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Stephen P. Hugh-Jones
University of Cambridge, sh116@cam.ac.uk

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Thinking through Tubes: Flowing H/air and Synesthesia

Stephen Hugh-Jones

University of Cambridge
UNITED KINGDOM

Introduction

In this experimental essay I bring together scattered references to tubes that crop up in the ethnography of Amazonia and attempt to think through these tubes in a more systematic way. What arises is the *tube* as an implicit conceptual category and way of thinking, acting, and ordering the world where the tubes of the body, tubular artifacts, and tubular features in the environment emerge as transformations of one another, and where bodily processes of respiration, digestion, excretion, bleeding, hair growth, sex, gestation, and birth merge into one another. Flows of food, bodily fluids, air, water, smoke, speech, song, music, and ornaments appear as manifestations of the same kind of stuff. Analogies between different tubes and the fungibility of that which flows through them also means that, in musical ritual, flute players become one with their instruments, ornaments take on the character of bodily flow, and sound fuses with color in synesthetic play.

The *tube* is all of this, a shorthand for what are simultaneously a set of objects; processes or flows that these objects make possible; procedures that allow people to direct and control these flows for personal, social, and cosmic ends; and a set of understandings about the roles, positions, and relative standings of men and women.

Having identified the *tube*, I revisit features of Northwest Amazonian ethnography by thinking with and through tubes. The burden of Eduardo Viveiros de Castro's (1998) work on perspectivism is that the Enlightenment legacy of our different cultural views on a single immutable nature and rift between animals and humans makes it hard for moderns to understand Amazonia from an Amazonian's point of view. The Enlightenment that brought us nature and culture also brought us men and women as an opposed pair founded on the substrate of their different anatomies. This, too, can make it difficult to recognize the ideas of people who may start from different premises.

To explore this possibility, I investigate an intriguing parallel between Bonnie Gordon's (2004) discussion of Monteverdi's unruly female singers in the light of classical writings on anatomy and physiology and the unruly female flute players of Northwest Amazonian mythology. Amazonia may be a far cry from Renaissance Italy, but these women's musical activities share two things in common: their musical activities represent a transgression beyond the bounds of bodily control normally expected of them, and both operate in worlds where music has not yet become separate from song and dance. I also draw on Thomas Laqueur's (1990) discussion of ideas of the body, sex, and gender in classical and early modern Europe. Instead of the one culture/many natures of Amazonian perspectivism, here we find a one-sex/two-genders model of the body and, instead of sex as a category that determines what men and women are "by nature," here it is cultural constructions of men and women, their social rank, place in society, and cultural roles that determine the nature of their sex and body. If Viveiros de Castro's perspectivism can push us out of our familiar habits of thought regarding animals, perhaps this pre-Enlightenment one-sex body in its more familiar European setting may help us recognize an Amazonian counterpart.¹

My essay is divided into four sections. Following a brief survey of previous discussions on tubes, I move first to a more comprehensive treatment that pays particular attention to *h/air* as a concept embracing various material and immaterial flows. In Section 2, I provide tube-weighted summaries of some Northwest Amazonian mythology to illustrate points already made and pave the way for Section 3, a discussion of an Amazonian version of the one-sex body and the ritual control of its apertures and flows. In line with *h/air* as a transformation between different forms of flow, Section 4 deals with synesthesia between sound and light, music, and ornaments, in the context of an origin myth of Yagé, a hallucinogenic vine

personified as a child. This myth amounts to an indigenous theory of synesthesia in undifferentiated musical, vocal, and visual patterning as a precursor to processes of de-totalization that brought about human culture and society. Finally, the conclusion suggests a possible basis for the similarity between Amazonian and pre-Enlightenment ideas of the body, emphasizes the key role of music in a philosophy of the *tube*, and suggests that the Northwest Amazonian's version of this philosophy is part and parcel of their exogamic, patrilineal, clan-based social order. My focus is on the Tukanoans, but much of what I have to say applies equally to their Arawakan neighbors.

As something simultaneously physiological, psychological, sociological, and cosmological, the *tube* is an example of a Maussian total social fact. The dense cross-referencing between tubes, flows, and senses and their symbolic ramifications in Upper Rio Negro mythology and ritual merit a whole book. This limits the ambitions of a short essay. I have therefore been selective of my data, pushed it in particular directions, and kept comparative references to a minimum. Having gone over many of the details elsewhere,³ here I wish to push things forward by sketching out a model or picture of what things might look like when seen through a tube.

1. Amazonian Tubes: Previous Treatments

Leaving aside Freudian psychology and slang expressions for body parts, sexual activities, and aspects of character, the *tube* as outlined above seems to play a relatively minor role in contemporary Euro-American thought. This stands in stark contrast to Amazonia, where cultural elaboration of oratory, cannibalism, wind instruments, cigars, blowguns, etc. speaks of a particular interest in tubes and their apertures. Note that the following brief survey of relevant literature does not pretend to be comprehensive.

In general, most works touching on the subject have tended to privilege a particular tube, sometimes linking it to a few others. Prominent here is the blowgun—linked by Claude Lévi-Strauss (1987, 1988) to pottery and a moral philosophy of the digestive tract; by Peter Rivière (1969) to hair tubes; and by Jean-Pierre Chaumeil (2001, 2007) and Philippe Erikson (2011) to palm trees and flutes. However, even Rivière—who comes close to the topic of this essay—stops short of concluding that breath and hair might be manifestations of the same stuff: *h/air*.

Another line of enquiry is represented by some of the papers in Andrew Russell and Elizabeth Rahman's (2015) volume on tobacco. These draw attention to tubular objects and to breath as vitality, and note the capacity of tobacco smoke to render breath visible and suggest the synesthetic dimensions of tobacco use. Finally, much research has been conducted on wind instruments in lowland South America, a topic well covered in Jonathan Hill and Chaumeil's (2015) edited volume.

Against this wider Amazonian backdrop, the Upper Rio Negro stands out as an area where the *tube* receives exceptional cultural elaboration, as shown by Jacqueline Duvernay-Bolens's (1967) analysis of Yuruparí mythology, Christine Hugh-Jones's (1979) analysis of the congruence between processes occurring in the human body, house, and cosmos and in my own (1979) analysis of Yuruparí ritual and mythology. In the region, work has usually focused on the ritual use of aerophones, for instance in Irving Goldman's (2004) study of Cubeo religion, where tubes are also linked to human and animal bodies; and in Hill's (1993, 2009a, 2009b, 2011a, 2011b) and Robin Wright's (2009, 2013, 2015) publications on the Arawakan Baniwa. In one of these, Wright (2013:151) comes close to what I have in mind when he isolates the tubular form as a vehicle for various life-giving and life-taking cosmic processes.

Rather than going over the details of these earlier discussions here, I want to try to bring them together, tie up some loose ends, and concentrate on matters that have received less attention. This relates to what I see as some basic limitations to the way myself and others have dealt with tubes thus far.

The first is a tendency to focus on a relatively narrow range of objects. This fragments and disjoins the relevant field of inquiry, misses some wider connections, leaves out other equally relevant tubes, and tends to push discussion toward objects rather than processes or concepts. Rivière's idea of tubes as energy transformers is frequently quoted with reference to blowguns and cigars, but his hair-tubes, the relation between hair and air, and his contrast between the upward-pointing blowgun and downward-pointing hair-tube seem to have disappeared from view. Hair-tubes and the relation between the upper and lower halves of the

body will reappear below. My argument will be that, alongside many others, the objects mentioned above amount to different expressions of the *tube*. Rivière's energy transformers and Lévi-Strauss's (1987:87) moral philosophy of the digestive tract only deal with some aspects of this concept.

A second limitation is that while tubes are (only too obviously) about sex and fertility, they are much more than this. This point is well made in Lévi-Strauss's critique of Freud's analysis of myths and dreams in terms of sexuality. He (1988:193–4) notes that meaning in myth is not transferred from term to term but rather from one category or class of terms to another. There are no grounds for always taking one of these literally and the other figuratively, for metaphors work both ways.

Lévi-Strauss criticizes Freudian psychoanalysis for reducing everything down to sex, but he also misses the full implications of his insights by reducing the *tube* “upwards” to a transcontinental exploration of structural transformations between myths, an exercise that comes at the cost of ethnographic depth. Between the extremes of Freud's sex and Lévi-Strauss's transformations there is room for exploring an extensive middle ground where a moral philosophy of the digestive tract is part of a wider philosophy that weaves together an indigenous understanding of human anatomy, physiology, psychology, and perception with wider reflections on human activities and capacities; social arrangements; the cultural, natural, and physical environment; animals and plants; and the workings of the cosmos. This philosophy is better brought to light by intensive exploration of a single ethnographic case—the peoples of the Upper Rio Negro.

A third limitation concerns Goldman's (2004) and Wright's (2013) recourse to the language of religion, cosmology, and shamanism in their discussions of tubes. This risks diverting attention away from the everyday objects and mundane behavior, experience, and knowledge essential to the concept. Allied to this, a tendency to focus on the prohibition on women seeing wind instruments in specifically ritual contexts also risks diverting attention from a wider general relation between sound and vision in music, song, dance, and ornament.⁴

Finally, although Lévi-Strauss's (1988) treatment of tubes is the most systematic to date, it is limited by his reluctance to take on the mythology of the Rio Negro region. Had Lévi-Strauss given more attention to myths from this region, he would have seen that multiple, synesthetic Yuruparí flutes are arguably better candidates than blowguns for the material correlates of his tube philosophy, that this extends beyond the digestive tract to embrace other bodily tubes and that, as “wind instruments,” blowguns are part of a wider set that also includes flutes, cigars, and snuffing tubes.

Tukanoans' practical, ritual, and mythological focus on these varied “wind instruments” goes in tandem with a parallel cultural emphasis on tubes. This includes a particular affinity with palm trees; the use of an array of tubular equipment in hunting, fishing, transport, and storage and in the processing and consumption of manioc, tobacco, and coca; and the use of *yagé*, a vine that opens the body-tube at both ends by inducing vomiting and diarrhea, and one likened to both an umbilical cord and the marrow inside a bone-like Yuruparí flute. This emphasis on tubes also includes a symbolic elaboration of *maloca* architecture and its assimilation to the human body,⁵ patrilineal social organization associated with ideas of durability, hardness, ancestry, and lineal flow, and the mythological-ritual theme of extra-uterine male birth, all these coinciding as aspects of the *tube*.

The Tube in Detail

This preliminary discussion is intended partly to anchor the *tube* back into the everyday world of human experience and productive activities; partly to give a foretaste of the density and richness of Upper Rio Negro *tube* thinking; and partly to supply information that will aid an informed reading of the mythology that follows. Before ethnographic detail, I deal first with the *tube* in purely formal terms—precisely because it is above all a “form” that can be put to many uses.

Referring to the semantic field of natural tubes (mouth, nose, vagina, anus, etc.), Lévi-Strauss observes that these can be anterior/posterior and above/below, and that each may be closed/open and, when open, may absorb or eject. However, a focus on “natural tubes” is an artificial restriction for, as Lévi-Strauss (1988:163) observes, objects such as blowpipes or tobacco pipes, animals such as sloths and howler monkeys, and bodily states such as oral greed and anal incontinence are merely empirical realizations of an underlying formal structure. We

will get a better idea of this structure and its range of realizations by adopting a more systematic approach.

In the Northwest Amazonian context, a more complete set of permutations might run as follows (examples in parentheses): a tube may be open at both ends (digestive tube, flute, blowpipe); constricted/closed at one end (womb, throat, pot, *tipiti*, fish trap); or constricted/closed at both ends but open to the side (canoe, beer trough). Animal behavior and human crafts may suggest openness (howler monkey, singer-dancer) or closure (sloth, potter). A tube's sides may be solid (coca mortar, bone) or porous (*tipiti*, gut), and a potential tube may be softer than its interior (bark); harder than its interior (bone, palm trunk); or of uniform density (de-barked sections of trees). A wooden cylinder/rod/trunk may become a tube (canoe from tree trunk) or be one by association (house post as person/flute). Flow through a tube may be normally unidirectional (blowgun, gut, river), normally reversible (breathing), or temporarily reversed (vomiting, spitting). Flow through an aperture may produce a tube (smoke blown through mouth, sunbeam). Finally, in bark-cloth manufacture or a snake shedding its skin, the covering of a more-solid core may be peeled back on itself to produce a tube whose exterior and interior surfaces are continuous—like Lévi-Strauss's Klein bottle (1988:158–9).

Materials, Artifacts

As noted above, most previous treatments of tubes deal only with a restricted sample. In what follows, I introduce some tubular objects that have been ignored and add new details to already familiar examples.

H/air, Flow, and Basketry

In Tukanoan languages, hair, fur, feathers, and down are all *boa*.⁶ By extension, kapok (*buya*), palm leaves, and palm-leaf fibers also belong to this set, one I indicate as *h/air*.⁷ Along with loudly exhaled tobacco smoke and rustling leaves, these light, airy, and mobile materials make flows of air visible and audible. Likewise, kapok as the piston-flight for blowgun darts gives substance and lethal force to breath just as feather ornaments (*buya büküü*, “mature kapok”) lend visual substance to song and dance.

Shamanic spells also draw analogies between flows of hair and feather ornaments that sprout from the top of the head and the fountains of leaves that sprout from the trunks of palm trees, and between these flows of hair-leaves and the flow of potent sound from flutes. In a Tukano myth (Fulop 1956:87–88), wind, blown by a deity, causes an unopened bunch of paxiuba fruit (*Iriartea exhorriža*) to split open with a loud report that splits open the bodies of two young girls prompting them to menstruate.

In past times, a pigtail bound with monkey-fur string was the standard dress of adult men (Figure 1). Attached to this pigtail, or to its contemporary banana-leaf stalk substitute, dancers wore, and still wear, a jaguar-bone tube filled with the creature's fur (Figures 2a and b). The jaguar's roar and the connection between hair and air would suggest that this tube is the visual counterpart of a Yurupari instrument, one containing fur in lieu of breath and sound. Here we have two hair-tubes: a bone fur-tube and a pigtail called *boa hoti* (“hair spiral-tube”), with *hoti* being a classifier that also applies to cigars, bark trumpets, bark-wrapped blowpipes, and other spiraled tubes. From this double hair-tube hang hanks of sloth and howler monkey fur, the ensemble serving to augment the hair in the pigtail and constituting a downward flow of *h/air*, vitality and energy tempered by the contrasting qualities of closed sloths and open howler-monkeys.

Feathers

Maha boa (“macaw feathers”), the term for the principal ornament, a yellow-red frontal crown, applies generically to all body ornaments. Ornaments of feathers, fur, and bone are a manifestation of the names, souls, and vitality that mark the identities of different human beings—just as fur color and sound mark the identities of animals. *H/air* as soul and vitality (*üsü*) is connected with the heart and lungs (*üsüa*) that produce breathing and sound. By the same logic, the vibrating leaf vane that gives a flute its sound, voice, and soul is also identified with a hawk feather. *H/air* is the substance of breath, wind, and sound.



Figure 1. Tuyuka man with pigtail (Koch-Grünberg, 1909–10)

The same thinking applies when shamans use spells to insert feather down into the ears of babies to make them hear, learn, and respond to advice. Infants chosen to become dancers are given a special dancer's name and receive a special dose of this materialized sound, one that betokens all the songs and ornaments they will later sing and wear. Again, this demonstrates the connections between *h/air*, feathers, speech, sound, and breath.

Like marrow inside bone, the dancer is said to be contained inside a flute and to share in its life and substance, a relation of the contained to container that also applies to the dancer being contained within the ornaments he wears. In the Tukanoan origin myth, ancestors were initially contained within feather ornaments as pure souls but later hatched from these ornaments to become human beings in the manner of chicks hatching from eggs. *Hoa*, the term for “hair” and “ornament,” also applies to any bag-like container, including the scrotum, the stomach, and womb—presumably because hair and ornaments enclose the head as hair encloses the genitals, because string made from human/animal hair and palm fiber is used to make ornaments, and because men's carrying bags were once made from palm fiber. The container-contained relation in the visible and audible exteriorization of something interior applies to *h/air* in general and is something we will meet again below in the connection between hair and menstrual blood.

For the Baniwa, the Anaconda is the owner of basketry, with basketry designs as his patterned skin; for the Tukanoans, basketry and designs derive from the person of Yagé, a twin and transformation of Yuruparí (see below). Yuruparí's body has a porous skin that exudes a flow of sound and palm-fiber hair as a tubular basketry tipití exudes a flow of manioc juice—the proximity between *nyukaa* “palm fiber” and *nyuka* “manioc juice” is suggestive here.

The legs of dancers are also painted with black designs that reproduce the tipiti's weaving. The inference would be that, like the body of Yurupari, dancers have porous bodies that exude music, song, and ornament.



Figure 2a. Jaguar-bone tubes containing fur (photo by author)



Figure 2b. Jaguar-bone tube in situ on dancer's headdress—visible end-on below the red feather (photo by Brian Moser)

In sum, *h/air* has to do with various tangible and intangible flows. Its concrete referents point, on the one hand, toward substances such as blood, semen, hair, breath, speech, and sound that flow from tubes and are indices of inner soul, vitality, energy, potency, and generative capacity; on the other hand, they point toward ornaments, basketry, and other skin-like porous coverings made from hair or fibers that are colored or patterned exteriorizations of these flows from the interior.

I draw attention to these other tubes and materials for two reasons. Firstly, because part of the sense of the blowguns, flutes, and tubular cigars already considered in the literature lies in their relation to other, neglected counterparts with which they form a set and, secondly, because crafted objects and the crafts of music, dance, song, and oratory are also like “stuffs” that flow from tubular bodies, arms, and hands of people—just as fruit and leaves appear to flow from the branches of trees.⁸ Lévi-Strauss’s (1998) observation of an analogical relationship between craft specialization and psychological traits in jealous potters touches on one aspect of this. But the relation between body, craft, and character is as much indexical as it is metaphorical. The stuffs that flow from peoples’ body-tubes—what they say, sing, make, and wear—are indices of their capacities, strength, skill, knowledge, ability, beauty, and reputation.

Palms

Again, these notes are intended to complement rather than repeat material written elsewhere.⁹ Hill (2009b:100) notes the similarity between palm trees and the bodies of the men wearing palm-leaf crowns on their heads and bunches of fruit on their backs as they bring tree fruits into the house to the sound of Yuruparí instruments. The inference here would be an identity between the bodies of these men and the body of Yuruparí, a being whose flesh is fruit, whose bones are flutes, and whose porous body emits loud music and palm-fiber hair.

Yuruparí instruments are made from paxiuba palm. The stilt roots of this palm emerging from a slit in the trunk can look like a penis/clitoris emerging from a vulva (Figure 3), a feature suggesting ambiguity between male and female. In addition, the leaves and stilt roots of the palm, its “hair” and “genitals,” suggest symmetry between top and bottom (Figure 4). I shall return to these horizontal male/female and vertical top/bottom homologies in Section 3.



Figure 3. Emergent paxiuba palm root (photo by author)



Figure 4. Top/bottom symmetry of paxiuba palm (Wallace 1853)

Finally, thin strips of the same palm wood used in making Yuruparí instruments and blowguns are also used to make the woven screens that serve both as fish traps and as seclusion compartments in which girls at menarche and boys at initiation are confined and shielded from view.

Below I suggest that the figure of Yuruparí, who swallows initiate boys, is all of anaconda, paxiuba palm, tipití, and fish trap. With *yuru-* as “mouth” and *-parí* as “woven screen/fish trap,” his name alludes to this. This suggests that initiates inside Yuruparí’s belly (in myth) or inside seclusion compartments (in ritual) are, at once, an anaconda’s meal, manioc mash in a tipití, and fish in a trap.

A preliminary conclusion from this exploration of the *tube* would be that all of human life, from individual capacities and personality up to grand cosmology, is encompassed in the relations between whole body-tubes, in the relation between the body and in its tubular parts, and in the apertures and flows of these tubes. The figure known as Kuwai/Yuruparí represents this tubular encompassment of life. The rituals and mythology associated with this figure are about explaining, controlling, and perpetuating life. They do this through two principles working together. The first is a web of analogy between the tubes, orifices, and flows of the top and bottom halves of the male and female body, and between these body-tubes and tubes in the world—artifacts, birds, animals, fish, snakes, palm trees, etc. The second principle is a play of fractal self-similarity or relation between one and many, container and contained, continuity and discontinuity, or the abstract *tube* and concrete tubes. Ritual and mythology are concerned with joint processes of totalization (composing tubes within tubes) and de-totalization, and therefore differentiation (when contained tubes become entities in their own right). Both principles are evident in Upper Rio Negro mythology concerning the creation of the first beings, the character of Yuruparí, and the women’s theft of Yuruparí flutes to which I now turn.

2. Upper Rio Negro Mythology

My brief, selective summaries of these stories draw on my own knowledge and on published sources but are not intended to provide representative accounts. Their sole purpose is to put some of the material discussed above into context, to highlight the recurrence of the *tube* theme, and to pick up some material on the body and the theme of totalization/de-totalization that will be used in the discussion that follows. To further these aims and to alert the reader to the *tube*, I provide explanatory notes [indicated by bold square brackets] with variants/alternatives indicated by a slash.

Tukanoan Creation

Before people became different from objects and men different from women, the bodies of deities had stools for hips; gourds for hearts, lungs, and womb; gourd-stands for bodies and legs; and rattle lances for vertebral columns (S. Hugh-Jones 2009). An androgynous “female” deity fertilized coca/sweet fruit juice in a gourd (Figure 5) with smoke blown from a cigar held in a holder [cigar holder = female genitals (see below); cigar = penis/fish. Cigars, bark trumpets, and blowpipes with bark binding are all “*boti*,” objects of spiral construction]. The combined cigar smoke and coca/juice created five deities with bodies as five malocas/compartments within the universe/maloca. One of these deities [a container of ornaments or “feather box”] vomited ornament-bird spirits that entered an Anaconda-Canoe as ornament-fish and travelled up the Milk River, an umbilical tube/yagé vine connecting past with present and ancestors with descendants. The Anaconda-Canoe shed its skin as it swam, creating the river up which it moved. The canoe stopped at many rapids or transformation houses [like joints between bones, rapids are points of access between earth and underworld or present and past] before stopping at the center of the earth, where human beings first hatched from the egg-like ornaments and then emerged through a hole in the Ipanoré rapid as the ancestors of all human groups. [The Anaconda-Canoe is a nested figure of totalization/de-totalization. On descending scales of inclusion, he gives rise to a tree-like Rio Negro or Milk River with branch-like affluents, to all of humanity, to all Tukanoans, to any one Tukanoan group, to any particular clan and, potentially as a father, to a male sibling-group. As a “house” (S. Hugh-Jones 1995), a clan is a tubular body comprising multiple persons, houses, tubular flutes, and ornaments.]

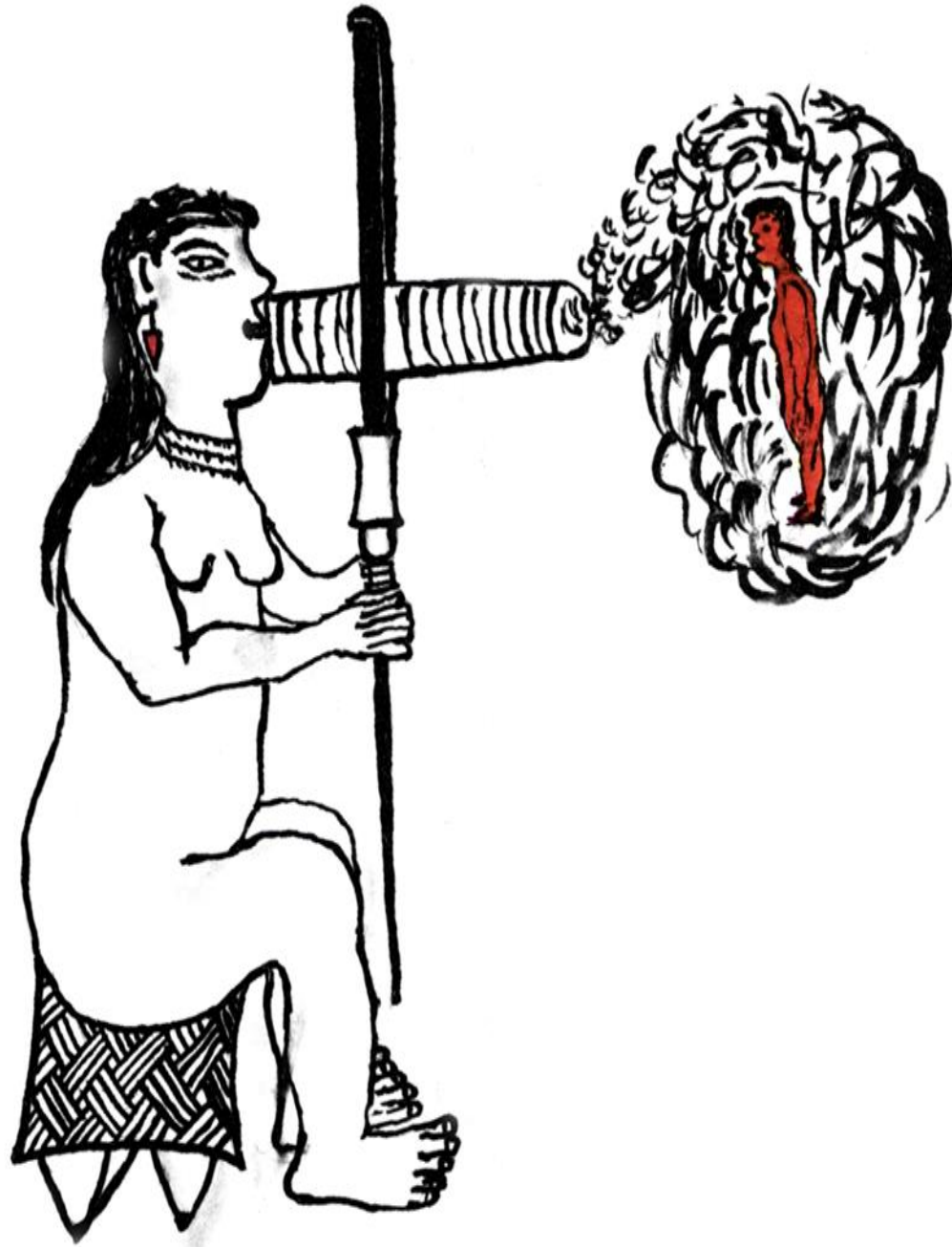


Figure 5. Desana deity Yebá Bëló creates child from cigar smoke (Luiz Lana)

Yuruparí

A “female” deity was inseminated through her mouth by cigar smoke/caimo juice/coca by a man/men identified as bone. Lacking a vagina, she was opened by a large-mouthed jacundá fish or by a cigar-holder that became her genitals. She gave birth to a child with jaguar fangs, incessant thirst, and loud cries whose body parts correspond to the animals, birds, and fish of the forest and to named wind instruments.¹⁰ Thick hair covered Yuruparí’s body,¹¹ and music flowed from holes in his body, the sounds expanding the universe. [Yuruparí is both howler-monkey (open) and sloth (closed), animals that supply hair used in dance headdresses and Yuruparí masks. His hair is also palm fiber used to make string. Leaking sound/hair/palm fiber, Yuruparí’s porous body is like a tipiti (*bino-bü*, “anaconda-closed tube”) that leaks manioc

juice. Yuruparí, a synthesis of animals and plants, has particular connections to palms/trees, their wood/his bones, and their fruit/his flesh. The outputs of the skin/bodies of Yuruparí/animals/palms, i.e., their behavior, sounds, and appearance (colored hair, body markings, colored fruits, etc.) are indices of fertility, growth, and vitality. Yuruparí is also a noise-producing, brightly patterned anaconda, the origin of basketry designs and bird colors.]

As Yuruparí's mother gave birth, the universe expanded and her blood gave rise to the reddish-black [blood-like] rivers of the region. She did not see her child, as the men took and gave him to a sloth foster-mother who Yuruparí sucked dry, ripping off her breast. [With sloths exemplifying oral/anal continence, this sloth mother's closure would temper Yuruparí's noisy, leaky, greedy openness.]

Sent to live in the sky with his Sun father, Yuruparí later returned to earth, appearing to some boys making music with wasps tethered on strings inside a pot. Yuruparí told the boys that he was real Yuruparí music but, as they had now seen him, they should undergo initiation with seclusion [containment], fasting, and not seeing/being seen by women [continence]. As Yuruparí revealed himself to them, the sound of his body expanded the world from micro- to macro-scale. Sending the women away, the boys' father put the boys in a seclusion compartment.

Yuruparí then appeared to the initiate boys, telling them they could eat raw fruit but not meat, fish, or any roasted food. To temper their hunger, he first offered them japurá fruit to smell, then, appearing as a woolly monkey, he tempted them with uacú fruit thrown from a tree. [The sexual smell of roasted uacú seeds is the subject of ribald comment. This temptation by fruit pre-figures the initiates' need to control their developing sexuality.] The elder boys roasted and ate the seeds as the youngest looked on. The boys' lack of self-control caused a furious Yuruparí to revert to his former hyper-open state. Thunderous noise and saliva poured from his mouth, giving rise to forest vines while floods of tears/rain poured from his eyes, causing the waters to rise and the universe to expand again. His mouth/anus opened as the entrance to a cave/hollow log into which the initiates ran for shelter; the youngest boy returned home to report what had happened. Yuruparí flew up to the sky, his body emitting smelly farts and belches as the initiates rotted within him. [From Yuruparí/the universe as a single, all-encompassing tube or maloca, we now have fractal tubes-within-tubes: initiates within Yuruparí; seclusion compartment within a maloca; maloca within the universe-maloca.]

The boys' father sent a messenger to Yuruparí telling him to return to earth and release them. Yuruparí first refused but succumbed when offered his favorite food/beer. Arriving as a fully ornamented dancer, Yuruparí vomited the initiates into manioc sieves placed on the ground/as bones into a compartment [as tipitís "vomit" manioc pulp and anacondas regurgitate prey]. Yuruparí told the men that he had killed the boys for disobeying him and that should they wish to kill him in revenge they could only do so with fire. The men built a fire and pushed him in.

As Yuruparí's spirit ascended to the sky, his body and ornaments [trees and leaves] caught fire in a universal conflagration [burning swidden]. From his ashes a paxiuba palm sprang up, an umbilical cord/*axis mundi* allowing shamans and dead souls to pass between underworld, earth, and heaven. [Analogues include the rattle lance, a tubular vertebral column that unites heaven and earth; and the Milk River, a horizontal umbilical cord uniting West with East.] The universe then shrank back to its former single-maloca scale.

The Universe People cut sections of the palm as flutes and trumpets (Yuruparí's bones) that they distributed to each human group. [Sectioning and distributing the palm brings about a de-totalization/differentiation of all that Yuruparí's body encompasses: of humans, birds, animals, fish, trees, and plants and their diverse appearances/sounds; of animate bodies from artifacts; of different varieties of music, song, dance, and ornamentation owned by different groups. Compare the de-totalization of the Anaconda-Canoe (above) and of Yagé (below).] Tapir threatened to use his trumpet [voice/throat] to stop women from giving birth/eat future human beings; Howler Monkey, initially with a small, feeble whistle, tricked Tapir into swapping instruments. Howler monkeys now use their loud voices to assist life processes, whilst tapirs, with feeble whistles and fastidious shitting habits, threaten to ingest newborn babies into their retentive anuses, a birth in reverse.

Yuruparí's burned hair became the hair of the Black Sloth and Douroucouli Monkey, the Owners of sickness. Sorcery, curare poison, and fish-poison sprang from his ashes and his soul gave rise to sickness in the form of spirit-darts. [In his negative aspect, Yuruparí is like a

blowgun: he blows darts tipped with kapok (“hair”) at one end and poison at the other. Compare Yuruparí’s mother: first lacking a vagina, she later became a sexually voracious ogress with poison vines for pubic hair, poisonous creatures, in her vagina, and was responsible for creating plagues and sickness. Yuruparí encompasses undifferentiated sound, color, appearance, gender, and living entities, and also life-giving/life-destroying powers, persons, and substances.]

Women Steal the Yuruparí Flutes

A curious sister overheard her father telling her brother to bathe at dawn. The son remained asleep, but his sister went to the port and found a flute. Trying first with her vagina, she only succeeded in playing it when a jacundá fish used his mouth to show her how. Infused with new powers, she and her fellow women stole the men’s flutes and ornaments and staged their own sexually liberated Yuruparí ritual. [The women now repossess and re-totalize the body of the child stolen from them and de-totalized as flutes.] As the instruments sounded, the scale of the universe expanded anew to the scale we know today.

The men tried to take back the flutes, but the women shot darts at them from the blowgun-like flutes. The men took up the women’s agricultural work and began to menstruate [suggesting a double equivalence between flutes and menstruation and between manioc tubers/flutes and children].

To take back their instruments, the men used piston-whistles made from a vine created from a thread of their spittle. Hidden in a fish trap, the men aimed the explosive sound of their whistles at the women’s vaginas, causing them to menstruate. The men took back their flutes, but the women hid some in their vaginas. One woman fled to the East to become the Mother of White People and manufactured goods, another fled to the West to become the Mother of Feather Ornaments. These twin sisters are avatars of the twin mothers of Yuruparí and Yagé that we shall meet below.

3. Apertures and flows

Northwest Amazonians know well that the basic body-form is that of one tube, the gut, contained within another tube, the body wall. Further tubes and apertures include the ears, eyes, nose, mouth, trachea, vagina, penis, veins and arteries, breasts, umbilicus, fontanel, vertebral column, and long bones, with the joints between bones as further apertures. In addition, body hair and perspiration bear witness to countless smaller holes piercing the body’s surface.

Entries and exits through joints are regulated by the application of black paint, but the open, leaky bodies of small infants are at constant risk of intrusion by dangerous spirit-forces. To calm babies and seal their bodies, water is splashed on their heads and spell-charged tobacco smoke blown on the fontanel and umbilicus.¹² The umbilicus serves as a two-way channel connecting the body to the rivers, ancestors and sources of origin in the East and allowing inward transfer of personal names. These names also determine personal characteristics such as hunting and fishing skills, beauty and physical attractiveness, and craft skills such as making pottery, weaving, and dancing. Links between umbilicus, river, name, and ancestors explain why the stories of the Tukanoan anaconda-ancestors’ travels form the basis of spells used to confer personal names.

The fontanel aperture persists into adult life as the hair parting and hair whorl. The flow of women’s hair from this upper exit is associated with the flow of menstrual blood below. Women are said to menstruate when their hair, normally worn at the back of the head, falls in front of their eyes. This parallel between an upper-body flow of unconstrained female hair and lower-body flow of blood chimes in with Rivière’s (1969:155) suggestion of “an opposition between virile activity associated with the constrained hair of men and passivity and laziness associated with women’s hair,” for menstruation is considered the quintessence of laziness and, as noted above, adult men previously wore their hair in bound pigtailed.

Inside these body-tubes, processes of respiration, digestion, reproduction, gestation, and birth take place, each one accompanied by entries and exits of food, vomit, air, hair, and body fluids. Anatomy and physiology thus serve to exemplify two key ideas: that the body is at once single and multiple, a tube and many tubes, an idea echoed in the processes of totalization and

de-totalization described in the myths above; and that the processes and products of life are to be understood as interconnected flows.

The One-Sex body: Galen and Aristotle in Northwest Amazonia

To push this analysis further, I now draw briefly on Laqueur's (1990) and Gordon's (2004) accounts of a one-sex model of the human body that first appears in the writings of Aristotle and Galen but was still current in seventeenth-century Europe. Because they deal with ideas more explicitly formulated and closer to home, discussions of this European material may help us in recognizing similar ideas that can be deduced from Northwest Amazonian mythology and ritual practices.

For the purposes of this exercise, the European one-sex model can be stripped of its historical and ethnographic detail and reduced to the following propositions:

1. The male genitals are an everted version of their inverted, female counterparts so that cervix/vagina = penis; labia = foreskin; ovaries = testes; and uterus = scrotum.

2. Women's bodies are relatively wet and cold. The everted, more complete genitals of men result from the greater heat, dryness, and vitality of the male body, a sign of men's superior status and greater moral worth and testimony to a hierarchical social and cosmic order.

3. The upper half of the body is the analogue of the lower half. The female mouth, uvula, tongue, and throat are analogues of the vulva, clitoris, and vagina that connect to a stomach-uterus imagined as a closed mouth. A woman's voice was believed to change when she had intercourse because "her upper neck responds in sympathy to her lower neck" (Gordon 2004:4).

4. Slippage between metaphorical and causal connections between different tubes and apertures means that breath-like, soul-like *pneuma* circulating in the body is implicated in ejaculation and conception. Consistent with this, women singers are less likely to menstruate and more prone to infertility. More generally, it follows that different bodily flows are linked and that the different body fluids, including air, fat, and hair resulting from respiration and digestion are fungible versions of the same material. Health and well-being depend on a balance of fluids and flows with wet and dry, hot and cold as the basis of the humoral system.

In Northwest Amazonia, similar principles are being played out in a very different cultural context, so we should not expect to find exact parallels. What matters is that, taken overall, the principles are sufficiently alike for us to use their expression in one context as clues to understanding their expression in another. Helen King's (2013) caveats about the coexistence of plural understandings of the body in classical Europe doubtless apply in Amazonia too. Bearing these caveats in mind, I think the myths summarized above supply good evidence that something akin to this European one-sex model also applies in Northwest Amazonia.

The stories summarized above describe an initial state where there is no sex. Deities are gendered but have identical bodies that lack genitals. They create other beings through their mouths, insemination being achieved either by blowing tobacco smoke from penis-like cigars into womb-like gourds or by ingesting viscous, semen-like fruit juice. Gestation takes place in stomachs and gourds, and birth is by vomiting and regurgitation.¹³ Only later do these deities receive distinctive sexual organs, first in the form of two artifacts, the flute and cigar-holder, and then in the flesh. Finally, in the Yuruparí myth incident where the men recuperate their flutes from the women, we find clear indication that the female vagina and male flute—read "penis"—are inverted/everted lower-body homologues. The female throat and male flute would be their inverted/everted upper-body counterparts.

The story of unruly women who steal men's flutes, become sexually forward, and cease to behave and work as women finds an inverted echo in Monteverdi's unruly female singers. According to Gordon (2004), the currency of Galen's theories in late-sixteenth-century Italy meant that the stream of heated, song-laden breath flowing from the beating throats and mobile, open mouths of women singers was tantamount to a flow of spirit-blood-semen ready to inseminate the eager listener's ears—so much so that the allusive words of their songs and the vocal articulation of the vowels played explicitly upon this idea, something that also cast doubt upon the chastity of female singers. However, whereas late-Renaissance men doubtless found this transgression across bodily and social boundaries both threatening and titillating, Northwest Amazonian men find the thought of women seeing, let alone playing, flutes as well beyond the pale. Likewise, the spontaneous, improvised songs that women sing at beer feasts

and on other occasions mostly lack any sexual or flirtatious content and dwell instead on the lonely predicament of an in-married wife living with relative strangers separated from her kin and natal home (see also Chernela 2003; Hoseman 2013). In Northwest Amazonia, a male desire to control women's "chronically leaky bodies" (Gordon 2004) is clearly reflected in Yuruparí myths. In one, the "perfect woman" is defined as patient, able to keep secrets and not curious (Stradelli 1890:835); in another, women who stole the flutes are rendered speechless as punishment (Duvernay-Bolens 1967:65). With breath, sound, and flute music as semen-like soul-stuff, the musical penetration of female bodies that causes menstruation and pregnancy and turns male children into adults is a strictly male prerogative.¹⁴

In line with this inverted echo, the Northwest Amazonian version of this one-sex model differs in a significant way from its European counterpart. Whilst the external flute-penis as agent and visible sign of men's higher status is clearly there, in Northwest Amazonia this horizontal homology-with-contrast between everted male and inverted female genitals is overlain by an equally hierarchical, but vertical, homology-with-contrast between the upper and lower body, one also suggested in the symmetry between the roots and leaves of the paxiuba palm.

The spatial contrast between upper and lower body also has temporal and hierarchical dimensions. The body's most obvious flows, those of the digestive and urinary tracts, both run from top to bottom—as rivers in Northwest Amazonia run from west to east. With menstruation and childbirth moving in the same direction, this downward flow has female connotations. Like the upstream, east–west journey of the ancestral Anaconda, the generative male countercurrents of ejaculation, vomiting, singing, and music-making through the equivalent structures of penis, throat, and flute, run upward from bottom to top to emerge from the male head. The myths above present this oral mode of reproduction as temporally prior and superior to its female counterpart.

By analogy between the top and bottom halves of the body, the upward flow of hair, ornaments, and musical breath from the male head is like a flow of spirit-semen from the penis just as the flow of hair from the female head is the analogue of a flow of blood from below (see also Karadimas 2010). This adds a new dimension to the oft-remarked association between ritual wind instruments and menstruation in Amazonia and to the fact that women must hear but not see these instruments. What they can see is the upper-body visual counterpart of these instruments, the ornaments on men's heads. To see ornaments is the equivalent of hearing music; to see the flutes would be tantamount to seeing men's penises. The material above also suggests that this control of seeing and hearing should also be seen in the wider context of a general control over the body's apertures and their flows.

Well-Tempered Apertures

In the figure of Yuruparí we find a character pitched between two extremes. He is "male" yet "female" in his openness, the counterpart of the "female" deities who act as cigar-blowing, fertilizing "men." He also moves between quiescent closure and terrifying openness accompanied by flowing noise and hair, flooding water, and cannibalistic behavior. The sweet, restrained sounds of Yuruparí flutes and the bellowing roar that pours from open-mouthed trumpets embody these extremes in musical and organological form. Between flute and trumpet lies the whole of life.

Like deities in myth, Northwest Amazonian newborn children are effectively sexless and genderless but soon receive a name from the clan's stock of names. The clan is at once the flute-bone body of a single, named ancestor and also many bodies, this ancestor's children, their names, and their flutes. The name the child receives, the name of an ancestor and of clan members past and present, shares this dual quality. The name and its accompanying spells determine the child's growth and development and its future as a talented adult—a potter, manioc cultivator, and producer of beer in the case of a girl, or a hunter, dancer, or shaman in the case of a boy.

Fetches from a downriver transformation house, the name repeats the journey of the Anaconda-Canoe who swam upriver against the west–east, top–bottom flow of the universe/house/body to de-totalize his body in vomiting his cargo of people, who then emerged through a hole in the rocks like babies at birth. It is only too easy to read all this in terms of bodily functions—but, as noted above, such metaphors work both ways round.

The body of a woman giving birth is in a maximum state of openness. Her child, an extension of her body, a tube previously within her tube and attached to her by a tube, shares her open state—children are super leaky and prone to lose body fluids and souls. To close them up, shamans blow tobacco on their fontanels while mothers splash water on their heads and bodies and paint them to make them invisible to the penetrating eyes and bodies of spirits. But a balance must be struck. Were this closing to be overdone, the child would not eat, grow, learn to speak, heed its parent's advice, nor would it begin to work, to make things, or to dance and sing.

For children of both sexes, the rituals and restrictions of puberty are a process of sexing and further gendering, a controlled opening of orifices and tempering of their flows. People who have any voluntary or involuntary contact with spirit-ancestors risk a state of excessive openness (*wisiose*), where vomiting, diarrhea, and sweating can drain the victim's strength and vitality until they die. This vertical draining fits with wider Tukanoan ideas about the constitution of the individual body and its fractal, contained relation to the lineal, tube-like body of the clan. The chronic instability of a body in constant risk of lateral or horizontal transformation into animal or spirit, so often reported regarding other parts of Amazonia, plays a relatively minor role in Tukanoan mythology and is rarely mentioned in daily life.¹⁵

If openness is risky, it is also necessary for attaining adulthood—and not just because adults have sex and reproduce. Adults must be open because they must see, hear, and talk to be competent at all. They must also be open because the manual, verbal, and musical skills that make up their personalities, reputation, and capacity to exchange with others require openness. However, as the Yuruparí story indicates, excessive, uncontrolled openness can be dangerous, destructive, and poisonous. To control and channel the potentially dangerous opening of the body, attention is focused on its entries and exits: by seclusion in a trap-like compartment—enclosure in a tube; by hair cutting—a regulation of flow; by verbal counseling—through the ears; by verbal spells—blown into food and eaten through the mouth; by strict bodily discipline—not looking at the sun or at people and avoiding their gaze; and by a strict diet that avoids signs of openness or excess—eating small mouthfuls from a stick, avoiding animals or fish with evident blood, and abstaining from cooked food smelling of roasted fat.

A number of factors, including their talkativeness, attractiveness to men, and that menstruation and childbirth appear to *happen to* them all seem to suggest that women are, “by nature,” what Gordon (2004:3) calls “leaky vessels.” Hence the “perfect” woman in the Yuruparí story mentioned above—verbally, visually, and sexually continent. By contrast, the opening of young boys requires human intervention. Traditionally boys had their ear lobes and nasal septa pierced for the insertion of tubular cane plugs. At the beginning of time, Ayawa, Yuruparí in another guise, hummed loudly, twirled his patterned earplug and used his breath to create the hair-whorl on the crown of the head, expanding the space of the world as he did so (Trupp 1977:31). The association between hair, hair-whorl, fontanel, ear-piercing, and the bleeding that the latter causes would suggest that piercing the ears is an upper-body equivalent of menstruation, another facet of the male menstruation associated with initiation and Yuruparí instruments. With plugs in his pierced earlobes and down in his ear holes, a newly initiated young man is ready for insemination with the music and ritual knowledge that senior men will pass to him.

Attention to flow from the upper body is reinforced by the initiate's obligation to rise and vomit water at the river before dawn, an act sometimes accompanied by a flow of water vomited onto his head from the mouths of flutes held by senior men. Bathing and vomiting counteract the laziness associated with menstruation—it was because a lazy son failed to rise early and vomit that his sisters got hold of the flutes and men began to menstruate.

Following initiation, young men begin to chant, sing, and wear ornaments on their heads, activities that all reinforce this upper-body flow. But not too much: initiates eat only small morsels held on a toothpick and must cover their mouths as they eat and when adult men chant they hold a tubular fist over their mouth to direct their breath and speech and moderate their open body. A woman can see and should admire the ornaments on a man's head, but she should see neither his flute nor his penis. Likewise, a man will see and admire the hair on a woman's head, but he should not see her pubic hair, her vagina, or blood and infants emerging from there.

The opening of the initiate's head and upper body contrasts with a more balanced approach to his lower half. When he is first shown the flutes, these are blown over his penis and he is beaten with whips that mark and pierce his skin. From neck down, his body is covered with a uniform coating of black skin dye with no color, no design, and, by implication, no sound. The dye closes the entry and exit points in his skin and joints, rendering his body impervious and invisible to spirits. During rituals in later life, his joints will remain the same uniform black but the areas between are now painted with designs that replicate the weaving of a tipiti. Like the patterned, porous Yurupari, he, too, is now like a tipiti.

Menarche for girls and initiation for boys are followed by extended periods of seclusion in special compartments. As time passes, elder men teach boys to make baskets whilst adult women teach girls to make pots. Girls also learn to make beer, spitting out its chewed, starchy substrate to make a product that will later be vomited out from the mouths of men. Advice flows into these novice's ears as crafted objects flow from their hands and fingers and when their seclusion is over girls and boys present their pots and baskets to cross-sex ritual partners who prefigure their future spouses.

The Baniwa once exchanged their exquisite, painted pottery alongside gifts of beer during rituals of ceremonial exchange between affinal groups (Journet 1995:262–3). My guess would be that these pots were exchanged against baskets, as Tukanoans still exchange fish for meat and feather ornaments for bamboo stamping tubes. Between clans, tubular goods flow back and forth in tandem with the flow of sisters and daughters who provide their husbands with a flow of children.

The seclusion, dieting, and other restrictions that accompany this adolescent training add up to a careful control of body apertures and moderation of their flows. Much the same control and moderation accompanies the learning and execution of any craft or productive activity, not only the making of artifacts but also hunting, fishing, chanting, singing, and dancing and the processes involved in the procreation and fabrication of whole persons—infants, children, and adolescents. Lévi-Strauss (1988) may well be right to highlight the analogies that make potters jealous and render making pots (closed tubes) incompatible with menstruation (open tube). However, the restrictions and control that apply to pot making also apply when men make baskets (porous tubes) and even more so when they make feather ornaments, an activity marked by the same restrictions as menstruation. The same seclusion, dieting, and restrictions on behavior apply to such a diverse range of productive activities that the common denominator cannot lie solely in an analogical relation between personal condition and product. I suggest that it also lies in the idea of flow, in production and products as indices of flow, and in the self-making that comes from the making of things.¹⁶

4. Synesthesia: Vision and Hearing

The body of Yurupari that encompasses open/closed, male/female, young/old, and fish/bird is also a porous body that emits a stream of music and body hair, two manifestations of the same stuff—*b/air*. I now turn to consider in detail this transformational, fungible relation between music and colored ornament, sound and light.

Strictly defined, synesthesia is relatively uncommon but, loosely understood, it is an everyday experience. The brain combines information from different sensory inputs; we talk of “chromatic scales,” “noisome smells,” “colorful speech and music,” and the “rhythm” of visual designs; we take for granted the interplay between speech, facial expression, and gesture in conversation and exploit them to the full in theater, cinema, and ritual. We also tend to forget that the idea of music, especially instrumental music, as something separate from song, dance, and visual display, is of relatively recent origin and foreign to Amazonian peoples.

Synesthesia is relevant here in three interlinked ways: Firstly, in the interplay of different senses evident in Northwest Amazonian ritual, where song, dance, and instrumental music combine with the strong tastes of beer and yagé, the smells of tobacco smoke, beeswax, incense, and aromatic herbs, and the pain of whipping; secondly, in the oft-remarked transposability between music or song, on the one hand, and graphic designs, weaving patterns, body decoration, masks, and other artifacts throughout Amazonia (an area where, as Severi [2014:46] observes, “synesthesia is everywhere”¹⁷), on the other; and thirdly, in the explicit separation of the senses in rituals involving musical instruments that women must *hear* but must not *see*.

Implicit in Yuruparí's musical, hairy body is an indigenous theory of the relation between sound and light, hearing and seeing, or music and pattern. This theory is made explicit in the story of Yagé presented below and is directly related to the sensations that men experience as they drink yagé in the context of rituals that are explicitly orchestrated to produce synesthesia *sensu stricto*. The stories of Yuruparí and Yagé both suggest that sound and color are fungible transformations of the same kind of stuff—*b/air* that is all of blood, hair, ornament, breath, energy, vitality, and “soul” or “spirit.”

For Upper Rio Negro peoples, birds and fish are prime exemplars of combined sound and color, their body parts and behavior providing materials and models for ritual. A major concern of these rituals is the coordination and integration of the human life cycle and annual round with various astronomical, seasonal, and ecological cycles marked by the reproductive behavior of birds and fish.

Birds are the prototypes of all wind instruments. Yuruparí instruments, called *minia* (“birds, pets”), were originally colored birds in a cage, and only took on avian form when discovered by women (Fulop 2009:107). The striking songs and mating displays of birds provide explicit prototypes for Tukanoan dance festivals. Dancing is compared to flying, with several dance-songs relating to myths about bird flight and with choreography modeled on the wheeling, soaring flight of wood ibises and some of the dance steps that accompany Yuruparí flute music named after bird displays. In addition, with their engraved designs, feather ornamentation and dancing players, Yuruparí flutes are not merely musical instruments but also instruments of visual display.

These links between sound and vision, between song and dance, are also material. Dance ornaments are made mainly from colored feathers but also incorporate animal fur, bones, and teeth. As we have seen, these are visual icons of animal sounds and other behavioral characteristics that adhere to a dancer's body along with the ankle rattles and elbow bracelets with hanging snail shells and beetle elytra that clash and tinkle as he sings.

Dance ornaments also share the association between Yuruparí instruments and menstruation, generically because menstruation and bird molting are considered to be the same process and specifically because the spectacular white plumes that egrets molt after breeding are incorporated into flowing panaches that form a key component of the ornaments worn on the head. Ideally, the woven base of these panaches incorporates hair shorn from the heads of young girls at menarche.

Egret plumes have specific associations with the rainy season and exemplify a more general link between *b/air* and a series of analogous seasonal or temporal states of transformation, rejuvenation, and periodicity indicated by the term *gamo* (f.)/*gamü* (m.). This term applies to molting birds, skin-shedding snakes and insects, animals in estrous, menstruating women, and boys undergoing initiation rituals, all states that share in common a detachment of blood, skin, hair, or feathers from the body. At puberty, both sexes have their hair shorn and are painted with black dye whose slow disappearance marks a change of skin.

As explained above, the sight of hair causes women to menstruate—just as men are said to menstruate when they see and hear the sounds of hirsute, feather-ornamented flutes.¹⁸ Dimitri Karadimas's (2010:25) observation that “hair is the visible aspect or part of an invisible blood or the exteriorization of an internal blood, an *extruda* of the body and person” captures the simultaneously internal/external, contained/container quality of *b/air*.

The connection between birds and flutes suggests equivalence, in the mode of moderation, between birdsong, melodious flute music, and feather ornaments, the latter a form of male soul-stuff or semen. Yuruparí's wide-open body that exudes sound, hair, and smell suggests a further equivalence, this time in the mode of excess, between the loud, raucous, threatening noise of trumpets, body hair, and flowing blood, the “female” counterpart of semen.¹⁹ This contrast between Yuruparí in modes of excess and moderation is well illustrated by two drawings of him, the former by a Baniwa shaman's apprentice and the latter by a Desana artist (Figure 6).

In sum, sound and color, seeing and hearing, are inextricably linked in the human and avian worlds. Birds are color, sound, and movement just as ritual aerophones are birds, as rituals involve music, song, dance, body-paint, and ornament, and as the word *basa* means all of instrumental music, song, and dance.



Figure 6. *Above*, Yuruparí as aggressive sloth-jaguar (Wright 2015); *below*, Yuruparí as musical dancer (Luiz Lana)

Much of this also applies to aquatic fish, the counterparts of celestial birds, as creatures who share birds' gregarious behavior and opposition to terrestrial human beings. When the rainy season changes to summer, flocks of migrating birds first appear then disappear again, returning to where they came from in the form of fish (Figure 7). As the rains begin and the waters rise again, shoals of aracú fish swim upriver to spawn in the flooded forests. Their black and red breeding colors are their body paint, their swirling movements and loud rumbling noises their dances, and the rains their beer.



Figure 7. Migrating birds become fish (Juvêncio Cardoso/Adelson Lopes da Silva/Instituto Socioambiental)

This cyclical alternation between fish and birds provides a model for the human life cycle. In the Tukanoan origin myth, humans start as birds, then swim upriver as fish-ornaments inside an Anaconda-Canoe. As adults, they spend their time on earth as bird-like beings in a round of ornamented song and dance, ending their days buried along with their ornaments to return downstream to begin the cycle anew.

Like birds, fish are intimately connected with flutes and trumpets and directly identified with them. Stored underwater, these instruments are fish and anacondas in rivers—tubes within tubes. Fish have internal, tubular swim bladders, and it was a tubular, big-mouthed jacundá fish who pierced the vagina of Yurupari's mother, allowing her to give birth and who told women how to play the flutes they stole. Likewise, the Baniwa use *kulirrina* catfish trumpets with broad mouths and striking black-on-white designs (body paint) in their ceremonial exchanges of food. The sound of these trumpets imitates the sound of spawning

catfish; their dances are named after aracú species and, overall, they mediate an analogy between the spawning of fish and human reproduction, song, and dance (Hill 2011a; Journet 2011). These and other associations link birds and fish together as creatures of inseparable color, movement, and sound, a quality they share with human beings and their Yuruparí.

Despite this co-presence of sound, color, and design, discussions of ritual aerophones often make relatively little of the instruments' visual dimension, focusing instead on the contrast between men who both see and hear the instruments and women who only hear them. Jean-Michel Beudet (2011:376) is the sole author in the Hill and Chaumeil (2011) volume to draw explicit attention to the nonsonorous (visual, motor, verbal, olfactory) dimensions of Amerindian music and to the nonvisual, nonmotor elements (sonorous, verbal, olfactory) of choreographic systems. Beudet (2011:374) also suggests that women not seeing flutes should be set in the wider context of other things that men and women do or do not do. Men, who play aerophones, do not grate manioc; women grate manioc, make beer, and sing songs but never play aerophones.

We can take this suggestion further in the light of my discussion above, for another thing women do not do is wear feather ornaments; the only exceptions known to me are the Enawenê-nawê's Kateoko ritual (Nahum Claudel 2018:115) and the Xinguano Yamurikuma where women wearing ornaments and enacting the story of their unruly sisters' theft of flutes sing songs that are verbal counterparts of men's flute music (Mello 2011; Franchetto and Montagnani 2012). Quoting Viveiros de Castro, Ulrike Prinz (2011:289) suggests that men's flute music and women's song and dance both "activate the powers of a different body." In the Tukanoan case, the power activated by men's flutes and ornaments is also the power of the blood signaled by women's flowing hair. But here flutes are under ritual control. In menstruating, women also "play flutes" and "wear ornaments" but in a manner beyond their control. For Tukanoan women to wear feather ornaments or play flutes would be wholly unruly, at once out of male ritual control, a usurpation of the hierarchical order embodied in the everted/inverted and upper body/lower body contrasts discussed above, and a dangerous form of excess—upper-body *b/air* piled upon *b/air* from below.

The Story of Yagé

The linkage of music, ornament, and design with female blood lies at the heart of the story of Yagé, a story that is, in effect, a concise statement of the Tukanoan theory of synesthesia. Let us see how.

Yagé is intensely bitter, so you drink it with copious draughts of beer. Once swallowed, you begin to experience vivid sounds, colors, patterns, smells, and bodily movements that run together as each sensation triggers others. You also vomit copiously. The effects are reinforced by your surroundings. Typically, you are one in a line of dancers, each dressed in the same colored, sound-producing ornaments and sweet-smelling herbs, who sing, dance, chant, and play musical instruments in unison as a single body, an instantiation of the Anaconda-Canoe with its linear, human cargo. There will also be other groups of men who chant, dance with panpipes, play solo wind instruments or talk and joke with loud peals of ritual laughter, the assembled company working themselves into the state of collective euphoria. Simultaneous sound production and dense walls of sound are characteristic features of lowland South American music.²⁰ Here they are also part of a more general pattern of ritualized totalization.

Dancing is a specialized craft, and the figure of the dancer, dressed and singing in unison with others as part of a single body, is the prime aesthetic artifact of the Tukanoan world, a hyper-form who moves between different scales of space and time. Ornament, song, and movement amplify the dancers' bodies and presence and amplify space in which they dance. As they dance back and forth round the four central posts of the maloca, in and out of sight and earshot, their songs fill the air as their feet trace out the meandering, zigzag patterns of basketry.

The increase in scale has several dimensions. At one extreme, the dancer incarnates the totalizing figure of Yuruparí with the cosmic expansion of the world vividly portrayed in stories about Yuruparí, the women's theft of his instruments, and the origin of night.²¹ At the other extreme, the developing skills of an individual dancer can fuel a growing reputation as a *baya*, the specialist dancer whose memory lasts across generations. Between these two extremes lie all the economic, political, and social dimensions of Upper Rio Negro ritual.

Condensation of the senses and expansion of scale is encapsulated in the body and person of Yagé. Yagé is Yuruparí in another guise, the former more on the side of color and light, the latter on the side of sound. Sometimes Yagé and Yuruparí figure as the twin children of twin sisters vomited up by two Thunder brothers, but they are also distinguished by their mothers' difference in age and by the different substances that impregnated them—fruit juice/cigar smoke versus coca or yellow versus red body paint.

Without vaginas, these twin mothers were as yet like the men who gave birth by vomiting. They first had to be cut open, an act that brought human mortality as the inexorable correlate of the sex and new form of childbirth the vagina made possible. At the same time, men were told that they should see neither the resulting cut in women's bodies nor what came out from it.

Yagé was born during a Yuruparí rite. Prior to his birth, a shaman painted his mother's body red and laid down sieves and mats decorated with white duck down and woven designs. The birth taking place on the mats also caused the designs to appear, while the men sharing in the mother's birth pains and sweating experienced these as the patterns, colors and sounds that yagé inspires. Today shamans invoke the names of basketry designs to guide men's yagé experience and to diminish the pains of women's labor.

The birth-blood flooding the house was at once yagé, the effects of yagé, and all the visual and acoustic effects of Tukanoan ritual. Yagé's umbilical cord gave rise to brightly colored snakes, while his placenta became the woven ceremonial shield that is paired with the rattle lance. The blood and cord also gave rise to especially potent varieties of yagé—as Yuruparí's blood gave rise to the Baniwa's potent parica snuff.

The effects of Yagé now set in motion a cascading process of differentiation. The animal spirits at the rite decorated themselves with different ornaments and paint, played different musical instruments, and sang different dance songs, and some ate their tails. Today there are different animals with different colors and cries, some of them lacking tails. At the same time, a deity used a pointed cigar holder to turn some of the men into women so sex could begin.

The newborn baby was a bundle of yagé vines, and his loud cries caused yet more hallucinations. Taking the baby from his mother, the men pulled his body apart, distributing his arms, legs, and fingers to each Tukanoan group as the yagé vines they own and use today. [Compare Yuruparí's loud cries, the dismemberment of his body, and distribution of his bones as flutes. Flutes are to yagé vines as bones are to marrow.]

The dismemberment and distribution of Yagé precipitated a further chain of differentiation, from continuity to discontinuity and expansion from micro- to macrospace. Life became different from death, night from day, animals from humans, humans from each other, and men from women, and the undifferentiated senses in Yagé's cries and his mother's blood now separated out as hearing and vision. Song became different from design and ornament, human language became different from the music spoken by Yuruparí and spirit ancestors, and human languages became different from each other. Speaking in different languages, the brothers in the Anaconda-Canoe, the sons of one Anaconda father, now addressed each other as "brother-in-law" so sex and marriage, affinity, and exogamy could now all commence.

Bound up in this story of de-totalization and expansion of undifferentiated space, time, and sensation is a theory of the relation between light and sound, seeing and hearing, appearance and speech, color and music. Read backwards to the still-totalized body of Yagé, this is a theory of synesthesia and of sensations as flow and substance. Like the music and hair flowing from Yuruparí's body, the story implies that colors, patterns, designs, language, music, and song are the same kind of stuff, substances that derive from the emergence of a child and a flow of blood from Yagé-mother's body. These substances are now *h/air*, the soul-charged breath, song, flute music, ornament, and the vomited beer and yagé that flow from the mouths and heads of dancers.

The play between totalization and de-totalization, the cosmic and the mundane apparent in the story of Yagé can also be seen in the figure of the dancer. On an everyday, human scale, flows from the dancer's body—his appearance and what he says, does, and produces—are subject to constant appraisal by others. Working backward from here, with rattles on his legs, maraca or stamping tube in hand, dressed in ornaments of feather, teeth, and bone, and dancing in a line of fellow dancers dressed and singing as he does, the dancer is now well on his way toward totalization. Yet further back along this path is the dancer who plays a Yuruparí

flute. Now there is not much difference between him and his instrument, for the flute is an extension of his throat and breath, it is ornamented and painted as he is and, like him, it is fed coca, beer, and snuff. As the man blows, the flute takes up his song, the same song that once leaked from the body of Yuruparí along with the hair that now sprouts as feather ornaments on the flute player's head.

The player of a Yuruparí flute is a fractal figure, simultaneously a totalized instantiation of Yuruparí and a de-totalized part of Yuruparí's body, both tube and sub-tube, or body and finger. He is at once the future ancestor of his own descendants, some of whom will bear his name, and the descendant of a past ancestor whose name he bears. In their flute rituals, the men of a clan repeat this play of scale. They gather together as one to remember their origins in the single body of their ancestor, a body they reassemble as the flutes and trumpets that give this ancestor voice.

Conclusion

From the above we can conclude that what I have been calling the *tube* corresponds quite closely with the indigenous Yuruparí or Kuwai. But these figures, in their guises as person, palm, bone, and wind instrument, are merely particular, tangible signs or indices of the *tube* as idea or concept. This has no particular meaning. It is, rather, something that organizes life and allows reflection on it. The stories I have summarized may guide this reflection, but there is no correct interpretation, only points of view that recast one myth or body of ethnographic information in terms of another. My aim here is not to judge the merits of other interpretations of rituals involving special wind instruments. Instead, in analyzing the *tube*, I have tried to cast these issues in a fresh light.

The implications of that presented here are that the Yuruparí mythology and rituals of Northwest Amazonia (and perhaps other similar lowland South American myths and rituals) may be predicated upon a body different from the post-Enlightenment version we tend to take for granted. This different body goes together with an understanding of sound and light or hearing and vision that differs from the sound and light we also take for granted.

In order to characterize this different body, I have used two key concepts, *tube* and *h/air*, both of them midway between ethnographic data and philosophical abstraction, relating them to Laqueur's (1990) one-sex, two-gender model of the body and Gordon's (2004) discussion of the links between song, blood, and other bodily emissions, both derived from classical authors. I suggest that these points in common between the ideas of pre-Enlightenment Europeans and Northwest Amazonians are less surprising than they might seem at first sight. This is because the body is so very obviously made up of different tubes and because analogies between these tubes and their flows spring readily to mind. These analogies provide ready-made templates for understanding other physiological, psychological, sociological, and cosmological phenomena, with further analogies feeding back and forth between the body and the social order. What is seen in the bodies of men and women is often less a matter of anatomy than a reflection of what is already known to be true of their social positions.

Some of all this is what Lévi-Strauss has in mind in referring to a "philosophy of the digestive tube." But, as suggested earlier, Lévi-Strauss's discussion of this philosophy suffers from several limitations. One has to do with his focus on an artificially narrow range of bodily and artifactual tubes and his choice of the digestive tube and blowgun as linked exemplars of the philosophy in question, part-products of the sub-Andean mythology that forms the principal focus of his study. Had he paid greater attention to the mythology of Northwest Amazonia, he might have chosen the flute instead of the blowgun as the exemplification of a philosophy concerned not solely with the digestive tube but with the *tube* in general. Allied to this, and perhaps most crucially, he would have paid more attention to music, a subject prominent in his other writings but one that figures hardly at all in a work that explicitly analyzes tubes.

In this essay I have been particularly concerned with exploring the role of music in the philosophy of the *tube* and the relevance of this philosophy for an understanding of Amazonian musical ritual. In recent work on this topic, relations between women's song and men's flute music and between music and nonmusical forms such as basketry designs, body painting, masks, ornamentation, dance, etc. are often discussed in terms of "translation,"

“semiosis,” “code,” and “sign,” terms that point to modern concerns with mind and meaning.²²

Whilst full discussion is beyond the scope of this already-long essay, tentatively I want to suggest that the story of Yagé and my discussion of *h/air* might put these issues in a different light by pointing to flows, fungible substances, and body tubes as alternative idioms for thinking about song, music, and ornament. In a recent paper, Harry Walker (2018) discusses the Urarina practice of ingesting healing songs or chants sung over milk or other liquids as a critique of our common-sense view of language. In this view, words are not things but rather signs that stand for things, whereas Urarina tend to see speech not as an immaterial representation of substance but instead as a kind of material substance itself. Rejecting the notion of any single Urarina or Western ideology of language, Walker stresses the relevance of context—for Urarina, language is most substance-like in the context of healing. It would seem to me that in the similar contexts of Northwest Amazonian ritual and mythology this critique of a common-sense view of speech and language might also extend to music and ornamentation, and even to pattern and design. The burden of the story of Yagé is that these are like substances, blood in another form, stuff that is imbibed when yagé is drunk.

This is consistent with the classical views of the body discussed above and also closer to the Northwest Amazonian world, where sighting through a blowgun is likened to bodily travel through a tube, where the sound produced by Yuruparí trumpets is felt as a force that shakes one’s guts and bones, where the sounds of flutes and bursting fruit can penetrate and fertilize the bodies of women, and where, as among the Urarina, words are routinely eaten and incorporated into the body in the form of protective spells blown on food.

The conclusion of this case study is that to better understand Northwest Amazonian musical ritual we may sometimes need to step inside a different body, breathe a different air, and see colors and hear sounds from the perspective of the *tube*. Renaissance analogies may help us take this step.

This leads me to a final sociological observation. The elaborated version of *tube* thinking outlined above is part and parcel of a form of mythology and society particular to the peoples of the Upper Rio Negro. This is implicit in Lévi-Strauss’s (1973:271–2) intuition that this mythology belongs to a sophisticated and self-reflective priestly society. It is also the mythology of patrilineal clans, structurally because it concerns the fractal self-replication that characterizes the clan as a house (see S. Hugh-Jones 1995), politically because particular versions of the mythology serve to justify relative rank between different clans, and because the objects of which it talks and the spells that derive from it are prestige goods and closely guarded secret knowledge that make up the clan’s soul and vitality.

The story of the de-totalization of Yagé makes clear that Tukanoan social order is founded on difference, with exogamy predicated upon differences of gender, language, and clan. But exogamy and gender present a problem. Instead of each man or clan acting as an autonomous and self-sufficient tube that vomits new versions of the self from its own interior, in order to reproduce, men depend on wives and mothers as clans depend on affines: each must first be contained within and pass through the tube of an alien, affinal Other. The story of the theft of Yuruparí instruments tells us that it is Women, portrayed as enemies, who represent these Others in their pure form. The process of sexual reproduction and the flows of blood and infants from the lower body is the obvious model for this enchainment of affinal tubes with women’s bodies as its principle sign—you pass through our women as we pass through yours. The self-replicating, androgynous, tubular deities vomiting their offspring from their mouths represent the antithesis of sexual reproduction with ornamented, flute-playing dancers their re-totalized, living avatars.

Notes

¹ In her critique of Laqueur’s (1990) thesis that a shift from a one-sex/two-genders model of the body to a two-sexes/two-genders model marks the transition to modernity, Helen King (2013) demonstrates that both models co-existed in classical times. In drawing on Laqueur, I do not wish to suggest that Amerindians imagine the body exclusively in terms of a one-sex model but only that it has relevance to the mythological and ritual contexts that are my primary concern here. I am grateful to Prof. Geoffrey Lloyd for drawing my attention to King’s critique.

- ² *h/air* underlines connotations of breath, wind, and flow versus the concreteness of “hair.”
- ³ See especially S. Hugh-Jones 1979, 2001, 2009, 2013.
- ⁴ Here Beaudet 2011 stands out as an exception.
- ⁵ See C. Hugh-Jones 1979; S. Hugh-Jones 1995.
- ⁶ Indigenous terms are given in Barasana.
- ⁷ On palm leaves as hair/feathers see S. Hugh-Jones 2015.
- ⁸ Tree fruit are *hee rikaa*, “Yuruparí fruit.” *Rikaa* “fruit” is a cognate with *rika* “branch” or “arm.”
- ⁹ See Hill 2009b, 2011b and Wright 2009.
- ¹⁰ See the image of flutes and trumpets corresponding to parts of Yuruparí’s body in Wright 2015:142.
- ¹¹ The hirsute appearance of the piaçaba palm (*Leopoldinia piassaba*) may be one prototype of Yuruparí’s hairy body. “Piaçaba” translates as “hair emerging from the heart of tree” (Meira 2017:129).
- ¹² See also Rahman 2015.
- ¹³ The Tukanoan Anaconda-Canoe story also rests on analogies with beer making, insemination by chewing and spitting out manioc pulp, gestation in a canoe-like beer trough, and vomiting beer. See S. Hugh-Jones 2018.
- ¹⁴ Tukanoan women are even prohibited from whistling.
- ¹⁵ On such lateral transformation see, e.g., Vilaça 2011:247.
- ¹⁶ See also Oliveira 2015:356.
- ¹⁷ See also Barcelos Neto 2013, 2016.
- ¹⁸ In addition to ornamentation, the mouthpieces of flutes are associated with pubic hair.
- ¹⁹ More succinctly, this would be the equivalence between din and stench (Lévi-Strauss 1973:361ff). Note also the two-sided character of Yuruparí and his mother, both creator-sources of poison on the side of excess.
- ²⁰ See Menezes Bastos 2007; Beaudet 1997.
- ²¹ See S. Hugh-Jones 2015.
- ²² On intersemiotic translation in ritual, see Menezes Bastos 2007, 2013; on women’s songs as translations or transformations of men’s flute music, see Mello 2011 and Franchetto and Montagnani 2012. Carlo Severi (2014) suggests “transmutation” as an alternative to “translation,” but his discussion is still phrased in terms of semiosis and signs. I am grateful to an anonymous reviewer for drawing my attention to these and other works.

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