

SEDSU



Stages in the Evolution and
Development of Sign Use

*Space, Time, Semiosis and Cognitive Artefacts
Evidence from an Amazonian culture and language*

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A Mayan riddle

- Q: What is a man on the road?

• TIME

OUTLINE

- The hypothesized universality of space – time analogy
- Cognitive Artefacts and Time
- The Amondawa people – who are they ?
- Time in Amondawa
 - How Time is expressed
 - Parts of the day and seasons
- Is there Time-as-Such in Amondawa?
- Issues and Conclusions

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 for 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 (“Time-as-Such”)
- Are space-time analogies a fact of language, or of cognition, or of culture (or all of these)?

Cognitive artefacts and cultural schemas

- Cognitive artefacts can be defined as those artefacts which support conceptual and symbolic processes in specific meaning domains
- Examples: notational systems, dials, calendars, compasses
- Cultural and cognitive schemas organizing e.g. time and number can be considered as *dependent* on, not just expressed by, cognitive artefacts
- Cognitive artefacts have a history: does the concept of “Time as Such” (Reified Time) also have a history?

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.



MEDELTIDSURET
DOMKYRKAN LUND

The Calendar

- Calendric systems can be considered as instruments dividing the “substance” of Time-as-Such into quantitative units
- Calendric systems have a recursive structure in which different time interval units are embedded within each other
- Calendar systems are cyclic and depend upon numeric systems

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)
- **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.

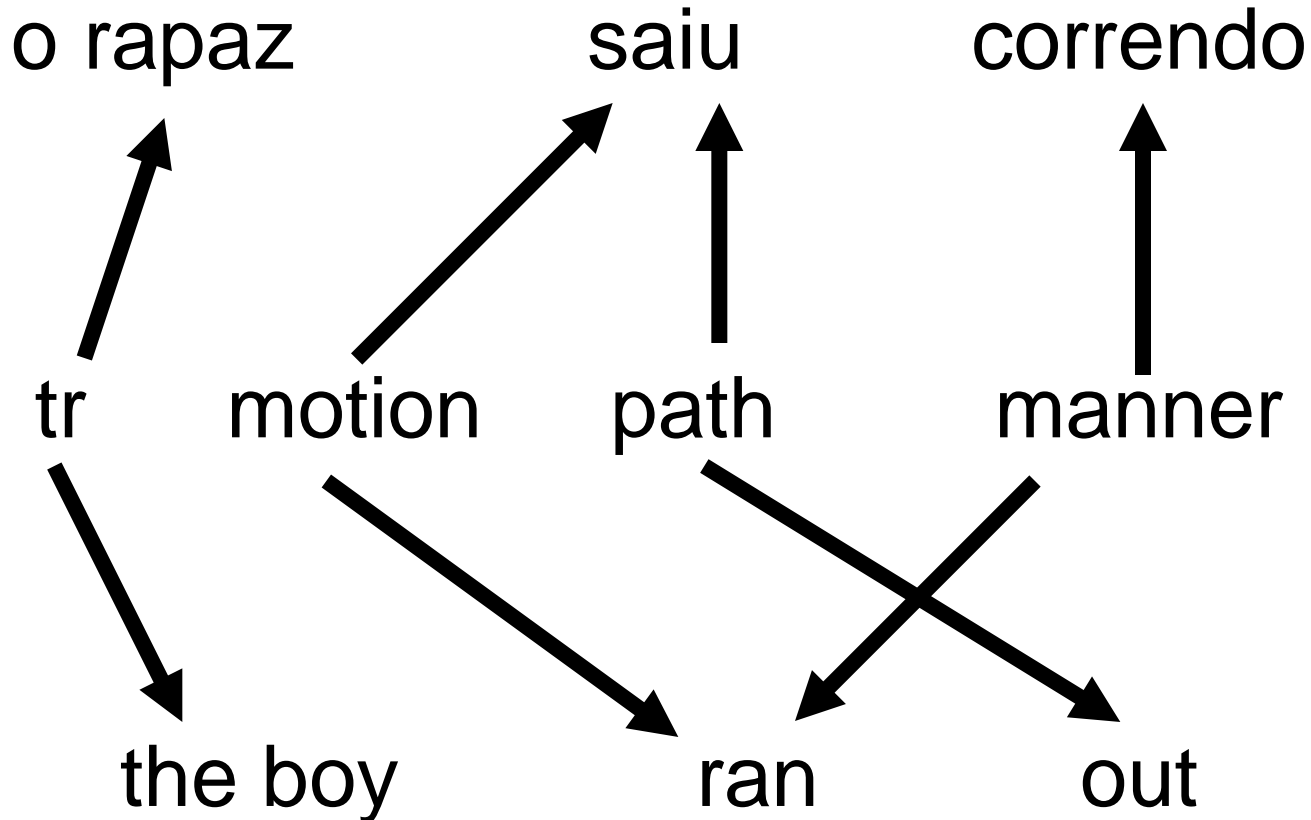








Cognitive Typology of Spatial Motion: Satellite and Verb Framed Mapping Patterns (Talmy)



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)

The Amondawa space and motion system

Sampaio, Sinha and Silva Sinha (in press)

- Amondawa regularly employs path conflating motion verbs in a wide range of construction types, and is “basically” verb-framed (Talmy)
- But it is not well characterized as a typical verb framed language, having some features of equipollent languages (Slobin, Zlatev) (serial and multi-verb constructions) and a strong preference for Landmark specification
- Amondawa has a profile of highly distributed spatial semantics (Sinha and Kuteva) with high Path specification
- This Tupi language tells us much about the adequacy of existing cognitive typologies, 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)

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

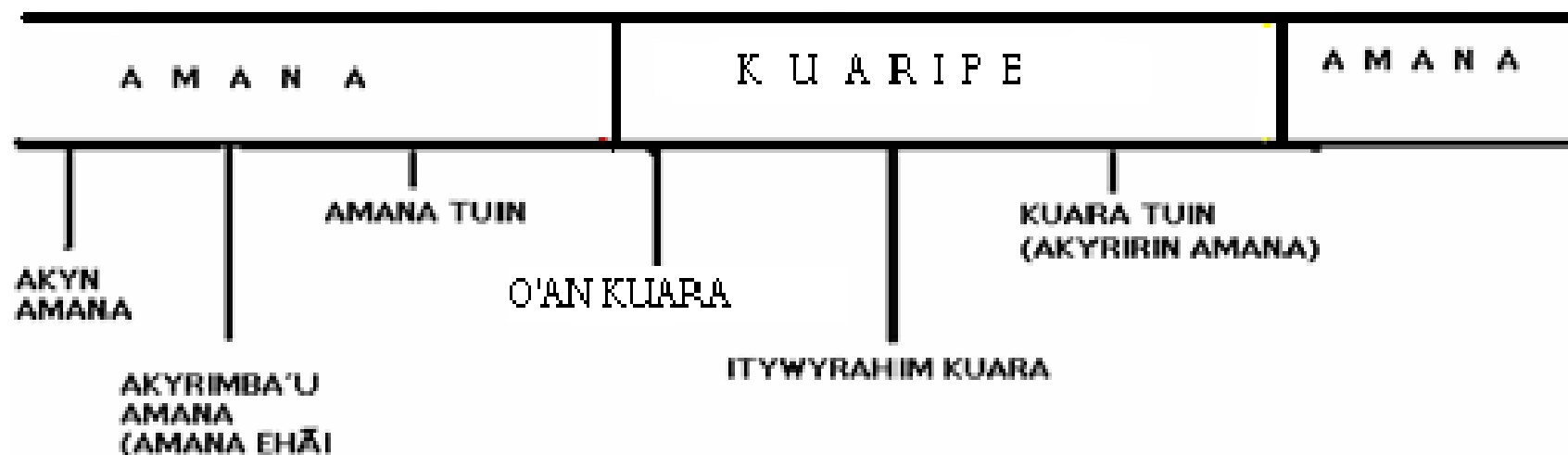
SUBDIVISION

- **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	Kunhâte	Young adult
Purap Mboria Mboria	Yvaka Moarimã Mboava	Mboropo Kunhãpó kunhãjiwu	Mandeí 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?

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

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
- Although there is a complex space and motion system, and we have evidence of fictive motion in space (Talmy), there is no convincing 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”

Conclusions

- Claimed universals in temporal cognition and language are motivated by compelling inter-domain analogic correlation, and perhaps facilitated by neural structure
- However, the linguistic elaboration and entrenchment of space-time mapping is culturally driven
- “Time as Such” is not a Cognitive Universal, but a socio-cultural, historical construction based in social practice, semiotically mediated by symbolic and cultural-cognitive artefacts and entrenched in lexico-grammar
- Linguistic space-time mapping and recruitment of spatial language for structuring “Time as Such” is consequent on the cultural construction of this cognitive and linguistic domain
- We need to re-examine the notion of cultural evolution and its place in language and cognitive variation, without postulating universal pathways of evolution, and by situating cultural practices in social ecology and habitus.

The Mediated Mapping Hypothesis

- The widespread linguistic mapping (lexical and constructional) between space and time, which is often claimed to be universal, is better understood as a "quasi-universal", conditional not absolute.
- Though not absolutely universal, linguistic space-time mapping is supported by universal properties of the human cognitive system, which (together with experiential correlations between spatial motion and temporal duration) motivate linguistic space-time mapping in linguistic conceptualization.
- The linguistic elaboration of this mapping is mediated by number concepts and number notation systems, the deployment of which transforms the conceptual representation of time from event based to time based time interval systems; yielding the culturally constructed concept of Time as Such.
- The conceptual transformation of time interval systems by numeric notations is in part accomplished by the invention and use of artefactual symbolic cognitive artefacts such as calendric systems.

Thank you