon their crop, with 28 per cent saying that they had no other choice but to grow coca, and 17 per cent saying they grew it because it was part of the local culture.

The third is an economic argument. Based on data from the UNODC (2007: 6) coca survey, the farmgate value of coca leaf contributed 0.5 per cent of Colombia's GDP in 2006 and 5 per cent of the agricultural GDP while the total and agricultural GDP values contributed in 2009 were 0.2 and 3 per cent respectively (UNODC, 2010: 263). A coca cultivator in the BBC (2008) documentary said that he earned USD 550 a month, compared to USD 130 before he started growing coca. With such high returns, the incentives for cultivation far outweigh disincentives.

This confusing set of affairs, added to the extended impacts of cocaine in Colombia's GDP (also in the form of money laundering), completes this *dispositif* of practices, structures and assemblages of the drug trade as it relates to coca. The Colombian government is debating the aspersion strategy's effectiveness (pers. comm., anonymous, MAVDT, Bogotá, 8 July 2008) and they realize that the current practice is not a long-term solution. Many alternatives to the current situation have been proposed by individuals encountered during this coca journey, but it is beyond the scope of this paper to analyze these.

In conclusion: the contribution of a materiality approach

The aim of this study was to apply a combination of new theoretical techniques in human geography to the problematic of coca in Colombia. With a focus on the *dispositif* of the drug trade, this analysis highlighted the complicated metrological and other systems that have been developed around coca. This *dispositif* continually transforms and redefines the plant, resulting in its perpetual state of 'becoming coca'. Coca is the epitome of Spinoza's *natura naturans* as 'a materiality that is always in the process of reinventing itself' (Bennett, 2004: 350).

From a sacred Andean plant, coca becomes a green smudge on a satellite image, which is transformed into a statistic in census reports that serves as the basis of its eradication as the perceived weakest link in the drug chain. Entire organizations (UNODC), bilateral agreements (Plan Colombia) and monitoring programmes are then formulated around this procedure. In response, lobby groups (Mama Coca) and indigenous mobilizations (the Kokosana, the Cocanasa) have evolved to counter the effects of this drug-trade *dispositif*, creating more network structures and raising coca into a peak actant. This perpetuates a cyclical generation of numbers, policies and counter-policy lobbying whilst the drug trade through which coca is defined flourishes.

As with other critical geographic approaches, a materiality approach does not suffice with on-the-surface analyses of policy, but scrapes away at the problematic to reveal a naïve core material reality. Thus, the aim is not to posit solutions, but rather to unpack constructed understandings of the world to reveal the oft overlooked power of things. Engaging with this thing-power embodied in a quasi-(il)legal natural resource like coca is a democratizing tool for cutting through the ‘multiscalar politics of narco-governance’ (Corva, 2008: 182). Hence, although the meta policy questions still remain to be answered, this study, which recognizes coca as a messy material that cannot be coerced into any particular definition, hopefully comes as a breath of fresh air in a debate that has been bogged down with political discourses.

Acknowledgements

This paper derives from work undertaken for my master’s dissertation (Pereira, 2008), for which I would like to thank my supervisor Dariusz Wójcik and colleague Joe Gerlach for their help and comments throughout, St Hilda’s College, Oxford and Abbey Santander Bank for grants that made possible my field research in Colombia.

Endnotes

- 1 For example, in 2005 and 2006, Colombia was responsible for an estimated 70 and 62 per cent of world cocaine production respectively (UNODC, 2006: 6; UNODC, 2007: 6). According to the latest World Drug Report (UNODC, 2010: 16), in 2009, and despite the decreasing total area cultivated (by some 58 per cent over 2000–09), Colombia still represented the largest share (43 per cent) of coca cultivation globally – followed by Peru (38 per cent) and Bolivia (19 per cent). It was also estimated to have the potential to manufacture 410 tonnes of 100 per cent pure cocaine in 2009 out of the total world production ranging between 842 and 1111 tonnes (approximated thus as no point estimate for total world production was possible due to an ongoing review of conversion factors) (UNODC, 2010: 162–63).
- 2 This is now being organized as a regular event and the second Festival Gastronómico de la Coca in Cerro Tijeras was held in August 2010 – see their blog at <http://cerrotijeraseng.wordpress.com/festival-2010/> (last accessed September 2010).
- 3 *Cocaleros* (coca growers) are rural farmers from the Andean countries whose livelihoods depend on growing coca plants. Evo Morales, leader of the *cocalero* movement mobilized in response to the US-driven eradication of coca in the combat against the trade in cocaine, became famous in December 2005 with the success of his populist campaign to become Bolivia’s president. His story has recently been made into a film (see further <http://www.cocalerofilm.com/home.php>).
- 4 Authored, writing under the pseudonym ‘Antonil’ (1978), *Mama Coca*, an anthropological account of coca and cocaine in Colombia in the 1970s, copies of which were seized in the UK and the publisher prosecuted under the Obscene Publications Act (although the prosecution eventually lost the case in 1984).
- 5 The ‘ethnocide’ referred to is of indigenous and afrocolombian communities through health repercussions, displacement, and loss of livelihoods and culture (WOLA, 2008a: 24–25).

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