Abstract. Ways of talking about diseases, ailments, convalescence, and well-being vary from language to language. In some, an ailment 'hits' or 'gets' the person; in others, the sufferer 'catches' an ailment, comes to be a 'container' for it, or is presented as a 'fighter' or a 'battleground'. In languages with obligatory expression of information source, the onslaught of disease is treated as 'unseen', just like any kind of internal feeling or shamanic activity. Do the grammatical means of talking about diseases and ailments reflect traditional attitudes and thoughts about the origins of adverse conditions? How are diseases inflicted and spread? And what are the patterns involved in describing traditional healing practices and 'getting better'? Our special focus is on languages from hot-spots of linguistic diversity and diseases of all sorts — Amazonia and New Guinea.

Preamble

The ways in which disease, ailment, recovery, and well-being are conceptualised, across languages and cultures, correlate with how people talk about them. Different phases of disease or sickness tend to be expressed using different schemas in terms of grammatical constructions used (some of which have been mentioned in the previous materials). We start with a taxonomy of grammatical schemas identified across languages.

1 Taxonomy of grammatical schemas identified across the world's languages

A. Predication schema: The disease is predicate slot of an intransitive clause, e.g.

A-i. State, e.g. English I am sick, I am feverish

Estonian külmetu-sin (cold+REFLEXIVE.CAUSATIVE-PAST.1sg) 'I caught a cold' (lit. I colded myself)

Tariana (North-west Amazonia) du-kamia-ka (3fem.sgA/Sa-be.ill-RECENT.PAST.VISUAL) 'she is sick'.

A-ii. Process, e.g. English I got sick, I became sick

Murui (Colombia) kome raikotai- 'person become(s) sick'

B. Motion schema. The disease is the subject of a motion verb, and the 'sufferer' is a 'goal' or an 'object': 'disease comes to me' = I am becoming sick, e.g.: (1)

adaki di-nu-mha nu-na Tariana (Brazil)
fever he-come-PRESENT.NONVISUAL 1sg-OBJECT
'Fever comes to me; I am becoming sick with fever'.

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C. Possession schema: this consists in deploying a predicative possessive construction.

C-i. Predicative possession and existential schema: the 'sufferer' is the subject of the possessive verb 'have' and the disease is the possessee, as in English *I have a cold*.

C-ii. Locative possession schema: the 'sufferer' is the location of the disease, e.g. 'cancer is to him', as in Estonian, or 'fever is to me', in Tariana:

   (3) ta-l on vähk  
   he-ADESSIVE is cancer
   'He has cancer' (lit. to him is cancer)

   (4) adaki alia-mha nu-na  
   fever exist-NONVISUAL.PRESENT 1sg-OBJECT
   'I have fever' (lit. to me is fever)

If you wish to say 'I have a house', or 'I have two older sisters', you will do it in the same way. But expressions like (3)-(4) and *have* in 'I have a cold' in English behave differently.

   In English, one can use 'belong' to refer to a house, but not to a disease ('I have a cold' versus *a cold belongs to me).

   In English, Estonian, or Tariana, a possessor-oriented question sounds weird ('I have a cold' versus *whose cold is this??).

D. Comitative schema: the 'sufferer' is the subject of a copula or verbless clause, and 'disease' accompanies the subject, e.g. 'I am with fever' in Trio (Suriname):

   (5) këi-ke n-a-Ø-i pahko  
   fever-COMITATIVE he-be-PRESENT-NONCERTAIN Dad
   'My father has a fever' (my father is with fever) (Carlin 2004: 475)

   (6) nigarui oo diga jaai-de?  
   how.many.days you with go-it
   'How many days have you had (the sickness)' (lit. how many days does (it) go with you?) (Wojtylak 2018)
E. Acquisition schema with 'agentive' sufferer: a transitive clause where the 'sufferer' is the subject and the disease is the object, e.g. English *I caught a cold, he got malaria*, and (7), from Baniwa, very closely related to Tariana.

(7) \textit{whéetshi hipaka-ni} \hspace{1cm} \textit{Baniwa (Brazil)}
\textit{flu he.got/caught-it}
'He got flu'

Cf. Portuguese \textit{ele pegou malaria} 'he got malaria'

Is the 'disease' here a true object? No: *I caught a cold* can hardly be rephrased as *I caught it*, or questioned as *What did you catch?*. Saying *A cold was caught by me* is ungrammatical.

F. Acquisition schema with 'agentive' disease: a transitive clause where the 'sufferer' is the object and the disease is the subject:

(8) \textit{malaria dekem kure-l} \hspace{1cm} \textit{Manambu (PNG)}
malaria \hspace{1cm} him \hspace{1cm} get-she
'He got malaria (lit. malaria (a she!) got him)

(9) \textit{j-apëi mararia} \hspace{1cm} \textit{Trio (Suriname)}
it.to.me.take.PAST malaria
'I have caught malaria' (lit. malaria has caught me) (Carlin 2004: 476)

(10) \textit{aanaki-na mantsiyarentsi} \hspace{1cm} \textit{Alto Perené (Peru)}
grab-me illness
'Illness grabbed me (meaning: I contracted an illness)' (Mihas 2017: 125)

Is the 'disease' here a true subject? No. It cannot be questioned: so, 'who or what caught him?' cannot be asked about a disease.

G. Container schema: a copula or a verbless clause with the 'sufferer' in the subject function and the disease marked as a location, or a container:

(11) \textit{mararia-tao w-a-Ø-e} \hspace{1cm} \textit{Trio (Suriname)}
malaria-CONTAINER.LOCATIVE it.to.me.be-PRESENT
'I have malaria' (lit. I'm in malaria, malaria is surrounding me)' (Carlin 2004: 476)

In Murui, sickness 'grows IN' the person:

(12) \textit{nanomona nai-e oo-mo komui-de raiko} \hspace{1cm} \textit{Murui (Colombia)}
where anaphoric you-in grow-it sickness
'Where has the sickness grown in you?' (Wojtylak 2018)
H. Malefactive schema: a copula or a verbless clause with the 'sufferer' in the subject function and the disease marked with aversive/malefactive case:

(13) le bare-k kwa-l \textit{Manambu (PNG)}
    she fever/illness-MALEFACTIVE stay-3fem.sg
'She has fever, is sick, or has become sick' (lit. she stays for (malefactive) fever)

I. Topic schema: the 'sufferer' is the topic in clause initial position and the disease is the subject of the subsequent clause:

(14) le yap war-el \textit{Manambu (PNG)}
    she breath/asthma go.up-3fem.sg
'She has asthma (or heart attack)' (lit. she breath goes up)

A similar phenomenon is a feature of many languages of the Mainland Southeast Asia:

(15) Zha@sa@ he*n tóu téng \textit{Mandarin Chinese (China)}
    Zhangsan very head ache
'Zhangsan has a severe headache' (Zhangsan very head ache) (Li and Thompson 1980: 70-1)

Note the part-whole relationship between the 'sufferer' and the affected part.

2 How different stages are distributed across schemas

Different schemas can be used for different stages of well-being.

- onset of disease
  - A. Predication schema: process
  - B. Motion schema
  - E/F. Acquisition schemas
  - H. Malefactive schema

- the state of disease
  - I. Topic schema
    - A. Predication schema: process
    - C. Possession schema
    - D. Comitative schema
    - G. Container schema

For instance, the motion schema may be used for acquisition of disease, and predication schema for a statement on existing disease, as in Tariana in (1) and under A-i.

In Trio,
Acquisition schema F with agentive disease expressed onset of disease (9).

Once the disease has taken hold, Comitative schema D expresses a symptom ('fever' (5)).

Specific illnesses, such as malaria or a cold, are 'seen as an all-encompassing phenomenon', that is, an illness 'takes/grabs someone' (Carlin 2004: 476), container schema (G) is employed — the person is conceptualised as being subsumed 'inside' the illness (9).

**Figure 1. The stages of well-being in Trio (Suriname)**

- Onset of disease: F. Acquisition schema (agentive disease) (9)
- Once the disease has taken hold: D. Comitative schema (5) (for symptoms)
- Disease set in: G. Container schema (11) (all-encompassing)

How about the subsequent stages — Recovery and getting well?

**I. Change of state schema:**

(16) matsia di-a-ka

well he-become/go-RECENT.PAST.VISUAL

'He got better'

**Tariana** (Brazil)

**II. Change of state cum motion schema:**

(17) him moinno omora hat-do-k

illness bad 'follow'.Isg.MEDIAL change.state.RECENT.PAST.3sg

'I left behind the bad illness' (lit. I following it, it changed state, meaning 'I recovered' (Sarvasy 2017: 616)

**Nungon** (PNG)

**III. Predication schema:**

(18) hálhaame nhoa

be.better I

'I got better, am well'

**Baniwa** (Brazil)

What about inflicting and spreading disease, and curing disease (orchestrating recovery)?

**2 The trajectory of well-being: an example from Tariana**

- Tariana is spoken by no more that 100 people in three villages in the remote areas of north-west Amazonia, Brazil (border with Colombia), the basin of the Vaupés River. The language is endangered. There is a dictionary, a large collection of stories, a lengthy grammar (Aikhenvald 2002, 2003, 1999, ms), and a school program (with
which I am in close collaboration). When I started working with the speakers in 1991, there were c. 10 traditional older speakers; all of them gone now.

- Tariana belongs to the Arawak language family. It is surrounded by speakers of unrelated Tucanoan languages. The main principle of organization is 'linguistic exogamy':
  - 'My brothers are those who share a language with me', and
  - 'We do not marry our sisters'
  - One absolutely has to marry a spouse who will speak a different language (those who do not do this are 'like dogs')
  - As a consequence, the area is highly multilingual: every Tariana would know a few Tucanoan languages, plus Portuguese and Spanish.

- Tariana's closest relative is Baniwa, also Arawak. Baniwa is a bigger group (c. 3000 people). It is spoken outside the multilingual Vaupés, so there is no influence from Tucanoan.

- The general term for a serious disease is *adaki* which also means 'fever' (as one of the symptoms). Minor diseases which can be treated with white people's medicines or herbs include *wesi* 'flu' (cf. Baniwa *whêetshi* (7)).

- The main reason for onset of *adaki* 'serious disease' is believed to be shamanic intervention, often superficially realised as 'anger'. This is why 'scolding' has negative and dangerous connotations: by scolding (*di-kwisa*) someone could inflict a serious disease.

- Bodily states — such as being pregnant or menstruating — are *puaya* 'adverse'. Any ritual misbehaviour is likely to produce adverse consequences. This includes having sex before going hunting, or (since the Tariana are good Catholics), doing any 'work' on Good Friday. When I thought I could take a picture of a healing session, the shaman warned us of 'adverse consequences' — so no pictures are available.

- Breaching the restrictions might unleash the actions of the Evil spirit who will 'eat the person up', and then only a strong shaman might help.

- Shamanic activities ('breath' and 'opening the pot of fever') are the major causes of disease. The illness 'spreads' — unlike Dyirbal where illness is 'crossing' from one person to another, and can be given by one person to the next.

The trajectory of well-being for someone affected with *adaki* can be schematised as shown on the separate sheet.
4 Special choices: how do you know you are sick?
Tariana and its Tucanoan neighbours have an enviable feature: grammatical marking of information source, or **evidentiality**.

You always have to say how you know things:

• you saw it: visual -ka
• you heard it or smelt it or felt it: non-visual -mha
• you inferred it: (inferred -nihka)
• you assumed this is so based on common sense: (assumed -sika)
• you know it based on someone telling you: reported -pidana

One talks about one's own disease or any internal state using a nonvisual evidential.

This is why we have -mha on the separate sheet' when talking about one's own sensations (and also in (1) and in (4)).

Shamanic actions are not seen: talking about a shaman inflicting a disease is -mha.

'Fever spreads' has -ka: we can see that.

If he or she is sick, and we can see that they are sick, we use -ka as in Aii, p. 1.

Those who do not use evidentials correctly are looked upon with suspicion, e.g. White people are said to 'always lie' because they never tell you how they know things.

Using these evidentials correctly is a prerequisite for establishing communication with the patient, and trying to find cure.

5 When languages come together…

Ways of speaking change when languages come in contact with each other.

**In Manambu** (PNG), Mali, a traditional speaker, said (8), 'Malaria caught him'.

Her daughter Taninah said, on a different occasion,

(19) de malaria kure-d Manambu (PNG)
he malaria get-he
'He got malaria'

Just like Tok Pisim *em kisim malaria* 'he got malaria'

**Why** do the Baniwa say 'he got flu' (7), and the Tariana do not?

This is so because the Baniwa have been affected by Portuguese.

The ways of speaking change; but do the concepts?

5 More ways of speaking about well-being

• Protective speech and attenuative register in Tariana:
A hidden shaman or an evil spirit may attack a person at any time. It is dangerous to say 'I am well'. Hence *kwame* 'almost', which accompanies 'I am feeling well', on the separate sheet.

- Conventionalised greeting formulae often reflect concern about well-being:
  
  Tariana greeting in the morning is:

  (20) kahwi-tha phia?  
  be.awake-question.NONVIS you 
  'Are you awake?'

  It was explained to me (when I wondered…) that *kahwi* describes the state of breathing, being alive and conscious.

  Tariana greeting later in the day:

  (21) alia-tha phia  
  exist-question.NONVIS you 
  'Do you exist?'

  This is to ascertain that the person is still a 'person' and has not been attacked by Ñamu, an evil spirit who takes no hostages and takes away the 'essence' of the person. The person becomes crazy (*di-pika*) and usually dies, unless a strong shaman can bless them…

  Nowadays, younger Tariana do say and write (also on social media) -

  (22) matsia-nha phia?  
  well-question.VIS you 
  'Are you well?' -

  This shows the influence of Portuguese. Older people avoid this.

6 To summarise

- We have identified schemas A-I used in talking about well-being.
- The next move would be to establish the trajectory of talking about different phases of well-being, the spread of disease, and its cure: what are the schemas employed? For instance, the onset and the state of disease can be expressed in the same way; or different schemas can be employed.
- Ways of speaking well-being and diseases correlate with special features of grammar — especially evidentials (present in about 25% of the world's languages).
- Ways of speaking about diseases change because of contact between languages and people — but do the concepts?
Envoi. Disease as a 'war zone': fighting the disease, with body as a battleground

The imagery of human body affected by disease as a war zone does not appear to be applicable outside European languages.

• The use of military metaphor to describe illness dates back to at least the seventeenth century.

The poet John Donne (1572-1631) described his illness as ‘a cannon shot’ and ‘a siege’ (in 1627, Meditations I, XI).

The physician Thomas Sydenham (1624-1689) described medical intervention as a military attack (1848-50 edition, 267-8): ‘I attack the enemy within’, where ‘A murderous array of disease has to be fought against, and the battle is not a battle for the sluggard’.

This was not a conventional or frequent way of talking about disease: the disease was talked about as plagues 'laying' upon people (Montgomery 1996): there was no aggression implied.

• Louis Pasteur’s (1822-95) description of germ theory employed military metaphors of 'invading armies laying siege to the body that becomes a battlefield'. According to John Lienhard (2019), he may have been influenced by the military metaphors overruning the language during the Franco-Prussian war (the 1870s).

• From then on, the tradition got gradually established. In 1904, a 'war against cancer' was described in a lead article in The British Medical Journal. Further on, cancer cells were identified with Bolsheviks, as 'anarchic', threatening the stability of the body (Bleakley et al. 2004: 25).
Susan Sonntag (1933-2004), whose criticism of ‘military metaphors’ in writing about disease is a timeless classic (1978, 1989)

Selected references
Bradshaw, Robert. 2007. Fuyug grammar sketch. SIL PNG publications. Ukarumpa PNG.
Whittaker, Maxine. 2017. 'How infectious diseases have shaped our culture, habits and language'. The conversation July 13 2017.
Wojtylak, Katarzyna I. 2018. 'How did this grow in you? About the expression of disease in Murui (Witotoan)'. Talk at LCRC discussion forum.
The trajectory of well-being in Tariana

Onset of disease  →  Disease set in  →  Disease on the wane  →  Patient recuperating

B. adaki dinu-mha  nu-na
fever he.come-NONVIS  1sg-to
'fever comes to me'

Aii. nu-kamia-mha
I-be.sick-NONVIS
'I am sick'

B. adaki di-a-mha
fever he-go-NONVIS
'Fever goes (away)'

B. nu-yena-mha
1sg-pass,overcome-NONVIS
'I have overcome (sickness)'

C. adaki alia-mha  nu-na
fever exist-NONVIS me-to
'I have fever (malaria...)

A. matsia nu-rena-mha, kwame
well  I-feel-NONVIS, almost
'I feel well' (almost)

INFLECTING DISEASE:

malieri 'shaman'
hiwhyasi  di-sueta-mha
magic.breath he-make,stay-NONVIS
'he puts magic breath' (out)

adaki di-musuita-mha
fever he-make,come.out-NONVIS
'he makes fever come out'

Where is 'fever'? adaki-phi  di-swa-pidana
fever-CL:POT he-sit-REPORTED
'(it) sits in the Fever pot'
(in locations known only to shamans,
old settlements (where people have been
buried inside the house for a few generations),
and abandoned settlements)

malieri adaki-phi  di-ku-mha
shaman fever-CL:POT he-open-NONVIS
'shaman/or can be a Spirit opens the pot of fever'

Cure

malieri di-ŋapa-mha
shaman he-bless-NONVIS
'Shaman blesses (the person)'

adaki di-a-mha
fever he-go-NONVIS
'Fever goes away'

malieri di-ŋapa-mha
shaman he-bless-NONVIS
'Shaman blesses (the person)'

adaki-phi
3-close 3-hit fever-CL:POT
'Shaman (or a Spriti) shuts the pot of fever close)'

Result

malieri di-ŋapa-mha
shaman he-bless-NONVIS
'Shaman blesses (the person)'

adaki-di-ŋena-mha
fever he-pass-NONVIS
'Fever passes'