

3: ‘I am Apple’: relationships of the flesh. Exploring the corporeal entanglements of eating plants in the Amazon

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Eating – the material incorporation of one into another.

Introduction

This chapter uses a New Materialities (hereafter NM) approach to think about the corporeal consequences of eating plants. The aim is to encourage the reader to recognize the many active and formative material entanglements that articulate our lives. Typically positioned as an activity that is primarily self-interested and instinctual, eating is redefined here as a mutually influential co-productive relationship that is, in part, driven and shaped by the capacities of the engaging materials as they meld together through digestion.

The title of this chapter playfully pokes at the paper ‘I eat an apple’ by Mol (2008) that focused its attentions on the ‘I’ (or the human view) of eating. This is done with a view to draw discussions away from attending exclusively to the eater in a bid to remind ourselves that eating is a process of *becoming-with* what is eaten. Therefore, using digestion as the process and the stomach as the location where edible substances blend, this approach recognizes not only the fundamental materiality of the body but also that the bodies of eaters materially bind with the bodies they ingest. Any notion that you are anything other than what you incorporate as flesh should fall away.

Adopting this perspective attends to the accuracy of representation and is therefore a political move. The global North – due to the Enlightenment foundation of its knowledge base – tends to imagine the world as something comprised of discrete bounded entities. This chapter challenges an epistemology of separation to demonstrate the world is one of blending and networks (Capra and Luisi 2014).

The chapter could use any edible item to illustrate our material/bodily dependencies but it chooses to focus on one plant in particular to make its point. The plant is the liana *Banisteriopsis caapi* that is endemic in the Amazon Basin. The plant has hallucinogenic properties when prepared into a decoction and is regularly used medicinally and ritualistically by numerous Amerindian groups. In keeping with a materialities perspective, I reinterpret the ability of the plant to produce hallucinations from coincidentally abnormal or altered neurochemistry to one of plant capabilities and an influential productive outcome of a material engagement. This is achieved not by looking at how the hallucinations are interpreted but rather by looking at the consequences of being something that creates hallucinations through ingestion. Using this analytic, it is possible to establish that plants (as a collective noun) benefit in particular ways from the relationships that they forge with the bodies they end up in, and that the material communion of eating is a method of engaging with the environment consciously. *B. caapi* illustrates how eating plants forms a relationship that is materially enacted *within* people's bodies because of the extraordinary hallucinations it produces and the conclusions people have reached about them.

In discussions about eating there is a tendency to focus on ingredients, tastes, methods, costs and the nutritional value of the food a person eats rather than the brute materiality of the engagement. Typically, any attention to the physiological effects of ingested plant matter tends to concentrate on either how (or if) the fruit or vegetable might influence a person's physical health, or the sensuous physicality of the experience of the moment of eating (Mol 2008). Using a New Materialities framework however (from here on: NM), the material processes of eating cannot successfully remain exclusively interested in the human consequences; that is, how eating affects the ingester only. From an NM perspective, eating is not an activity achieved by the individual alone but rather emerges as a relationship where the brute materiality of engaging parties – the eater and the eaten – blend together in concert as flesh-becoming (cf. Ingold 2011). This is because the NM perspective recognizes the essential materiality of relationships by attending to how substances participate together and thus, using the Edibility Approach (Attala 2017), it recognizes that eating – biting, chewing, swallowing, assimilating and excreting – are methods by which bodies of different species fundamentally and profoundly *engage with each other*.

Not every substance is considered edible. When a material is deemed edible, it is considered fit for human consumption and digestible, rather than being nutritionally beneficial for the body. Thus, soil, for example, is inedible. While it is possible to swallow, it typically fails to contain significant amounts of organic materials; since it is not digested by the body, soil is excreted without assimilation. Consequently, while some components of soil might be digestible, soil itself is not considered edible. As each ingested substance offers and produces different physical or material results from assimilation, the significance of a substance being edible requires attention – not simply because it can be digested, but because the

transformations it enables after assimilation are determined by how bodies can actively ingest it. Consequently, when using an NM and Edibility Approach (Attala 2017), the edibility of a substance is determined not as a resource for use but rather as a material propensity that through relations can produce a co-generative ingestive liaison. Eating, therefore, is not simply about the eater's whims or needs. It also concerns rather dramatic, transformative material processes to be enacted through which materials seemingly shape-shift together.

The ability to incorporate another entity into one's own fleshy body is singularly mundane in its conspicuousness. Everything eats something and bodies can only exist materially because they regularly and constantly blend with other bodies through the chemistry of ingestion. As a result of this, and the human exceptionalist ontology that articulates thinking in the global North, it is easy to overlook the relational significance of this material event. Overlooking the part plants play in co-creating human bodies however, is only peculiar to certain cultures. Many small-scale cultures acknowledge plant agency and the role they play in shaping human worlds (Harvey 2005). It may seem self-evident that plants exist without reference to humanity – notwithstanding the human reliance on them – but this paper questions that assumption by noting correspondences between ethnographic material concerning plants' abilities to communicate with their human friends and the idea that plants chemically communicate as a result of being digested by people.

Kendrick (2013) calls eating a discursive event. Acknowledging the consequences of ingestion exposes the act of being consumed as a mutualistic strategy symbiotically

developed by organisms for their evolutionary benefit (cf. van der Veen 2014). Thus, ingestion is a process that synthesizes bodies rather than causes destruction. In association with the ideas of more-than-human geographies that see life as a melding happening of influences (see Whatmore 2002; Ingold 2011) alongside Hird's claim that life is more accurately conceived of as a colony of 'micro-ontologies' (2009, cited in Kendrick 2013), digestion, as in both eating and being eaten, is repositioned as constitutive chemical discourse between involved parties.

Talking plants?

The idea that plants communicate with humanity is gaining attention. However, despite numerous contemporary botanical studies that reveal plants communicate comprehensively (see Karban et al. 2004; Witzany 2006; Dudley and File 2007; Baluška and Mancuso 2008; Heil and Karban 2010; Bhatt et al. 2011; Karban et al. 2011; Gagliano 2012a and b; Gagliano et al. 2012), it is considered unreasonable to suggest that plants are aware of humans – let alone communicate with them. The studies cited above are just a small selection from a growing body of work that states plants use chemicals to send messages and create outcomes both interorganismically and metaorganismically – that is: across species boundaries. Nevertheless, the notion that the messages plants send out could be directed to humans remains largely ignored. Empirical evidence contradicts any suggestion that plants can be interested in, or even aware of, humans with any metaorganismic communication demonstrated thought to be linked specifically to 'herbivores' (Witzany 2006).

Alongside the conclusions of botanical studies, there are assorted ethnographic examples where plants are regularly and unapologetically presented as *subjects*, for example, as relatives to people or as able to talk to humans (see Abram 1997; Harvey 1997, 2005; Bird-David 1999; Hall, 2011; Ingold, 2011). In a manner reminiscent of traditional anthropological approaches to topics such as totemism and nonhuman personhood, the academic community has tended to approach beliefs that plants can talk as fictional, symbolic and simply structural events in the human mind. This is positioned in stark contrast to the views of those who claim they speak with plants and understand this as an unproblematic reality.

By all accounts *B. caapi* is particularly communicative. Indigenous ontologies see the plant as a knowledgeable person with descriptions claiming conversation and relationships are made possible by accessing the plant-person via the vivid hallucinations created after ingestion of the plant (Harner 1972; Reichel Dolmatoff 1990; Narby 2003; Pinchbeck 2003; Wilcox 2003; McKenna 2005; Razam 2009; Beyer 2010). To date academic investigation has concentrated on the experience as either socio-cultural or botanico-pharmaceutical. Conclusions have therefore been focused through those lenses: as fascinating pseudo-mystical experience that acts somewhat like a community psychotherapy session or as ethno-medicinal practice that uses purgatory force and tannin content to increase health by decreasing parasitic load (Luziatelli et al. 2010). Both avenues of investigation and their conclusions focus on corollaries for humans and place the human as pivotal to engagement thereby sidestepping consideration of the plant as agent, or the worth of this capability for the plant.

Using various accounts of relationships with *B. caapi* I suggest here that this plant benefits from being hallucinogenic. The ability to produce hallucinations after ingestion can be placed as part of a wider evolutionary strategy that encourages cultivation relationships and thus protection from the human animals that deem this ability meaningful (Attala 2017). Thus, using an NM approach it is apparent that only as a result of the relational properties of ingestion and assimilation that meaning can materially emerge. This relational perspective repositions the locus of agency in cultivation. Now, cultivation, rather than consisting of anthropogenic-domination of resource, is characterized as one type of plant survival device that engenders protection by means of an influence exerted through the chemical bio-fusion (cf. Barad 2007) of being eaten (Attala 2017). In the light of work that shows plant communication mechanisms rely on chemical signals, producing hallucinations is reinterpreted as one feature of the chemical messaging repertoire available between plants and their consumers – an action that enables certain plants to be noticed above others.

Introduction to *Banisteriopsis caapi*

[*Banisteriopsis caapi*]... is grown from cuttings and is thus thought to be one continuous vine which stretches back to the beginning of time...[It] is compared to an umbilical cord that links human beings...to the mythical past.

(Hugh-Jones, 1988 quoted in Schultes and Raffauf 1992, 24)

B. caapi is endemic to the Amazon basin (Highpine 2012, 29). This may be because it is suited to the ecological conditions, but equally its Pan-Amazonian success might also be

attributable to the enduring relationship it has with the people who also live in this region. The plant's social, spiritual and medicinal significance is recognized because of the rather sensational hallucinations that follow its ingestion. In contrast *B.s caapi*'s nutritional value has not been documented. Instead, botanical research, preoccupied with medico-religious or psychopharmacological motivations, has focused almost exclusively on the pharmacological composition of the plant (for examples see Chen and Chen 1939; Pinkley 1969; Rivier and Lindgren 1972; McKenna 1998). However, despite extensive botanical and ethnographic coverage (e.g. Harner 1972; Reichel Dolmatoff 1990; Narby 2003; Pinchbeck 2003; Wilcox 2003; McKenna 2005; Beyer 2010; Razam 2009), there is little work that explores *the materiality of the relationship* and the role of ingestion as the locus of material communication.

B. caapi is reputed to have an appallingly bitter taste (Narby 2003) and, along with its hardwood bark and waxy leaves, it is not an obvious candidate for consumption. So, what could a plant that tastes terrible do to attract humans? What may have originally alerted *B. caapi* to humans is the material form it assumes (or the body shape it produces) after it has reached a certain size. As a malpighiaceae vine or liana it requires a partner to grow up; height facilitating a wider spread of seeds. Mature plants spiral up the trees adopting a form reminiscent of a twisted encased serpent (Attala 2016). The Doctrine of Signatures (Pearce 2008), an ancient philosophy still used by many contemporary herbalists, maintains that the shape of plants signifies their medicinal purpose. In this case, the people who live alongside this plant have interpreted this form-signature as both disguise and indicator of properties, claiming the plant's body advertises its abilities (Narby 2003). In *B. caapi*'s case, indigenous explanations of snakes in cosmological stories may account in some part for the forging of

this plant/human relationship – dovetailed by the unique human cognitive abilities to recognize and attribute meaning to patterns with the form the plant adopts. Pattern recognition is vitally important to survival; in a rainforest, spotting snakes would undoubtedly be a significant skill. A plant that mimics abundant and deadly inhabitants of a location could be assumed to have certain or similar powers to the creatures it mimics. So, if this is how the plant introduced itself, how could it go on to encourage an ongoing committed relationship with the humans it is in conversation with?

Cross species learning is frequently presented in ethnographic literature to account for the origins of the consumption of various plants (Hurn 2012). This appears to be the case with this plant too. According to Don Jose Campos (2011), knowledge of *B. caapi* came from observing animal reactions to consumption. He cites watching jaguars in trance states after eating the leaves as the original inspiration. Consequently, despite its nauseatingly bitter taste, *B. caapi* is now the main ingredient of an increasingly popular, alarmingly potent hallucinogenic brew called *Ayahuasca*. Documentation claims its use by Amerindian *curanderos* or *ayahuasceros* (local terms for shamanic practitioners) dates back for thousands of years (Beyer 2010). The common aim of consuming *Ayahuasca* is health promotion – both personal and community – achieved by interacting with the generated visions (Beyer 2010, 37; Narby 2003, 22).

Having a relationship with a plant: Human understandings and consequences of communion with *Banisteriopsis caapi*

For them the vine is, in truth, a living guide, a friend

(Weiskopf 2005, 104).

Knowledge is a matter of ties between plants and persons keeping in touch.

(Lenaerts 2006, 9)

One has to eat *B. caapi* to become its friend. *Plantas maestras* claim plants take time to trust humans and that this trust is achieved primarily through ingestion and incorporation (Heaven and Charing 2006; Beyer 2010). To become friends with a plant involves certain carefully executed dietary procedures including ‘regular and sustained’ consumption of the plant (Heaven and Charing 2006, 57; and see Beyer 2010, chapter 5). The result is one becoming more ‘plant like’ (Johnson 2003; Heaven and Charing 2006; Beyer 2010, 52–3) including, eventually, the ability to communicate with the plant by simply touching it (Highpine 2012). According to Beyer (2010) consuming the plant should be understood as having an intimate relationship with it and it is through regular consumption of the plant that the *Ayahuascaros* learn how to communicate with them and learn from them. The friendship is one in which the plant is protected and attended to via cultivation and the human is enabled to negotiate with the plant person in return through digestion. *Ayahuascaros* claim the hallucinations are conversations with the plants made visible (Reichel-Dolmatoff 1990; Beyer 2010, 52). Thus, by digesting *Ayahuasca* one is enabled to enter in conversation with the plant thereby providing the ingester with knowledge of cures and correct practice. Consequently, knowledge is received corporeally and becomes one’s flesh as the result of having a personal ingestive relationship with what is conceived of as a teacher plant (*plantas maestras*).

The hallucinations *Ayahuasca* produces are regularly described as an accurate, or true, vision enabling what is actually there to be seen (Beyer 2010). According to Shanon, *Ayahuasca* can produce extraordinary personally tangible, seemingly genuine ‘open-eye visualizations’ (2002, 69) that talk directly to the individual consumer and offer instructions for health in the widest sense. This information exchange is described as the plant teaching humans how *to be* (McKenna 1992; Shanon 2002; Narby 2003). Indeed, the *Ayahuasca* experience is publicized as the ‘acquisition of knowledge’ (Narby 2003, 31); that is, knowledge of all types of healing, protection from evils and also explanations of life mysteries (Schultes et al. 2001; Beyer 2010; Highpine 2012). Thus, the information received is thought of as genuine knowledge given by the plant to the ingester while they are in a digestive relationship (Harner 1972; Burroughs and Ginsberg 1978; Reichel Dolmatoff 1990; Narby 2003; Pinchbeck 2003; Wilcox 2003; McKenna 2005; Razam 2009).

Being in this kind of intense relationship with the plant brings benefits but is also cautioned against. The benefits of having a relationship – or becoming-with plants – are many. However, plants are not exclusively wise, benign and giving. Moreover, plants are not passive or inert and therefore must be afforded deference too. *Ayahuascaros* claim, as in the biblical story of Adam and Eve, ingesting a part of a plant may allow you know too much. This can create problems. Thus, shamans warn of the plant’s ability to occupy your body may bring harm and even kill you, if the plant is not comfortable with you (Heaven and Charing 2006; Beyer 2010). Furthermore, the plant’s influence is pervasive. Shanon explains how it has utterly altered his idea of reality because, as he sees it: ‘Ayahuasca modifies the way people attribute meaning’ (2002, 70) as the visions have clear ‘semantic content’ (Shanon 2002, 70; see also Narby 2003; Wilcox 2003; Hancock 2005; Razam 2009). The enduring

consequences of the chemical marriage ingestion creates means that once assimilated into one's body, one is in relationship with *Ayahuasca* – one has been touched and changed by the plant.

In association with the plant-drink's popularity, the 'indigenous specialists' (Narby 2003, 31) and their activities are increasingly being investigated by academics and scientists for their intriguing understanding of what they say the plants can do or be used for (Lenaerts 2006). Researchers wonder how the shamans generate knowledge and are curious to see how useful their prescriptions are in practice. By all accounts the practitioners' knowledge is surprisingly and invariably beneficial and therefore valuable (Lenaerts 2006). Shamans state their knowledge of the plants is effective because it comes from the plants themselves, because – clearly – the plants should know what they are useful for. The plants are individual beings with their own characters that can share knowledge of the world via the lucid hallucinations ingestion permits. Knowledge only comes after repeated respectful assimilation and builds in influence over time (Beyer 2010). By this logic, knowledge is not only produced relationally but also is generated corporeally through the fleshy consumption and incorporation of this plant into human bodies.

B. caapi's ability to produce seemingly intelligent hallucinations can be understood as a continuation of the conversation it begins with humans through its form. Hallucinations, coupled with the belief that extensive ingestion and digestion is necessary for a deeper association, are the factors that have prompted humans to grow and tend this plant above

others. It is this that has constructed a mutually beneficial relationship between these plants and people because humans protect and encourage the plants they value. Gardening is a consuming occupation and to devote time and energy to cultivating plants that are not nutritionally valuable signifies their deep socio-cultural meaning (Cavender and Alban 2009). It is simply speculation of course, but the liana's prevalence across the Amazon could, in concert with the above, be attributed to the ancient relationship it has had with the humans who have lived with it in the forest for many thousands of years. Power (2005, 39) suggests gardens should be conceived of as 'hybrid achievements' so that the particulars that the various parties involved bring to the relationship are noted as affiliated in formation. *B. caapi* offers the reward of hallucinations to the bodies that consume it. In return the bodies protect the plant through the cultivation of it.

B. caapi is a hungry feeder. It needs soil rich in compost to survive past immaturity (Worldseedsupply.org 2008). Despite the extraordinary biodiversity of the Amazon, Amazonian soils are axiomatically poor. Generally having only a couple of inches of top soil and a wide range of organisms to share it with means a hungry feeder like *B. caapi* needs to find fertile ground to thrive. The plant can thrive in repeatedly fertilized moist ground offered to it by humanity when engaged in a cultivation relationship, or it can simply grow where groups of animals (e.g. domesticated livestock) fertilize the soil. *B. caapi*, therefore, would thrive around human animal and non-human animal settlements. However, as humans clear away plants that they have no use for, *B. caapi* would need to be useful to maintain its position near people. Looked at in this light, being a hallucinogen presents an advantage for the plant through its ability to be in relationship with the people that ingest it.

The significance of hallucinating

Even though hallucinations are not fully understood, the cultural and historical consequence of hallucinating has undoubtedly been socially and individually significant. To understand this further, let us first define terms. To hallucinate describes the ability to see things that are not there. Hallucinations occur variously: they can occur regularly, intermittently, spontaneously or after particular events such as following the ingestion and assimilation of plant matter. Despite acknowledgement that hallucinations happen, there are a variety of differing explanations as to their cause and there is divergence concerning the purpose or function of hallucinating (Sacks 2012). Accordingly, hallucinations can be: indications of a disorder, simple illusions, meaningful, actual and are sometimes both – illusionary yet meaningful. Thus, orthodox psychology argues they are delusional because they accompany psychosis, but as such are also useful indicators of physiological and psychological maladies and brain processes (Kelleher et al. 2010; Sacks 2012). Neuro-chemists, on the other hand, easily explain hallucinations as simple malfunctioning or misfiring neurochemistry (Perry et al. 2002). While, in contrast, shamanic and religious traditions choose to understand hallucinations as significant, noteworthy divine communication (Bowie and Davies 1990; Dobkin de Rios 1990; McKenna 1992; Shannon 2002; Wilcox 2004) and *Ayahuascaros* say that hallucinating is a conversation that plants are having with you through your flesh (Beyer 2010).

As the above shows, despite definitional differences, humans are able to see things that otherwise may be described as not there. Visions are possible and *can be* the product of the assimilation of certain materials into the body, and as it turns out, these materials are very often plants. Interestingly, types of hallucination vary depending not only on amount but also on substance consumed (visions induced with *Iboga* differ from those from *Ayahuasca* for example), but irrespectively follow particular recognisable sequential patterns of appearance – starting with bright lights, moving to geometric shapes and then finally to extraordinary, fantastical, often therianthropic, creatures in seemingly very real situations if the substance really takes hold (Pinchbeck 2003; Lewis-Williams 2004; Hancock 2006). Not unreasonably therefore, hallucinating is commonly accredited with the mysterious and numinous, in part due to the sense of a vivid extra-ordinary altered reality that one can find oneself in. Indeed, for some, so potent are these experiences, previous agnostic worldviews are rejected claiming what was seen was enough teleological evidence (Shanon 2002).

Neither coincidentally colliding chemistry nor the divine seem wholly satisfactory explanations of this consequence of plant/animal interaction produced by *Ayahuasca*, which suggests there might be another purpose attributable. To date studies have focused on the human experience, drawing from evidence and information about the methods of dealing with the experiences these plants facilitate. The experience is established as a human one and of human relevance alone as a result. The plant's properties are thought almost incidentally causative – as an influencing object that receives no benefit from this ability and the relationship such ability leads to. However, the significance of being able to make humans hallucinate is open to further consideration in the light of plants' chemical vocabulary and because this ability appears to have benefited the plant's existence. In other words, *being a*

hallucinogen like *B. caapi* functions to generate ingestive relationships with people's bodies, which infers that hallucinating can be repositioned as a form of inter-species communication (McKenna 1992).

The potency of hallucinogens in human history

Hallucinogens have a surprising place in human history. Evidence suggests that the recurring human interest concerns a fascination with regards experiencing altered states and transformed realities (Shanon 2002; Narby 2003; Lewis-Williams 2004; Hancock 2006). It goes without saying that conceiving of, and believing in, something external to the material world and what is empirically available will act to shape practice and experience. The notion of external forces in spiritual realms is ubiquitous in human societies with cosmological accounts invariably referring to external paranormal forces or beings to account for existence. This is interesting in itself, but from an NM perspective what is most enchanting is that ingestive relationships people maintain with certain plants appear to be instrumental in the development, or creation, of spiritual thought. Therefore, the role of ingestion and the material blending of bodies in the formation of hallucinations must be considered partly responsible.

There are numerous cosmological stories, myths and religious texts that deem plants or plant products spiritually or symbolically significant. Numerous animistic belief systems describe plants as active beings with many presented as part of the original family that prompted human life as it is today (Harvey 2005). Famously, Hallowell (1960) demonstrated that the

Ojibwe recognize other-than-human beings (including plants) as conscious and communicative, as does Turnbull when describing Mbuti relationships with their parent forest (1962). Other examples illustrate the cultural significance of the material impact plants have on the human body. The Kogi, Colombia, for example, consume coca to ensure the balance of the material world is maintained (Ereira 1992), whilst grapes (as wine), wheat (as bread) and the apple are essential to the message of the Christian story combining human corporeality and existential truths with plant products. Alongside those there are numerous other plants that simultaneously heal and are believed to permit access into other realms through ingestion (For example: *Datura*, *Iboga*, *Cannabis*, *Soma*, *Ayahuasca*. See Schultes et al. 2001).

Shanon notes the place of plants in the Christian story (2002, 2008). He maintains that some of the miraculous stories in the bible can be attributed to consumption of hallucinogens (for example, he cites Moses and the burning bush story), because they are exceedingly evocative of the accounts contemporary consumers of hallucinogens recount of their experiences (Shanon 2002, 2008). To substantiate his claim, he has found that plants with similar active ingredients to known hallucinogens grow in the Middle East today and that the biblical vocabulary used can be alternatively translated as those hallucinogenic plant's names (2002, 2008).

Other scholars have explored the link between plants and spirituality. For example, Lewis-Williams (2004) offered a compelling account of the place altered states of consciousness have had in prompting advances in communication methods. As an archaeologist his concern

was with the depictions early humans drew in caves or cut into rock faces. He suggested there was a clear resemblance between the puzzling illustrations we see today and the entoptic symbols and therianthropic imagery frequently perceived during intoxication by hallucinogens (Schultes et al. 2001, 131; Lewis-Williams 2004; Hancock 2006). This, he concluded, indicates ancient humans were probably using hallucinogens and in so doing were propelled to communicate their experiences in this way. As hallucinations only speak to the experiencer, imagery and language allow inner experiences to be shared ones (Lewis-Williams 2004).

For Lewis-Williams the existence of depictions indicates their value (2004). In other words, if these pictures are illustrations of visions, the visions were significant to the people involved. This type of behaviour, previously lacking in the archaeological record (Klein and Edgar 2002), suggests a cognitive shift concerning what was important to the human species. For Lewis-Williams, this shift is attributable, in part, to the ingestion of hallucinogenic substances. In association these visions may have opened up the possibility of other realms to those consumers possibly formalizing notions of the sacred into human awareness (Schultes et al. 2001; Lewis-Williams 2010). If this hypothesis is accurate, the awe and mystery stimulated by ingesting plants contributed considerably to this momentous shift in human cognition (McKenna 1992; Shannon 2002, 2008; Lewis-Williams 2010).

McKenna believes that the changes were not only socially significant but also affected biology on a profound level too. He proposes that:

‘mutation-causing psychoactive chemical compounds in the early human diet directly influenced the rapid reorganization of the brain’s information-processing capacities. Alkaloids in plants, specifically the hallucinogenic ...could be the chemical factors in the protohuman diets that catalysed the emergence of human self-reflection’
(1992, 24)

Eating: Chemical communion, addiction and plant agency

The word communion describes a sense of unity arrived at through coming together. It also refers to exchange, sharing and the act of consumption as a process of unification. The use of the term also refers to eating.

‘We call those circumstances in which we come to depend on another species domestication. In truth... this is simply a new form of mutualism’
(Dunn 2011, 124)

‘The unity of life is no less remarkable than its diversity’
(Dobzhansky 1973, 125)

Things are their relations
(Ingold 2011,70)

Chemical ecological studies state that ‘99% of all species’ (including plants) communicate by chemical means (Dunn and Crutchfield 2008, 6). Plants’ use of chemicals to communicate

opens up questions about the chemistry used in the process of being eaten and becoming the bodies that have ingested them. The chemical interchange associated with digestion suggests the process is akin to a molecular dialogue using a chemical language ‘spoken’ between the concerned parties. Through the lens of NM all life-aspects are thought of as a complex totality of interactive relationships that constantly cohere and separate to form life events; digestion too can be conceived of using this framework (Attala 2017). This philosophy of materiality is underpinned by the notion that the movements or activities of being in existence are impelled, provoked or triggered whilst in, and because of, the associative ecological relationships being material creates. The actions of life are like a webbed matrix, where all aspects (wind, animals, plants, rocks and so on) are formative, constitutive players in concert with each other, rather than as simply instinctual, reactive or unconcerned incidental bits of matter lying prone or inert (cf. Whatmore 2002; Bennett 2010; Ingold 2011). It follows then that influence, or the ability to influence, is afforded to all parts by the simple fact of existence within this random patterning of becoming (Ingold 2011). Using this philosophy, humans and plants are automatically relationally co-creative and undeniably interpenetrative as a result of digestion.

Ingold is clear that a Cartesian separation of things is only a paradigmatic habit of enlightenment thinking, the supremacy of which needs questioning and reconsideration because ethnographic evidence indicates the world is seen in a variety of ways (Ingold 2011; see also Vivieros de Castro 1998). Ingold refutes the claim that the world is populated with things placed on the Earth’s surface. He asserts it is accurate to say things *are* the world – not on it (Ingold 2011, 71). To agree recognizes that things are embedded and entangled co-productively and collectively become the world together. For both Ingold (2011) and Barad

(2007), things manifest only in relationship, without which they could not exist. Thus, the relationships are as much as part of the things being formed as the processes that form them.

Using the above ideas, the seemingly superficial statement ‘you are what you eat’ becomes a rather profound point concerning people’s flesh and plant bodies. Kendrick (2013) maintains that the process of turning one into another needs to be thought of as an encounter that exceeds the human rather than as discrete autopoiesis. Using this sense of dynamic interplay in conjunction with the ability to prompt hallucinations means that the assimilation of plant matter changes from being biological alone to a material relational event that is enacted across species.

Wanting to eat plants appears unquestioningly instinctual. However, at the other extreme the inability to arrest or temper consumption is thought problematic. Addictions are useful illustrations of the unmistakable power plants have over human bodies. The ability to be addicted is not fully understood but is clearly a physiological propensity of being flesh (Zyga 2008) and, interestingly, the only naturally occurring substances that prove addictive to humans are phyto-materials. In association with this propensity, significant amounts of human time and activity are concerned with cultivating and consuming the plants humans crave (tea, coffee, sugar, alcoholic drinks and even wheat products; cf. Head et al. 2012). Establishing a protective cultivation relationship with the craved plant demonstrates not only the material significance of the plant for the body tending it but is also indicative of the benefit the plant receives from being addictive.

Hallucinogens are not strictly speaking addictive, but a plant that creates visions sets itself apart from others. The consequence of being able to make humans hallucinate affords the plant similar benefits to those that are addictive. According to McKenna (1992) all digestive assimilation needs to be understood as messages being received; some messages are more obvious than others. For McKenna (1992) hallucinations are simply an obvious example of plant messages because they offer an immediate perceptible appreciation of plant subjectivity. This sense of agency and subjectivity opens up avenues for consideration of how plants instigate and forge relationships with the human bodies that ingest them (See Rival 1998; Cloke and Jones 2002; Hitchings 2003; Lorimer 2005; Power 2005).

Conclusion

Using a philosophy of materiality, the chapter has explored how plant bodies are enmeshed with the bodies that eat them. The hallucinations experienced by humans whilst being in ingestive relationship with *B. caapi* are a vivid illustration of the material associations that ingestion creates. Using a relational ontology, the consequences of ingestion emerge as part of a relationship whereby humans and plants associate through their materials merging within the gut.

Being a hallucinogen affords plants impact over human bodies greater than just nutrition. Because of their particular material influence, people return and revisit certain plants regularly. While hallucinogens are not strictly thought of as addictive, the understanding that plants can hook humans to unbearably crave for them was considered because the chemistry of desire exposes plants as players in their relationships with humans. In association, looking at human history confirms hallucinogens' interactive spheres of influence. Previously conceived of as coincidental, this is repositioned alongside recent experimental findings that show plant subjects use of chemical mechanisms as communication techniques to explain how plants forge consumption and cultivation relationships with humans to suit their purpose. In other words, humans look after and care for plants that are meaningful to them because the plants make them want to.

In animated worlds the taxonomic distinction between human animal, non-human animal and plant as categorized by industrialized nations is comfortably blurred, allowing species' boundaries to be conceived of as fluid and permeable without appearing to be contradictory. Thus, the belief that plants are persons is common knowledge for many and so is not in any way contentious or novel. Using ethnographic beliefs associated with plant intentionality reported by consumers of *Ayahuasca*, being a hallucinogen is repositioned as an adaptive metabolic strategy that benefits the plant by enabling it to be noticed by its consumers. From this perspective chemical composition and particular synthesis outcomes of ingestion and metabolism safeguards plant reproduction and survival and as such could be understood as one method plants use to materially communicate with humanity through a blending and assimilating of flesh.

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