

SEDSU



Stages in the Evolution and
Development of Sign Use

Where is Time?

Evidence from an Amazonian language and culture

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A Mayan riddle

- Q: What is a man on the road?

• TIME

Where (and What) is Time ?

- Is Time a dimension of the physical universe, or in other words, is everything in the physical universe, without exception, located in space and time?
- Is Time everywhere the same, does “Time’s Arrow” travel at the same rate everywhere, unidirectionally, does the Universe “really” have an age?
- Can Time be said to exist independently of an Experienter or Observer?

Time in Life

- There seems to be no inherent directionality in many physical processes
- But Time does seem to be implicated in ordering processes (the toothpaste and the tube)
- In the realm of biology, Time's arrow is unidirectional and irreversible. Time is essential for understanding phylogenesis, ontogenesis, epigenesis --- and death

Time in Mind

- Time is part of the Experiential, Phenomenal Life-World
- It has at least 2 fundamental perceptible aspects:
 - Duration
 - Sequential order, both between and within EVENTS

Events and their location

- Objects are located in space, and endure, however fleetingly, in Time. They have properties like mass and energy.
- Events are located in Time, as well as space, having properties of duration and succession
- We employ temporal Landmarks to orient ourselves in Time, just as we employ spatial Landmarks for spatial orientation

Language, space, time

- Spatial Landmarks: The table, the room, the sun
- Temporal landmarks: Today, yesterday, Monday, 19th October, Graduation Day, My Birthday, my Wedding Day etc
- Temporal duration words: seconds, minutes, hours, but also: long, short.



MEDELTIDSURET
DOMKYRKAN LUND

Is the Concept of Time Universal?

- Temporal landmarks and duration words are conventional and culturally-historically constituted. Clocks and calendars are human inventions.
- Even if all humans, trans-culturally, experience Time, Concepts of Time vary.
- But is there a Universal Cognitive Domain of Time, analagously to Space? Do all humans structure this domain similarly?

The conceptual mapping of space and motion to time: linguistic evidence

- The recruitment of locative words and constructions to express temporal relationships in language is widespread
- The following examples are from English but are typical of Indo-European languages
- The weekend is **coming**
- The summer has **gone by**
- He worked **through** the night
- The party is **on** Friday
- He is **coming up to** retirement
- I am **going to** get up early tomorrow

Conceptual schemas proposed to organize space-time analogies

- Experiencer moving through a time-landscape
(Moving Ego)
- Events moving past the experiencer in a time-landscape
(Moving Time)
- The future located in front of the experiencer, the past behind the experiencer in English; converse schema in Aymara (Nuñez & Sweetser) - and Ancient Greek?
- Positional Time: time as a spatialized sequence of events like beads on a string (before/after constructions, grammaticalized time)

Can this be upheld as universal?

- The recruitment of spatial lexical and grammatical resources for conceptualizing time is widespread. However:
- Research into space-time analogies in language has only investigated a limited sample of languages and cultures
- Time is presupposed to be a distinct **cognitive (hence linguistic) domain** in all languages and cultures (event-independent **Time-as-Such**)
- Are space-time analogies a fact of language, or of cognition, or of culture (or all of these)?

Whorf on “Time as Such”

- The Hopi speaker “has no general notion or intuition of *time* as a smooth flowing continuum in which everything in the universe proceeds at an equal rate, out of a future, through a present, into a past; or, in which, to reverse the picture, the observer is being carried in the stream of duration continuously away from a past and into a future.” (1950: 27)

The Amondawa – who are they?

- **Amondawa:** Indigenous Group of 115 people living in the State of Rondonia (Greater Amazonia). Community was first contacted in 1986
- **Language:** Tupi Kawahib language – sub-branch of Tupi. Language description and ethnography have been conducted for more than 10 years (Sampaio and Silva Sinha)
- **Economy and Society:** Hunting, fishing, gathering, small-scale agriculture
- **Education:** All speakers are bilingual (Amondawa and Portuguese) except the 2 oldest people. The primary education is based on State Education Laws for indigenous peoples and the language of instruction is Amondawa; the school is located in the village. (Sampaio & Silva Sinha)

INDIGENOUS LANDS IN BRAZIL



Amondawa – social organization

- The social organization is based on exogamous marriage and division into two “clans” (moitiés): Mutum and Arara (kanidea). This kinship structure determines the *onomastic* (naming) practices of the group (below).





























Space and motion in Amondawa

- Tupi languages such as Amondawa employ a variety of form classes (**verbs, postpositions, adverbs**) to express locative relations and motion in space

O-ho *kuñaguera* *hea*
3s-go woman she
“The woman went out”

O-xi *kuñanguera* *hea* *tapyia* *pe*
3s-enter woman she house **POSTP.into**
“The woman went into the house”

Wiña ura *wi* *jawara* *i-hem* *hua*
That **ADV.inside** **POSTP.out of** dog **3s-exit** **Adv. Coming**
v. ?

“The dog came out of that [ell. House]”

Complex constructions

- Verbs of manner and motion can be combined with and without gerundivisation, but always with obligatory postposition if Ground is specified

O-hem *hea* *tapyia* *wi* *o-ñan* *hua*
3s-exit she house **POSTP.out of** **3s-run** **ADV.coming**
“She ran out of the house”

Jawara *o-hem* *o-ñan* *hua* *tapyia* *wi*
Dog **3s-exit** **3s-run** **ADV.coming** house **POSTP.out of**
“The dog came running out of the house”

O-mbaraka *hea* *o-xi-awo* *tapyia* *pe*
3s-sing she **3s-enter-GER** house **into**
“She went into the house singing”
(Lit. “she sang entering the house”)

Form classes expressing motion, path, location

1. Path conflating motion verbs

| | |
|---------------|--------------|
| <i>-ho</i> | go |
| <i>-hem</i> | exit |
| <i>-xi</i> | enter |
| <i>-jupin</i> | ascend/climb |
| <i>-jym</i> | descend |

Form classes expressing motion, path, location

2. Obligatory locative postpositions

- *pe* *at, to*
- *pupe / pype* *in, inside, into, to the inside*
- *wi* *from, out of*
- *re* *up, up in, up on, up into, up onto*
- *katy* *nearby (stative)*
- *aramo* *over, above*
- *urumõ / urymõ* *under, below, beneath*
- *pywõ* *by, past (path, dynamic)*
- *rupi* *along (a path)*

Form classes expressing motion, path, location

- 3. Optional **directional and deictic adverbs**, which can be considered as quasi-verbs, including:

| | |
|--------------|---------------------------|
| <i>ura</i> | inside the Ground |
| <i>hua</i> | coming (towards speaker) |
| <i>awowo</i> | going (away from speaker) |

Spatial location and motion in Amondawa: Summary

- This Tupi language tells us much about the adequacy of existing linguistic typologies
- There are many features that are common with other languages of the world, while other features point us towards limitations in existing categories
- But there is nothing truly “exotic”, and certainly nothing impoverished, about the conceptualization and expression in Amondawa of motion in space

Amondawa grammar and lexicon of time

- There is no abstract word meaning “time”
- Past and future are not expressed in verbal morphology (no verbal tense system)
- There exists a complex nominal aspect system
- There are only four numerals (see below)
- There are no cardinal chronologies such as:
 - ages of individuals
- There are no ordinal chronologies such as:
 - yearly or monthly calendars

Amondawa number system

- One: pe'í
- Two: monkõi
- Three: monkõiape'í *or* ape'ímonkõi
- Four: monkõiuturapei *or* monkõimeme

HOW TIME IS EXPRESSED

- Dependent morphemes or particles:
 - future *nehe, poti, poti ... nehe*;
 - past: *ki...ko, ki...i´i, emo, ramo*.
 - these morphemes also express modal, aspectual and evidential notions (intention, desire, perfectivity, continuous action, event witnessed by speaker etc.)
 - We have not fully investigated these polysemous items
- In context:
 - Ki ... ko [yesterday], *ko, koro* [today], *ko´emame* [when it is morning] tomorrow, *ko* now.

HOW TIME IS EXPRESSED 2

- Proximal Future

- T-aho koro 'i ga nehe
 Rel-3s-go now intens. he *FUT*
– he will go out (from here) just now.

- Distal Future

- kuaripe taian 'i ga nehe
 dry season arrive.intens he *FUT*
– He will arrive in the summer (dry season)
 [spoken during rainy season]

- Past

- Da-o-ur-i ki ga ko
 neg-3s-come-neg *PAST* he *PAST*
 He did not come (some minutes ago/yesterday)

The structuring of time by events and activities

- Time intervals in our culture are structured by cognitive artefacts such as calendars and watches
- These artefacts impose a quasi-static cultural model on Moving Time
- In contrast, Amondawa time is structured by events in the natural environment (seasons) and the social habitus (Bourdieu) of activities, events, kinship and life stage status
- We can diagram Amondawa time, but there is a risk of distorting it by imposing “Western” cultural schemas of cyclicity and / or linearity

Events

- Events by definition occur IN TIME
- However, the conceptualization of an event as *occurring in a temporal plane* requires a schematization of motion in a path *defined by* intervals.
- “the salt is gone”
- “the summer is gone”
- “next term is coming”
- All of these employ motion verbs, but they are *not* all temporal expressions
- How can we further determine how Amondawa culture and language structures time?

Events moving on a path, or “happenings” (appearance and disappearance) ?

Elicited expressions

(1) Oho kuara tiro
 3s-go sun now
 The sun/dry season goes

(2) akuam kuara
 Cross sun
 The sun/dry season has passed across

(3) uhum kuara
 Coming sun
 The sun/dry season is coming

Is there a “positional time” in Amondawa based on an intrinsic front-back frame of reference? (elicited expressions)

(1) Amana ako kuara renande
Rain be-moving sun in front of

The rainy season is (moving) in front of the dry season

(2) Kuara o'an amana renande
sun born rain in front of

The dry season [is] born in front of the rainy season

(3) Iputuna iwa owun ewire
night/dark coming up behind

The night is coming behind (the sun)

All these expressions involve animacy and movement

A provisional result

- Amondawa speakers will use motion verbs to talk about *motion* of objects representing time intervals
- But they are reluctant to use such verbs in true Moving Time and Moving Ego expressions
- The reason for this is *conceptual and cultural, not grammatical or semantic*

TIME INTERVALS: Seasons

- There are 2 seasons:

1- *Kuaripe* – *“in the sun”*: the dry season, time of the sun

SUBDIVISIONS:

- **O'an Kuara** - the sun is jumping up (beginning of the time of the sun, also sunrise)
- **Itywyrhim Kuara** - very hot sun; strong sun.
- **Kuara Tuin or Akyririn Amana** - Small sun (ending of the time of the sun) / The time of falling rain is near

TIME INTERVALS: Seasons

2- *Amana* – “*Rain*”: the wet season or rainy season

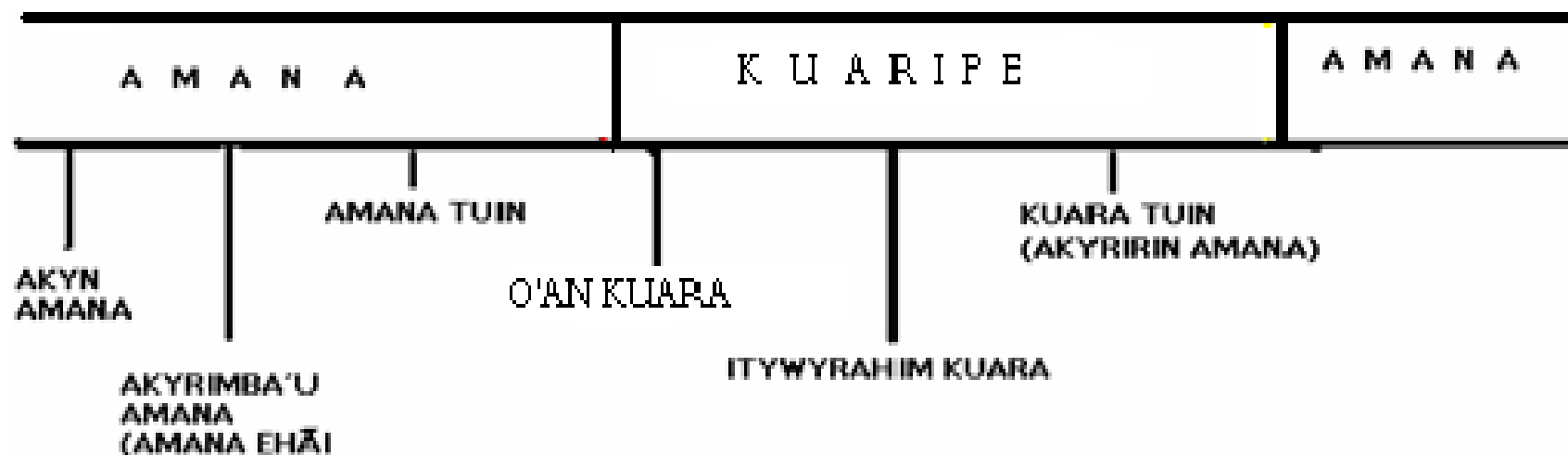
SUBDIVISION

- **Akyn Amana** - falling rain (Beginning of the time of rain)
- **Akyrimba´u Amana or Amana Ehãi** - very heavy rain or Great rain
- **Amana Tuin** - small rain (ending of the time of rain)

Seasonal “schema”

Our invention or that of the community?

Figure 2: The Amondawa Season schema



Investigating the seasonal schema in Amondawa



TIME INTERVALS: DAY

The day is divided into:

- *Ko'ema* (morning)
- *karoete* (afternoon)
- *iputunahim* (night).

The day is further divided by customary activities such as :

- time of waking
- working
- eating
- resting
- sleeping

Night is marked by the disappearance of the sun

The absence of a calendar

- The interval systems of Season and Day have sub-intervals
- There is no superordinate year
- There is no name for the week or lunar month
- There are four names for lunar phases
- There is one application of the 4-item numeral system to time intervals: enumerating moons (*probably* lunar phases)
- There is no **calendric system**

Life Stages in Amondawa: Time in the onomastic system

- Time through the lifespan:
 - *The Amondawa people change their names several times during their life time. From these names we can infer the individual's:*
 - age
 - gender
 - social position
 - moiety which they belong to

TIME INTERVALS: Life Stage

| ARARA | MUTUM | MUTUM | ARARA | |
|---------------------------|----------------------------|---------------------------------|-------------------------|--------------------|
| M | F | M | F | AGE |
| AWIP | Mbitete | Morãg | Tape | Newborn |
| Tangãe | Kuembu | Pote i | Poté | Child |
| Pure- Tebu | Kuari | Mbore i | Poti i | Teenager |
| Juvipa | Tarup | Mboraop | Kunhãte | Young adult |
| Purap Mboria Mboria | Yvaka Moarimã Mboava | Mboropo Kunhãpó kunhãjiwu | Mandei Adiwu Umby | Adult |
| Jari | Uyra | Mbore a | Mytãg | Elder |

The onomastic system: questions

- The inventory in the previous slide is incomplete
- However, the inventory of proper names is both restricted and systematic
- Is it a quasi-closed class, indicating a (minimal) grammaticalization?

Questions raised by the research

- The claim that space-time analogies are universal presupposes time-as-such as a separate, autonomous domain
- Is this possible without cognitive artefacts, for measuring time, and is it the case in all cultural contexts?
- In Amondawa, time is conceptualized in terms of events in the natural environment or the social habitus of activities, events and social structure
- Is this why time is apparently minimally grammaticalized in Amondawa?

Methodological Issue 1

Absence of evidence

- Absence of evidence is not evidence of absence
- Fieldwork methods require long term intensive investigation
- There are certainly gaps in our data and perhaps systematicities we have not noticed and analyzed

Methodological issue 2

time, norms and conventions

- “Your wife can’t make lunch at the usual time tomorrow, so she moves it forward”
- “My wife always makes lunch at *pyryrym kuara*”
- “OK, it’s me... I have to move the lunch forward.”
- “Then you are a lazy woman”

A people without time?

- The Amondawa do not have a calendric system
- There is no evidence of spontaneous Moving Ego and Moving Time constructions
- There is no evidence of spontaneous stative Positional Time constructions
- There is no grammaticalized time, no lexicon of Time as Such
- There is no evidence of conventionalized linguistic space-time mapping

On the other hand ...

- There is a complex nominal aspect system
- The Amondawa, like all human groups, are able to linguistically conceptualize inter-event relationships which are, by definition, temporal
- They lexicalize past and future in temporal deixis
- They have at least three *event-based* time interval systems
- They have cultural narratives of the collective past and mythic narratives
- They are not a “People without Time”,
Amondawa is not a “language without time”

Some Conclusions

- Time is NOT a Universal Cognitive Domain
- “Time as Such” is a cultural-historical construction
- Lacking this domain, the Amondawa do metaphorically “locate” events in it
- Their linguistic concept of time is not spatialized, although they can understand this notion cognitively.

Extended Embodiment

- The body is our general medium for having a world ... Sometimes the meaning aimed at cannot be achieved by the body's natural means; it must then build itself an instrument, and it projects thereby around itself a cultural world.

Merleau-Ponty 1962: 146.

A final thought

- To us, Amondawa Time appears strange and exotic.
- But in the “longue durée” of human history and pre-history, it is our 24/7 world of dates and deadlines that is the exception
- Small scale, face to face societies have existed far longer than technologically and socially complex societies
- We cannot make claims about “Time and the Brain” just by researching ourselves!

Thank you