

Gathered fields

A tale about rhizomes

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ABSTRACT: A return to Deleuze and Guattari's famous figure of the rhizome, this paper turns the philosophical idea around by asking what we might learn, from their open-ended exposition of it, about plants. The account at once reduces the rhizome to its cultivated varieties and enlarges the notion of a plant by the people joined to it. A stimulus comes from the recent World Heritage designation of a site in Mt Hagen, Papua New Guinea, for its evidence of the prehistoric cultivation of plants preferentially propagated by vegetative means. Following Haudricourt's early exposition of the yam and the implications of cloning as a way of life (as well as a way of thought), the paper elaborates on what is indissolubly tied to the rhizome as a cultivated plant, people's actions. Rhizomic plants are well described as multiplicities. Some questions are asked about the nature of diverse contrasts that are or are not implied. The burden of ethnographic demonstration is with the Papua New Guinean material; the provisional nature of the rest will be apparent.

KEYWORDS: DELEUZE AND GUATTARI, RHIZOME, PREHISTORIC CULTIVATION, TIME, PAPUA NEW GUINEA.

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No-one is going to mistake a metaphor or analogy drawn from plant life for a lesson in natural history or gardening cycles*. Yet there must be many whose consciousness of the special properties of rhizomes came first through a philosophical thesis. I refer of course to Deleuze and Guattari's opening chapter in *A thousand plateaus* (2004). As Ingold (2000: 140) asserts, «whether the image is botanically accurate need not concern us here», a prelude to his own exploration of the suggestiveness of the rhizome. What is extraordinary, in retrospect, is just how much information about rhizomic plants the two social theorists actually pack into a few pages. By that point, however, the reader must know that the plant affords no ordinary metaphor. The philosophers' rhizome has already done its work as a burrowing and channelling of thought, and – in case the reader did not notice – it is rapidly divested of exclusively botanical reference (animal packs are rhizomes, and so on). So when we are informed about the plant it is already an example of the idea.

Through a series of short commentaries, I offer some reflections on ways in which it might continue to be interesting to think about the life of rhizomes. It can hardly be as a supplement to their original purpose, which was to support a new image of thought, in Viveiros de Castro's (2010: 222) phrase. Rather, I use Deleuze and Guattari's account of the rhizomic aspect of concepts to think about the plant¹.

* This comes from an address (*Beginnings: nature-culture revisited*) to the 4th Biennial national conference of ANUAC, 2015 on *Life environments and imagined environments*, at the Free University of Bozen-Bolzano. I am immensely grateful to the convenors for their invitation and for the stimulus of the occasion, and to Dorothy Zinn, Elisabeth Tauber and the University for their hospitality. A part was rehearsed as *Relations of imagination: playing a few tricks*, for a seminar on *The anthropology of the imagination*, at the Musée du Quai Branly in 2016; my thanks include those to Carlo Severi, Giovanni da Col and Anne-Christine Taylor. It was only on completing the paper that I realized it is in some respects a sequel to *Cutting the network* (Strathern 1996).

A visit to Mount Hagen (Kuk area) in 2015 was made possible by a Leverhulme Emeritus Fellowship, for which I record my gratitude, by the hospitality and intellectual companionship of Ru Kundil, Henry Ru, Cathy Moka, among others, and by the unfailing support and enthusiasm of Andrew Moutu, to which I also add John Muke's interest. Tim Denham gave invaluable help in Canberra, and I must add a word of thanks to Matthew Spriggs for a piece of prompt action. Françoise Barbira-Freedman will know why I am talking about people and plants.

1. To complete the thought: so whether the account that follows is philosophically pertinent need not concern us here. The exercise is not at all the same as that involved in the debate about nomads that Jensen and Rödje (2010) discuss; it is a little closer to Pedersen's (2017) treatment.

The signification of rhizomes

The philosophers' rhizome was a wedge to prise open the structurings of European thought dominated by, on the one hand, the arborescent figure of the branching and rooting tree and, on the other, the succession of life in an agriculture based on seeds. What connects tree and seed is genealogical thinking, the Western imaginary of «fields carved from the forest [and] populated with seed plants produced by cultivation based on species lineages» (Deleuze, Guattari 2004: 20). As Ingold (2000: 422) summarizes it, they link the agricultural practice of sowing seeds from an ancestral stock, «every seed an individual entity», to «a peculiarly Western ontology of transcendence, and to a genealogical model of relatedness ... by contrast with a non-Western ontology of immanence». Theirs was a deliberate act of conceptual displacement: it took a mind-shifting pairing of images to show how through an apprehension of the world philosophy can re-think its mode of apprehension. The rhizome was only one among several figurative moves, but the whole point was that it did not come out of nowhere. It was continually referred to what was already in place; its logic had to be «altogether different» (Deleuze, Guattari 2004: 13) from the traced, re-productive logic of the tree or seed.

For, as a subterranean stem, a rhizome is «absolutely» different from roots and radicles. It assumes diverse forms, from ramified surface extension in all directions to concretion into bulbs and tubers, channelling everywhere. Above all, its mode of travel could not be more alien from the root of a tree, which spreads by dividing itself over and over again, with the binary logic that is «the spiritual reality of the root-tree» (2004: 5). In tension with this, the otherwise unspecified rhizome has a sense of the wild and unruly about it. Clearly, however, the absolute difference cannot itself be a dualism, whether axiological or ontological, as it is put. This impossibility is already figured, given that «in nature roots are taproots with a more multiple, lateral, and circular system of ramification, rather than a dichotomous one» or «plants with roots or radicles may be rhizomorphic in other respects» (2004: 5, 7). Thought, as they say, lags behind nature.

It is precisely because the life of the botanical rhizome is explored in some detail that it can be drawn upon as Ingold does, although in his case not so much to liberate thinking from the constraints of lineal and hierarchical reasoning as to return to the contexts of lived experience. However, he ends up suggesting that fungal mycelium, with its underground network, might serve as a better image for the contrasts he pursues. Deleuze and Guattari have already pointed to the lateral transmission of DNA and its implication for evolutionary schemas. «Such lateral gene transfer could make it

extremely difficult to arrive at a root for the tree of life», writes Helmreich (2009: 82, 83), referring to the explicit joining of «evolutionary notions of relatedness» with «calls for rhizomatic, reticulated representation as an alternative to the linearity of the tree diagram»². Lateral gene transfer is, he continues, and relatively speaking, newly coming into legibility among molecular biologists and microbiologists. There is a time lag here. It becomes irresistible to suggest that nature, as it becomes known, is catching up with thought³.

Deleuze and Guattari's rhizome had shown how the (Euro-American) mind might conceptualize itself as opening up to an expanse of possibilities, a reality where nothing is ever encountered at its beginning or its end. So what they have taken from the plant is a highly generalized but potent imagining of its underground stems and runners, its ability to turn up in diverse locations, its multiplication without fixed origin or destination. The rhizome's spread interferes with any ordered apprehensions of organization, or of management and control by linear (arborescent) principles. What they find in the plant (since each is always several, the singular is also a multiplicity of forms) is led by their general knowledge of human affairs, which has just such characteristics. Yet it becomes interesting to contemplate the time involved, the ephemerality of these Euro-American imaginings. Anthropologists always knew that trees came along with their environments (contexts in other words), but they now know that what look like single trees are likely to be parts of extended networks of living things, whether or not they are imagined as in communication. Such thinking is a beneficiary of specific attention to the interconnectedness or symbiosis of phenomena, and across the human-nonhuman divide as recently broached in the pages of this journal (Benadusi, Lutri, Sturm 2016; Breda 2016), in addition to decades of attrition of the old binarisms that were once so seductive. As new understandings come into view, previous figures are displaced; anthropologists have their own routes to thinking that trees were always rhizomic.

2. Helmreich makes an explicit reference to *A thousand plateaus*, both here and apropos the aphorism, «we form a rhizome with our viruses» (Deleuze, Guattari 2004: 11), where he goes on to talk about what we now know about viruses as vectors of differentiation in the microbial sea (Helmreich 2001: 192). Deleuze and Guattari had cited a 1975 paper on the role of the virus in evolution, noting its suggestion of reticular schemas with communications between branches after they have become differentiated.

3. But this holds back from going as far as Bowker's suggestion. Bringing in a notion of different worlds, Bowker (2010: 127) suggests the philosophers' rhizome «is as accurate for the natural world (with lateral gene transfer being more the rule than the exception) as it is for the worlds they described».

Speaking of plants, if the tree can start looking distinctly rhizomic, one may ask about the potency of imagining a rhizome that is distinctly arborescent, subject to trimming and training. Before elaborating on this, let me redress the figurative or imagistic balance: Deleuze and Guattari also talked of seeds.

The potent seed

There is another sense in which the rhizome did not come out of nowhere: it was already characteristic of a nexus of existing practices, but in Deleuze and Guattari's terms ones that belonged to the "East" rather the "West". «The East presents a different figure [from that of the plantation]: a relation to the steppe and the garden ... rather than forest and field; cultivation of tubers by fragmentation of the individual ... Does not the East, Oceania in particular, offer something like a rhizomatic model opposed in every respect to the Western model of the tree?» (2004: 20). In short, what is "missing" from dominant Western modellings of thought processes chimes with what exists somewhere else. That sense of what is missing uncannily echoes a characteristically Oceanic response to the incursion of "the West" in the form of (white) colonial rule. Millenarian-like movements were overtly based, among other things, on the supposition that an essential ingredient was missing from indigenous people's present-day lives, an ingredient that had once been part of their past (and stolen from them) or of a joint past with whites (from which they had – to their disadvantage – diverged).

Answering a question posed to him in 1972 by Yali, the leader of a millenarian movement (or "cargo cult") from the lowlands of Papua New Guinea, «why is it that you white people developed so much cargo [things, technology, know-how] and brought it to New Guinea, but we black people had little cargo of our own?» (1999: 14), Diamond seems to be answering the very question many of his tens of thousands of readers will also have articulated. However Euro-Americans very quickly turn the question into another one: "Why haven't other people developed like us?", that is, self-evidently they cannot be like us. Diamond's answer provides an argument in altogether another tenor. They are like us; the differences Yali saw are not a matter of basic endowment (as was implied) but of contingencies of a historical or environmental kind that, evinced in long chains of cause and effect, have bestowed advantages through cumulative outcomes⁴. Nonethe-

4. Errington and Gewertz (2004: 25) argue that Diamond failed to grasp the fact that Papua New Guinean questions about cargo were not questions about white men's things as such, but about the nature of colonial relationships between whites and blacks, and the manifest inequality they enacted. Diamond's own concern is to disentangle the evident technological superiority of certain peoples over others – military prowess, state formation, demographic increase and such – from the notion that such superiority has anything to do with the innate characteristics of particular populations.

less the premises of the two views converge. Both imply a particular temporal framework, that is, an idea of development through time that changes the characteristics of people and their circumstances, and that leads to traceable, differentiated outcomes. If we call it evolutionary thinking, this is evolution under the sign of the tree rather than the rhizome. It is an approach to time that carries the signature of genealogical thinking, the one that gave us ever-expanding systems and hierarchical structures, and a God who reaps and sows.

A large part of Diamond's exposition of what he subsumes under historical or environmental contingency concerns the role that certain species played in the development of agriculture; this includes the domestication of plants and animals that encouraged sedentarization, accumulation of surpluses, property formation, and so forth. To a well known origin story, he adds some less well known twists, such as the role of animal domestication in the creation of disease and, as human populations grew, plague. It begins with a particular emphasis at the outset, the potency of seed.

His account of the first steps towards population intensification was focused on the advantages afforded by cereals. While agriculture arose in many parts of the world, he observed, European and Asian grains were easier to store, and richer in protein, than tropical species such as bananas or root crops. If it seems too easy to read back from what happened to its purported beginnings, this is not what Diamond intends. Yet, with its emphasis on the opportunities people had and their readiness to exploit them, his writing has a rhetorical force that encourages teleological thinking: what was missing that others did not progress to where "we" (we of industrial-colonial-capitalism) are now? This is where seeds play a crucial role. A principal factor that led to the beginnings of agriculture in the Fertile Crescent would have been people's «unconscious selection» (Diamond 1999: 115) of what must initially have been a chance mutation, the blocking of the automatic shattering of wild wheat and barley stalks, which meant that instead of falling to the ground to germinate the grains remained on the stalk and could be picked. This changed, he observes, the selective conditions acting on the plants. People had interfered, in other words, in the process of propagation.

Oceanic entailments

The term "rhizome" pops up rather erratically in attempts at classification, indeed weaves in and out of other terms. These are most easily grasped in their particular manifestations. Thus if a rhizome is the main stem of a plant

(ginger, turmeric), and sends out both roots and shoots, a stolon or runner sprouts from existing stems and generates new shoots at the end (strawberry, sago). A tuber may be a thickened part of either a rhizome or a stolon enlarged for storage (yam, potato), while corms (taro, banana, crocus), structurally plant stems, may be likened to “bulbs”. What they have in common is what makes for their nomadic proliferation, namely the ability of a stem to throw out shoots and/or roots from its nodes that then take on their own existence as clones of the original. In terms of cloning they are like other species that propagate from budding nodes such as the herbaceous sugarcane.

“Clone” is a term used by the linguist and botanist Haudricourt (1964), and it was he who, in Deleuze and Guattari’s (2004: 20) words, articulated a crucial difference here as the ground for an opposition between philosophies of transcendence and immanence. The opposition was between Western (seed) agriculture, based on a chosen lineage containing variable individuals, and Eastern horticulture, based on a small number of individuals derived from a wide range of clones. That there is a multitude of species involved in the latter is of indifference to the two social theorists⁵; their examples range across wild and domestic types, and indeed they would no doubt refuse that distinction. But, as the citation makes clear, Haudricourt’s interest was focused on the *cultivated* rhizome. What would the philosophical rhizome look like if one’s model were specifically tied to what is found across many parts of the tropical world: rhizome cultivars?⁶

I follow through the nod to Oceania with a focus on Papua New Guinea (PNG) and its neighbours. Among such cultivars are taro, yam, ginger, banana and sweet potato. Taro and yam are ancient Papua New Guinean food staples. In the case of taro, the corm is a swollen part of the stem that serves as an organ of storage, just as the yam tuber does. The growth of yams is dramatically bi-polar – first throwing out shoots that gather nutrients above ground, and then storing the nutrients underground, in the tuber, assisted by roots (for a recent evocation, see Battaglia 2017: 280). People manage both parts of the process; indeed, Battaglia talks of how Trobriand Islanders appreciate the solicitude with which yams must be controlled and guided. Deleuze and Guattari’s ideational rhizomes create a mesh of canals or channels. Where long yams are cultivated, they are trained to grow by the

5. That there is an ideational multiplicity – “the rhizome” is not one plant, let alone only a plant – is of course what would be expected.

6. This is already to truncate the image of the rhizome. The ethnographic documentation that follows at once acknowledges and lodges interpretations with specific authors: I do not use them critically, and some of the interpretations may be disputed or otherwise in doubt.

vertical holes that people make in the ground to receive them (e.g. Ambrym, Vanuatu, Rio 2007: 109). Coupaye (2013: 90), who describes the Abelam process in detail, asks whether we should not think of the yam as an artefact quite as much as food or as a living, sentient being. He adds that this “multi-dimensionality” comes from the fact that people intentionally make them such.

Another proliferation: the qualities on which one seizes for conceptual purposes, as ethnographers have done. The parent taro corm, from which suckers sprout, may be called the “mother” (Wola, Sillitoe 1983: 37). The Ambrym work of tending growing yam foliage is said to be like looking after a child, while the tuber is likened to a man providing nourishment, and the fragment to be planted like a soon-to-be rotting “father” entering his grave (Rio 2007: 113-115). For Trobriand Islanders, yams are killed when they are harvested and killed all over again when they are cooked (Mosko 2009: 687, 693). Cooking is a little death, we might say. The point is that the plant that was a source of its own growth now itself ceases to grow (Battaglia 1995: 85). Without venturing into accounts of sacrifice and the spirits of the dead, the resonance between what happens to yams and what happens to people is clearly not fortuitous. As Mosko (2010: 1256-7) describes, following Malinowski, gardeners and their wives are the parents (“mother” and “father”) of yam tubers, their children. In this matrilineal milieu, yams for re-planting are like daughters, capable of bearing offspring; as agents of exchange and feeding other people, yams for eating are likened to sons. Freshly harvested exchange yams, still weak and vulnerable to the sun, must be protected by a shelter similar to a mother’s birth cloak.

The question, what would the philosophical rhizome look like if one’s model were a cultivar, needs re-phrasing. If the plant is already after the thought, then the question becomes: what would the (tropical) cultivar look like – how would one describe it – if one’s model were the rhizome? The philosophical rhizome is about certain kinds of multiplicities; just so for the plant/artefact. And here the first response seems rather obvious. Any answer would have take into account the fact that the cultivar is already the outcome of attention, of people’s actions. For what is equally obvious is that soon as one introduces people’s diverse orientations, their manifold impulses for acting, figurative usage becomes distinctly rhizomic: no one account can epitomize all the qualities and properties that a plant bears.

A second response would be to consider a crucial aspect of that attention: the process of propagation. I discuss propagation (of which there are many aspects) from two temporal vantage points.

Propagation in prehistory

It was by contrast with the cultivated plants of the tropical world that Diamond focused on seeds. Rhizomes and the other cultivars found in PNG did not just happen to be reproductively “seedless”, their seeding properties ignored. Notably in the case of bananas, as Diamond says (1999: 113, 117), which today rank next to rice, wheat and maize in world importance as a food crop, seeds were in effect bred out of them. Prehistoric plant selection encouraged growth of starch content⁷.

Certain varieties of yam (*Dioscorea*), taro (*Colocasia*), sugarcane and banana all seemed to have originated in Papua New Guinea, in the case of the last two reaching parts of Asia (and in the case of banana, Africa) before being re-introduced into PNG. (This was, needless to say, all long before Europeans traversed the Pacific). Most edible bananas in the world belong to a type originally the outcome of what people in the PNG region were doing (Perrier *et al.* 2011)⁸. The archaeologist Denham (2017: 42) refers to «domesticatory relationships» in the co-existence of plants and people in order to suggest a gradient, «degrees of domestication [that] reflect the cumulative effects of human interference in the life cycle and dispersal of plants».

Substantial evidence comes from an excavation begun nearly fifty years ago by a team of Australian and Papua New Guinean archaeologists (Golson *et al.* 2017). Few other sites of early cultivation in the world are preserved as well as at Kuk, in Mt Hagen (Western Highlands, PNG). In 2008 UNESCO declared it of World Heritage status. Underneath contemporary gardens lie both networks and layers of drainage ditches and channels, along with other features, the oldest of which can be dated to 10,000 BP. Major deforestation in the vicinity began at this time, and between 10–7,000 years ago, all the

7. Apropos bananas, «seed suppression, namely the reduction in the size of seeds so that they are no longer viable, is selected for by people because it increases the size of the edible pulp or starchy part of the fruit» (Denham 2017: 43). The sterility of some cultivars (varieties of yam and taro) allowed for greater starch to be produced.

8. Genetic research on bananas and plantains, for example, tells of sub-species derived from PNG that could only have travelled into island South East Asia through human contact. There will have been mutations in different locales but the plants as such require continuous re-planting. Initial hybridization in both Western Melanesia and in South East Asia apparently led to sterile varieties spreading as far as Africa and returning to PNG, where cloning over extremely long periods resulted in numerous cultivated varieties through the conservation of mutants. The movements began 11,000 years ago, although some forms of plant management date back to before then. In broad terms, the beginnings of this activity was co-terminous with the development of seed crops in the Middle East and China more than 9,000 BP (dates are all calibrated).

main food crops (and I focus on taro, yam, sugarcane and banana) were being exploited at Kuk itself, although the evidence for their cultivation – rather than just processing – is equivocal. The first clear evidence of cultivation practices go back to a horizon of 7,000–6,500 BP; especially abundant at the site are phytoliths from bananas. Subsequent remains of mounding and ditching show people attending to both water tolerant plants such as taro and water intolerant plants such as yam, as well as devising methods of recycling nutrients through mulching.

Today's gardens conserve the evidence. What can be seen on the surface is the present-day landscape; precisely because of the gardens maintained above the excavation, the present landscape can also be seen – a second time round – as a living index of the archaeological record⁹. Indeed, the archaeologists have indicated that planting food crops on top is fine while planting deep rooting trees is not – rhizomes not roots! There has been painstaking documentation of how particular persons in the local population exercise their specific relationship to the land in question, one ordinarily demonstrated by personal knowledge of occupation and usage. Some of those living there, however, dwell on a further relationship: between present people and that far distant population who first cultivated the soil. Speculations abound. But among them seems to be the conviction of an analogical equation, a crucial (dis)placement: as present day people make gardens on this spot so too did those who dug there all those thousands of years before. This is less a matter of claims to lineal continuity than of bringing into mind, so to speak, those previous persons whose work is embodied in a landscape formed by similar techniques of cultivation. An observer might add that there is more than analogy here: vegetative propagation means that there is a sense in which past and present gardens are dealing with different generations of the “same” plant material.

Such present-day Hagen gardeners are not claiming a line of ancestry, but rather pointing to the particularity of their land and the food it grows. At the same time people travel in search of constant differentiation in what they circulate among themselves¹⁰. They certainly make this true of their plants. Propagation through selection continues in gardeners' regular exchange of plant material and their sustained interest in finding new variations, as is reported in diverse places across PNG (Angkaiyakmin, Crook 2007: 55;

9. The bid to UNESCO was made with this in mind (Muke, Denham 2017: 464). Since I avoid the agricultural terminology here, I note that the official reference is to “The Kuk Early Agricultural Site”.

10. The observation is prompted by, although the situation could not be farther from, that of Pedersen's (2017) nomadic Darhad Mongolians who instead want the world to repeat itself.

Gawigl, Schneider 2017: 80-82; Maenge, Panoff forthcoming). Needless to say regeneration through cloning requires continual planting: as is the fate of cultivars, they travel mainly by being (re)planted somewhere (else)¹¹. Regeneration through cloning also means that cultivated plants, as rhizomes, yield nodes and buds and shoots and runners that can be easily transported.

Propagation now

There is another side to propagation. Deleuze and Guattari (2004: 20) took from Haudricourt the difference between agriculture based on seed cultivation and horticulture involving what they call the «cultivation of tubers by the fragmentation of the individual». Fragmentation of the individual: what kind of body is this? People's actions come in here. Telban (1998: 162) observes of Ambonwari that, when it comes to people, the human body is seen through its activity.

How do people propagate rhizomes? Dividing tubers from one another in the Trobriand case and setting aside some for planting. But in many places people propagate rhizomes by *cutting* the tops off the tubers or corms, or otherwise detaching parts of the underground stem, which are then pushed into the ground leaving the remainder to be eaten. What gives rise to new tubers or corms is the part that is broken off for planting. The planted material rots away once new shoots emerge from it. If Wola speak of the parent taro corm from which suckers sprout as the “mother” (see above), Abelam speak thus of yam fragments, the “mother” or “placenta” that will nurture the new tubers (Coupaye 2013: 40), that is, indicating the part that is broken off to be planted. Banana and sugarcane are cloned through cutting, or through separating cuttings from the rootstock. Thus one slices through the old corm or base of a banana that has already fruited, in order to detach its suckers from the growing points (on the corm) that will form new growth; however the sucker must be detached with its own growing point, a fragment of the old material, intact. Sweet potatoes, a relatively recent introduction, are cultivated directly from (overground) cut vines.

From this sequence of activities one cannot separate how people relate to the rhizomes from among all the plants to which they attend – and we have not begun to talk about cordylines (Panoff forthcoming) or trees (Damon

11. In the eyes of many Papua New Guineans, however, planting does not axiomatically ensure that the plant stays there; once in the care of particular gardeners, who may or may not pay them sufficient attention, the souls of both taro and yam may have reason to wander away. If they have come from somewhere else they can go off too, in a kind of reverse movement.

2017)¹². In the case of the crops, I am strongly inclined to sidestep any “botanical” definition of rhizomes and gather diverse varieties together in terms of the actions people perform¹³. Their actions, their bodily engagement, are not just on but – as PNG ethnographers stress over and over again – *for* the plants, who often need enticement and encouragement to grow. If one wanted to say what was distinctive, then, about these staple crops, about these plants that are more than plants, it is the manner of propagation. The English language fails us here, since that manner may have to encompass both the plant’s willingness to be propagated vegetatively and people’s assistance in the matter. Insofar as the plant follows the thought, for present purposes we can gather together all these vegetatively propagated beings as “rhizomes”¹⁴.

What model of regeneration is implied? Because of their own sexual models of reproduction, Euro-Americans designate vegetative propagation “asexual”. But that negative characterization obliterates the positive one: the act of cutting. Momentarily it would seem to interfere with thinking of these tropical cultivars as rhizomes. I return to this.

Vegetative propagation requires separating generative matter from what is to be eaten, often although not always from the very same body. To return to Battaglia’s insight, new potential for growth is detached from what in being harvested has stopped growing. This sequence challenges how Euro-Americans might think of parent and child as old and new life. It is when an individual taro or yam is cut that the new parent emerges: it begins as the severed fragment. Only after it is cut does the replanted corm or piece of tuber yield up its nutrients, feeding the new shoots soon to be growing above ground before it itself shrivels and dies. Indeed it appears that what is parent and what is child are equally matters of “becoming”¹⁵; propagation (separation) is the moment at which they both emerge.

12. I have neglected any mention of idioms based on trees, of which much is reported across PNG. Thus in Hagen a person’s “root people” can include maternal as well as paternal kin, and one Hagen image of kin relations is prompted by the image of the way the roots of trees become entangled with one another. Another stresses the upstanding support a tree trunk gives to a men’s house. But one would have to have examined people’s relationships with trees before deciding whether these were “arborescent” figures or not.

13. A “social” definition if you like.

14. «Even though people know that many vegetatively propagated plants can be reproduced from seed, cultivators in New Guinea propagate them vegetatively, a preference that has been documented elsewhere in the world» (Denham 2017: 41, my emphasis).

15. See Schneider (2017: 213), on how the bride’s father comes into being at the moment of her separation from him at marriage.

Certain idiomatic usages in old Hagen seem to support this emphasis, most notably the way a wife's detachment from her natal kin might, in this patrilineal regime, be described as her being "cut" from them. At a woman's bridewealth, among the gifts of shells that sever her from her natal kin, one destined for her own mother's brother is sometimes called "head cutting", being given with no expectation of return (others may be reciprocated). The bridewealth as a whole might be referred to as wealth given for the head of the bride who has been cut off from her people, on an analogy with "man head" compensation payments for war deaths¹⁶. Contrary to what it might seem, these transfers were not the termination of relations. Quite the opposite, in both cases, the expectation was that they would lead to future transactions between the men on each side. So a future intensification of relations sprang from an act of severance. Also springing from that act of severance were the children the wife bore for her husband's clan on his clan land; the mother's nurture came from what was created as an elsewhere. Here the idiom of regeneration is explicitly vegetative. What is distinctive about people, as opposed to other kinds of being, including nonhuman metapersons ("spirits"), is what they have in common with plants: they are planted from cuttings. In Hagen it is not just that they are sometimes called "cuttings people", it is their recognized name for themselves (Strauss 1990)¹⁷.

The time of the rhizome

Yet is this not how these plant rhizomes start looking arborescent? In these Papua New Guinean cultivars we find beings that are selected, trained, trimmed and cut; their channels do not run anywhere. They seem both "rhizomic" and "arborescent". On the one hand is their rhizomic prehistory, at its largest extent domesticatory relationships spreading over Asia and into Africa and, in the case of some of them, looping back into Papua New

16. A woman "dies" twice, we might say, once when she is initially cut off from her natal kin and all over again in the following generation, as the mother of a bride, when she eats the pig that signifies the ultimate remoteness of her kin to her descendants (Strathern 2012: 10).

17. *Mbo*(cutting)*wamb*(people). *Mbo*, and its reference to planting as an activity (the cutting or offshoot is intended to be planted), is distinguished from the term for "root", which is readily used for embeddedness in the soil or clan / actions for which one is responsible / the cause of outcomes, and so on. (In the European idiom of the time, Strauss also translates *mbo*, cutting or offshoot, as "seedling", just as anthropologists have referred to yams laid aside for replanting as "seed yams"). "Cuttings people" as a translation for *mbo**wamb* is an example of a double entendre in English that is pertinent to the Hagen sense of the phrase: while *mbo* does not refer to making a cut, the English idiom encompasses both that and the being of the shoot that is the new point of growth.

Guinea. Not to speak of today's constant movement of local crops across garden areas. On the other hand lies the arborescent need for continual planting in this or that place, without which plants could not move such distances. Thus there is also continuity through a binary process. It is this that gives a literal dimension to the archaeologists' desire to promote the present-day landscape as a living embodiment of the past. Give and take genetic mutations along the way, the banana you see now is the very plant you could have seen then, showing you that it has been repeatedly cut at the appropriate moment. – Like Hagen women cut time and again from their clans of origin to bring new life to other soil. – And that vegetative cut is dramatically binary, as we have seen, separating planting material into what will grow and what has finished growing.

Viveiros de Castro (2010: 236-7) reminds us that becoming is a movement that deterritorializes, a non-processual movement, by contrast with and in counterpoint to production. It is the atemporal middle freed from the points that might give memory a measure, and «it is deterritorialization that makes the aggregate of the molecular components “hold together”» (Deleuze, Guattari 2014: 324). A far cry from filiative reproduction, as Viveiros de Castro adds. I swerve from the fascinating account of filiation and alliance that follows in order to take temporal “deterritorialization” in another direction. It could not be more fitting for the debates that once arose over agnatic filiation and group recruitment in the PNG Highlands, given the shallowness of genealogies and the way people were transplanted across clan territories. I do not go into detail, and simply note that non-agnatic identities were conserved over a relatively short time span, so that differentiated origins in one generation might fade in the next, or next but one. A similar “absence” of memory may define the presentism of one epoch as distinct from another.

For it is apposite to remark upon certain of the temporal realities that support the PNG propagators of rhizomes in their task. In doing so I suggest a non-aborescent way of interpreting that cutting binary. From this vantage point, those acts of severance in fact contribute not just to how cultivars are propagated, but to a sense in which cultivars may by the very deliberateness of such acts indeed be (seen as, described as) rhizomes.

I say the PNG propagators rather than growers for propagating is what people know how to do. Growing, as we have seen, is something altogether else. It cannot be taken for granted. There is in these societies a constant preoccupation with growth, especially because what is often uppermost in

people's minds is how much the effort to have things flourish depends on themselves, on their moral condition, on the input of human endeavour and action, including here their relations with ancestral ghosts and other meta-persons. So what kind of temporal relationship keeps growth and non-growth apart? Without that, one moment could not be cut or severed from another, this generation from that. People do not just grow either: they have to be grown¹⁸. And when Hageners come to identify new growing points, sisters and daughters are at once the growing points of a clan and severed from it to the benefit of others. The act of detachment creates a new horizon of growth. It seems there has to be a death each time – stopping as well as starting, cutting as well as planting.

In trying to render what I take to be the view one might have found in old Hagen, I put it that each detachment creates a “new time”, one that replaces a former state of affairs: a displacement of one temporal horizon by another. Suppose we were to resurrect Gellner's vocabulary concerning evolutionary and episodic time, after McDowell (1985; see Scaglione 1999), in accounting for the perception of radical discontinuities between past and present¹⁹, but apply it to the kind of present people are in, then that kind of cutting is a signature of an episodic present²⁰. Evolutionary presentism, the outcome of the kind of cause and effect sequences that come with time's irreversible flow, have already been illustrated in Diamond's schema and the view of propagation in prehistory. Episodic presentism may require further explication. It registers not so much a sequencing of “time”, a concept that belongs to an evolutionary present, as much as the effect of people's actions upon one another (on both the people and their actions). This does not exclude repetition, or the circumstances under which people's actions may recover those of a previous present – less a matter of traceable succession than a rehearsal of a regenerative moment that gives the present generation its own chance of regeneration. This is what Haudricourt was pointing to in his “yam civilisation”. It is characteristic of so-called cargo-cult thinking: a conviction in the about-to-be displacement of one regime by another. It is

18. This is not the place to go into the ramifications (of male initiation, for example), but the relative growth cycles of men and women may be a source of local comment in terms of how much assistance each needs.

19. She writes from Bun in the Sepik, the same general area as Ambonwari and Abelam. In such a present, change is not incremental (memorized) but always «total, drastic and radical» (McDowell 1985: 33).

20. Strathern n.d. provides a justification of sorts for this view. The contrast derived here was not envisaged in Gellner's usage; episodic also appears with other connotations, for example, Telban (1998: 158) follows Ricoeur's usage for a kind of narrational (linear) time.

also articulated, I think, in the way one or two people²¹ at today's Kuk thought about the prehistoric site: they were literally in/at the place of those who had first planted (and been "planted" there), unknown as the latter were. Finally, an episodic present is evoked in the practices of propagation, as I have described them. It is when a particular taro is cut that the new (soon-to-die) parent emerges: it begins as the severed part. Every detachment, a fresh horizon. Is some of the anxiety concerning growth about how one ensures that a future "new time" (epoch), in PNG parlance, will confirm the generative potentiality of the present?

Cutting is at once an entry into, a repetition of and a confirmation of, a plateau-like state of affairs, occasionally described as "timeless" (e.g. Scaglione 1999), and what I have here termed an episodic present. If a rhizomic being were to *take action* with respect to its condition of being, with no possibility of an evolutionary reference point, is "cutting" itself what it would indeed be doing?

Speculatively, then, think what the cultivar as (this latter kind of) rhizome brings to mind. It gives us an image of the stopping and starting of re-generative life; it gives us placement and displacement, rootedness and travel, non-growth and growth. Perhaps, too, in filiative terms it gives us the motivation by which one set of people nourish the fortunes of another in order to gain new life for themselves in the future (clan exogamy), entailing – asymmetrically when it is a case of privileging either the mother's or the father's side – the repetitive truncation of lineal flow (the death of the discarded parent)²².

Gathered fields

This account has nothing to do with Deleuze and Guattari's philosophical exercise as such²³. Or rather, it treats their exercise in the same way as they treat the rhizome. It takes what they afford us, the image or figure they draw, as a stimulus to thinking about the plant (tropical, cultivated). Why this particular affordance? Because like the rhizome for them, to which they

21. I am sure more widely held than this, but on my visit in 2015 only a few people explicitly expressed it thus.

22. Here, and in the previous reference to filiation, I give a nod to a set of issues briefly at the centre of theorization about the nature of PNG Highlands societies, concerning the lineality of "descent groups" (e.g. clans) and the nature of ties with non-lineal (affinal and other) kin.

23. Nor with decolonizing indigenous metaphysics (Viveiros de Castro 2014), although it is because of this endeavour that Viveiros de Castro has been such an apposite guide for this tale.

lovingly return time and again, their writing travels so luxuriantly that it encourages one to burrow through language. My own interest is in the qualities people in PNG bring out from the plant during the course of their interactions with it. Those interactions include a degree of solicitude that it is hard to convey in English; it best rendered perhaps in Coupaye's (2013: 44) description of just how sensitive yams are to people, being aware of when they pass by, reacting to their smell, and allowing people to undertake special actions in relation to them.

Let us conclude with a comment on some of the contrasts mentioned here. To turn to Viveiros de Castro (2010: 226; and see 2014: 118-19) for the last time, he notes how we would be misled to take *A thousand plateaus* as revelling in dyads. Root-tree and canal-rhizome are not in antithesis as opposed models would be, but are opposed asymmetrically: the one offers a model, while the other overturns the practice of modelling. Now during the course of the book, the tree presumably subsumes seeds (since the latter do not sustain their original imagistic power), and the contrast between horticulture (gardens) and agriculture (fields) falls from view. However, "field" is briefly re-written at one point: in science new fields open up out of the excesses of the old, forming a heterogeneous or smooth space of multiplicities (Deleuze, Guattari 2004: 409). This is observed in the midst of their own series of formulations, but the way in which one field arises from another serves my own purpose. To put it in terms of the two modes of presentism, an evolutionary present conceives both itself and its episodic counterpart with which it is in contrast; necessarily, in the Papua New Guinea case, the latter's recurrent repetition of presents, for all their breaks with one another, is altogether outside of this particular contrast. When the displacement of old by new fields takes time into account, as the evolutionary view does, the outcome cannot be displacement of like by like, for the present both knows itself as the only possible reality and encompasses the past from which it is now divided.

The «values and philosophies» (Haudricourt's phrasing) of transcendence and immanence were always in a political sense asymmetrical²⁴. We might say the same of agriculture, which subsumes horticulture, but not vice versa. These values and philosophies further endorse an evolutionary sense of time's flow. Would we have to endorse something like an episodic present in order to ignore the temporalities here? When Ingold talks about the difference between transcendence and immanence as a matter of different

24. In historical-political (evolutionary) time, that is: transcendentalist regimes of thought encompass immanentist modes, but the reverse is not true; my acknowledgement to Alan Strathern on this point (see Strathern 2017).

ontologies, there seems an episodic symmetry to the formula. One is either in the one or in the other. This may be a source of insight. Attributing immanentism to Hagen thought, he quite beautifully sums up its horticulture: «every cutting or offshoot is itself a section of a path of growth, one of the reticulate networks of paths comprising the garden as a whole. Every strand of this network, which Deleuze and Guattari liken to a rhizome, is the embodiment of a relationship» (Ingold 2000: 422). The opposition between horticulture and agriculture is but a node along a path of discrimination, in his case between divergent imaginings of the social realities on which anthropologists draw. At the same time, this symmetricizing contrast of Western and non-Western “ontologies” works by closing off the ideational polarization that keeps Deleuze and Guattari’s rhizomic “and” aborescent poles of conceptualization in asymmetrical tension.

For the episodic presentism of some of the kinds of activities I have described with respect to PNG cultivation (not horticulture for there is no agriculture) the anthropological task is to convey the distinctiveness of life whose divisions are cut otherwise. Not a negative but a positive image: the distinctiveness of each clan’s territory and its ancestral supports²⁵. One is unique (a multiplicity) not because one is the only person or clan with ancestors but because others’ ancestors have nothing to do with oneself. The concept of culture does not quite grasp the point, nor does imagining that various attributes add up to an ontology (see Holbraad’s criticism, 2017: 42). Attributes, qualities, cannot be bundled together, for there is nothing to contain them all. What it is to be in the middle, the plateau of the present, does not rest on a contrast (it has no boundaries, is not a model). Yet if I draw on an episodic vocabulary for how a tropical cultivar becomes a rhizome, what is implied in the “contrast” with an evolutionary one?

The contrast emerges in the description of something that itself does not rely on contrast. That something is rather simple, namely the way in which everything people see around them can be gathered together in a manner that relays back to them that this is how the world is²⁶. It is not the gathering *of* this and that, as a system of knowledge would have it, but more the gathering *to* a person or persons of each and all of their actions. In a provisional way we might describe the realities so enacted as “gathered fields”.

25. Or the distinctiveness of the “spirit” domains of metapersons (Sahlins 2017), but I have not dwelled on this side of tropical cultivars.

26. Toren (2012: 76) says something similar albeit in a different context: apropos ontology, she writes of «the manifold processes in and through which we imagine the inexhaustible world that warrants our imagination».

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Gathered fields: A tale about rhizomes

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