

When time is not space
Evidence from an Amazonian language
and culture

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A Mayan riddle

- Q: What is a man on the road?

- **TIME**

Mapping and Metaphor

- Natural languages are complex and multi-layered systems of mappings from linguistic conceptualization to linguistic expression
- Conceptual Metaphor, the mapping of one conceptual domain to another, is ubiquitous in languages
- The focus of this presentation is on *space-time mapping* in an Amazonian language, Amondawa

OUTLINE

- Is space–time mapping a language universal?
- Cognitive Artefacts and Time
- The Amondawa people – who are they ?
- The Amondawa space and motion system
- Time in Amondawa
 - How Time is expressed
 - Parts of the day and seasons
 - Life stages in Amondawa
- Is there “Time-as-Such” in Amondawa?
- Issues and Conclusions

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

- The following examples are typical of Indo-European and many other 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
- Ele **vai** aposentar **no** ano que **vem** (Port)

Is space-time analogical mapping a language 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 or plane 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)?

Artefacts and semiotic mediation

- In Vygotsky's cultural-historical psychology, language *mediates* cognition, transforming and augmenting higher cognitive processes
- Language is not, however, the only vehicle of semiotic mediation of cognition
- Material and symbolic artefacts also mediate cognition, both developmentally and functionally (extended embodiment)
- Some artefacts (*cognitive artefacts*) not only mediate and augment cognition, but constitute specific cognitive domains

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*, and *constituted by*, not just *expressed by*, cognitive artefacts
- Cognitive artefacts have a history: does the concept of “Time as Such” also have a history?



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 150 people living in the State of Rondonia (Greater Amazonia). Community was first contacted in 1986
- **Language:** Tupi Kawahib language – sub-branch of Tupi Guarani. 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. This kinship structure determines the *onomastic* (naming) practices of the group.



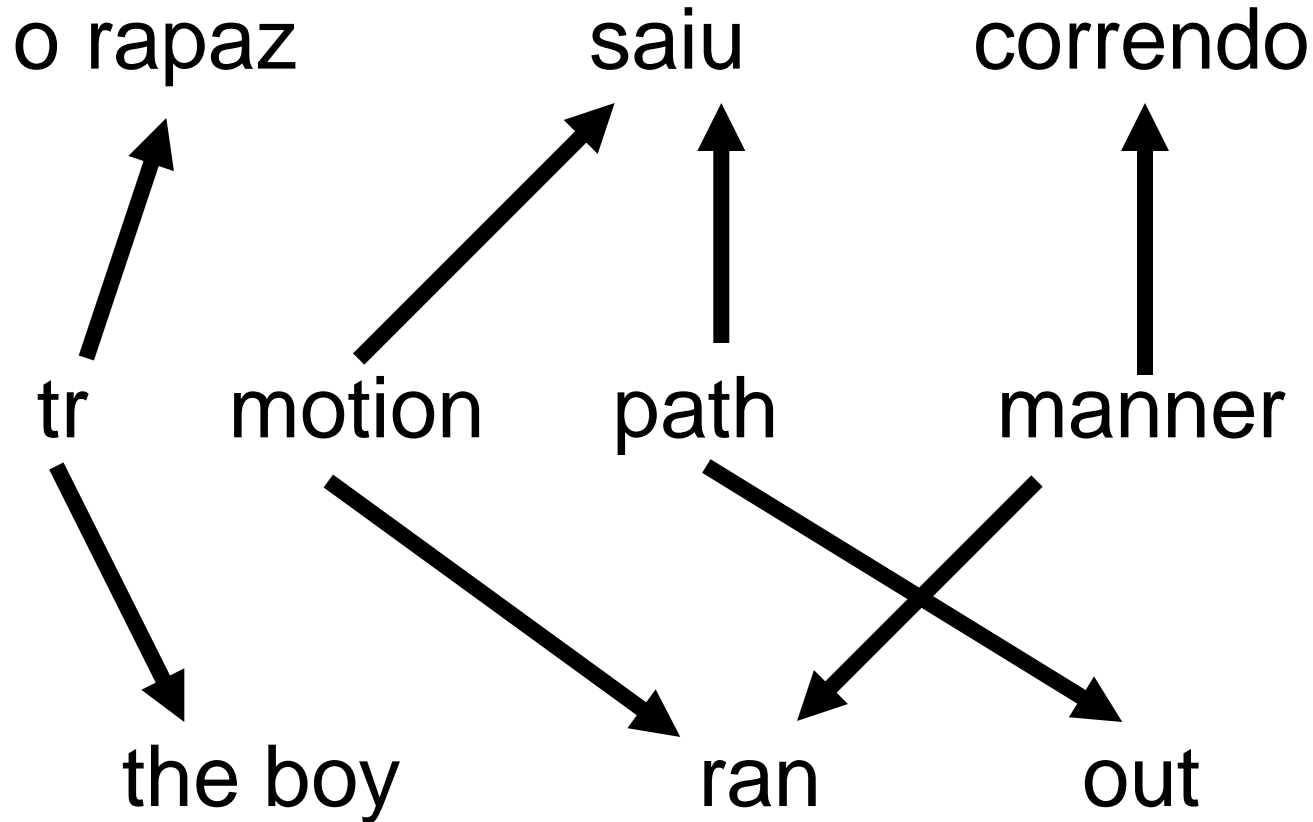








Cognitive Typology of Spatial Motion: Satellite and Verb Framed Mapping Patterns (Talmy)



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/exit
<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* *towards*
- *aramo* *over, above*
- *urumõ / urymõ* *under, below, beneath*
- *pywõ* *by, with*
- *rupi* *along (a path)*

Form classes expressing motion, path, location

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

ura going out of / to the outside
 of the Ground

hua coming (towards speaker)

awowo going (away from speaker)

Space and Motion in Amondawa

- Amondawa regularly employs path conflating motion verbs, locative postpositions and motion adverbs in a wide range of construction types (Sampiao, Silva Sinha and Sinha, in press)
- This Tupi language tells us much about the adequacy of existing motion typologies, but there is nothing “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 word for “time”
- Past and future are not expressed in verbal morphology (no verbal tense system)
- There is a complex nominal aspect system
- There are only four numerals
- There are no cardinal chronologies such as:
 - ages of individuals
- There are no ordinal chronologies such as:
 - yearly or monthly calendars

How time is expressed

- Decitic temporal reference:
 - 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
- adverbial terms:
 - yesterday, today, tomorrow, now.

HOW TIME IS EXPRESSED 2

- Proximal Future

– taho koro 'i ga nehe
?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)

- 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 born (beginning of the time of the sun)
- **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 close

TIME INTERVALS: Seasons

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

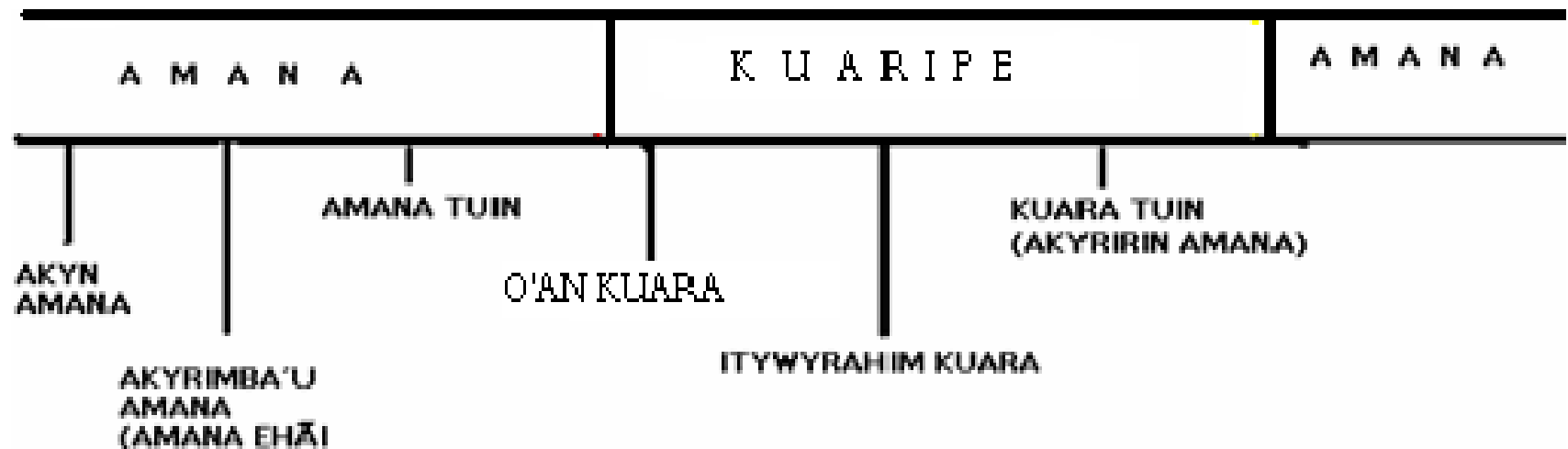
SUBDIVISION

- **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



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 subordinate divisions
- There is no superordinate year
- There is no week or lunar month
- There is no application of the 4-item numeral system to time intervals
- There is no **calendric system**

Life Stages in Amondawa: Time in the onomastic system

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

TIME INTERVALS: Life Stage

ARARA	MUTUM	MUTUN	ARARA	
M	F	M	F	AGE
AWIP	Mbitete	Morãg	Tape	Newborn
Tangãe	Kuembu	Pote i	Potei	Child
Pure- Tebu	Koari	Mbore i	Poti I	Teenager
Juvipa	Tarup	Mboraop	Kunha-te	Young adult
Purap Mboria Mboria	Yvaka Moarimã Mboava	Mboropo Kunha pó kunhaviju	Mande I Adiju Umby	Adult
Jari	Uyra	Mbore a	Mytãg	Elder

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-as-Such
- 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

Is there a cyclical time-plane schema in Amondawa?



Questions raised by the research

- The claim that space-time analogies are universal presupposes time-as-such as a separate domain or autonomous plane
- 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 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
- The lexicon of kinship, social status and personal identity is based on life span developmental time
- They have cultural narratives of the collective past and mythic narratives
- They are not a “People without Time”

Provisional Conclusions

- Space-time mappings 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 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.

Thank you