# Semantic relations

## Taxonomy, Partonomy, Attributes, Roles

Bill Croft, February 4, 2025

# KEY


taxonomic relation


prototype hyponym


other hyperonym-hyponym relation


marginal or not really hyponym


primary partonomic relation


other partonomic relation

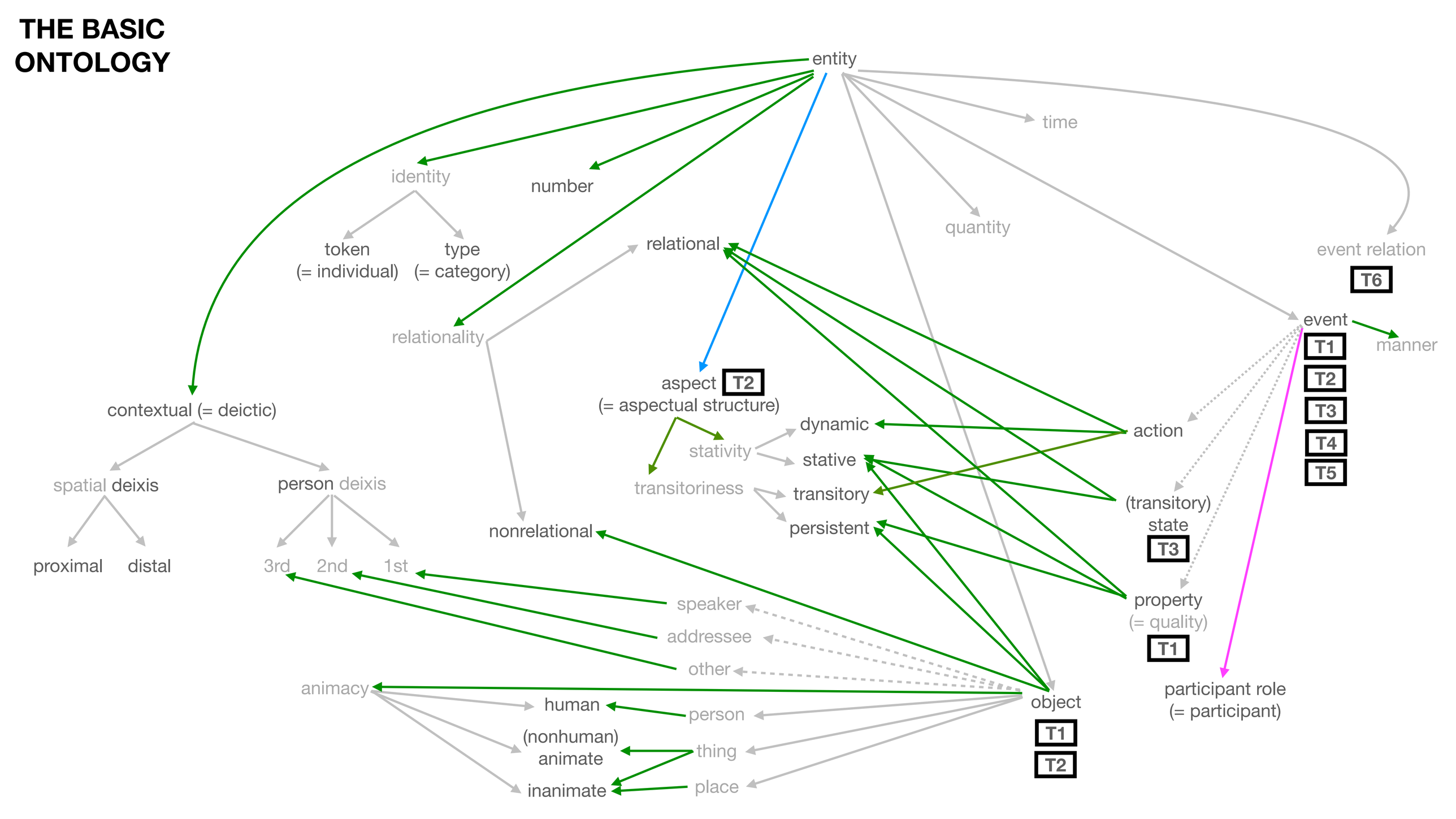

feature (attribute) relation


role relation

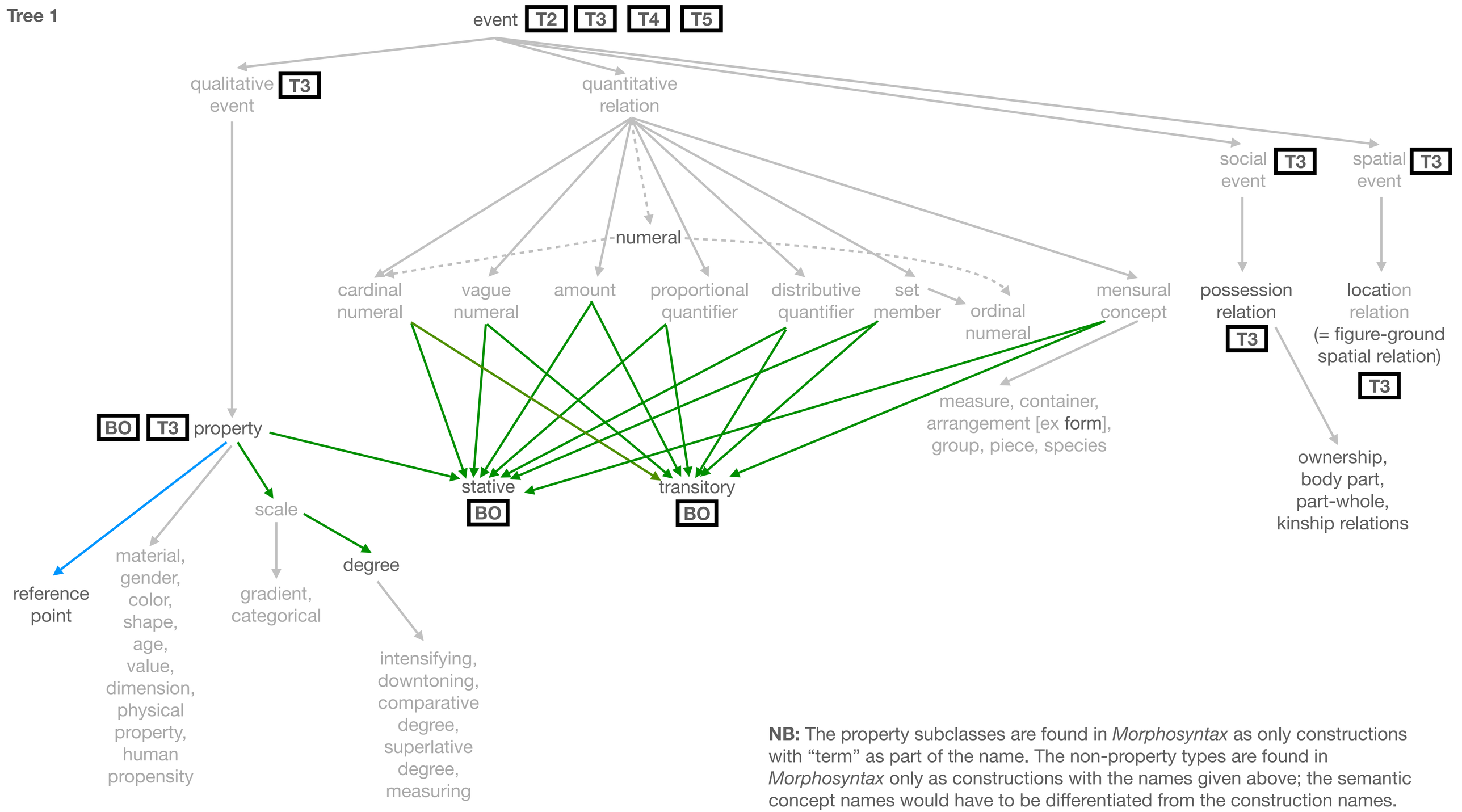
semantic — semantic term not in *Morphosyntax* (but should be)

this tree is linked to Tree # at this node

# THE BASIC ONTOLOGY

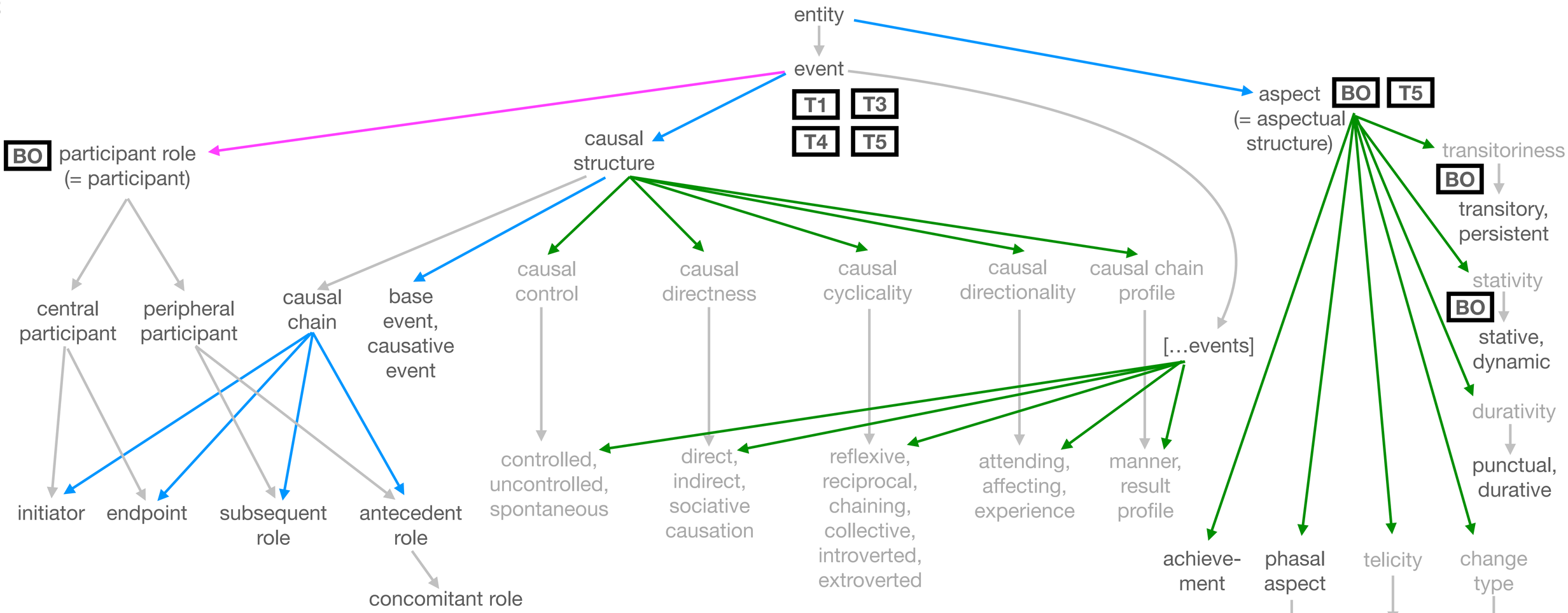


Tree 1

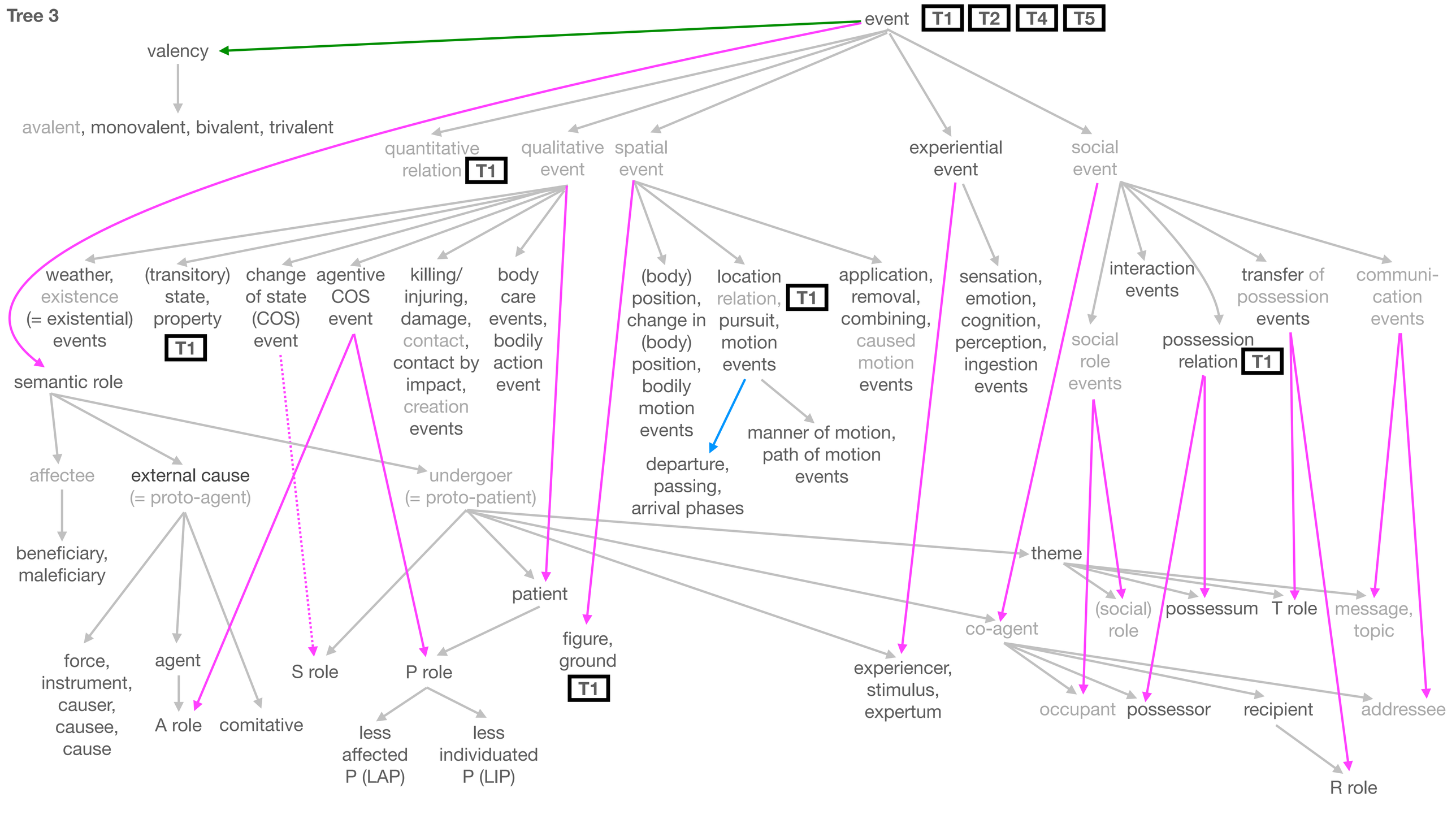



**NB:** The property subclasses are found in *Morphosyntax* as only constructions with "term" as part of the name. The non-property types are found in *Morphosyntax* only as constructions with the names given above; the semantic concept names would have to be differentiated from the construction names.

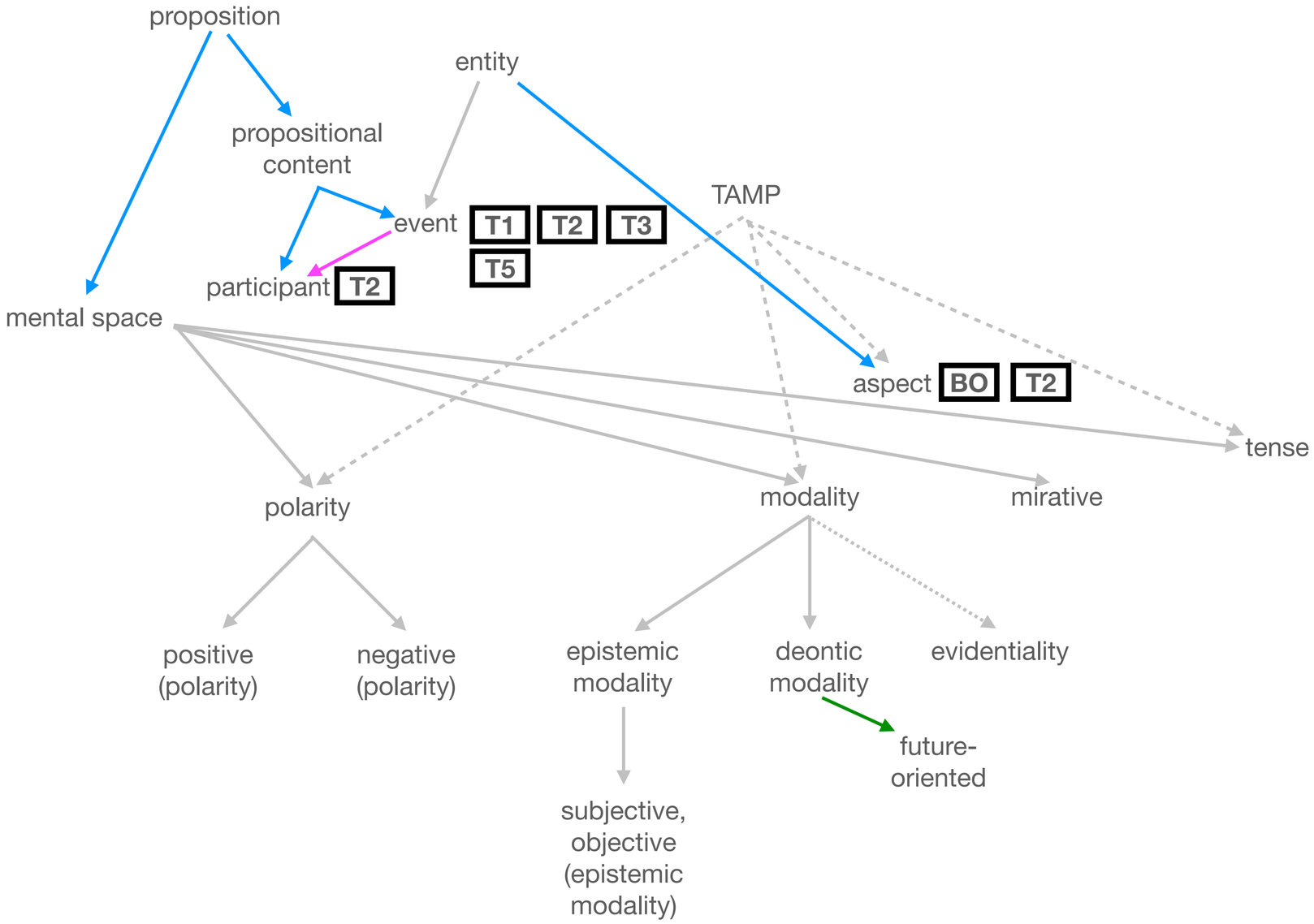
Tree 2




**NB:** The next two trees represent two different semantic analyses of events and their participants.
***Tree 2*** represents a decompositional analysis of the causal and aspectual structure of events and their participants (Croft 2012). Causally defined event subtypes are analyzed here as attributes of causal structure (their names are the same as the corresponding events minus "event"). Aspectually defined event subtypes are also analyzed as attributes of the aspectual structure of an event.
***Tree 3*** represents a standard semantic role analysis of event participants, analyzed in terms of event superclasses based on semantic domains that are used to define the roles (unpublished work, from NSF grant #2213804 on Uniform Meaning Representation). The classification of social events, not as well explored, is based on Kalm 2022 [PhD dissertation]). Events with other events as participants are found in Tree 6. Valency is represented as an attribute of events, and the exemplar model of valency-based semantic roles (Haspelmath 2011b, 2015) is represented as subtypes of widely-used semantic roles. Semantic roles are grouped as "external-cause/proto-agent" and "undergoer/proto-patient" (cf. Dowty 1991), mainly to allow generation of this subgraph in the database.

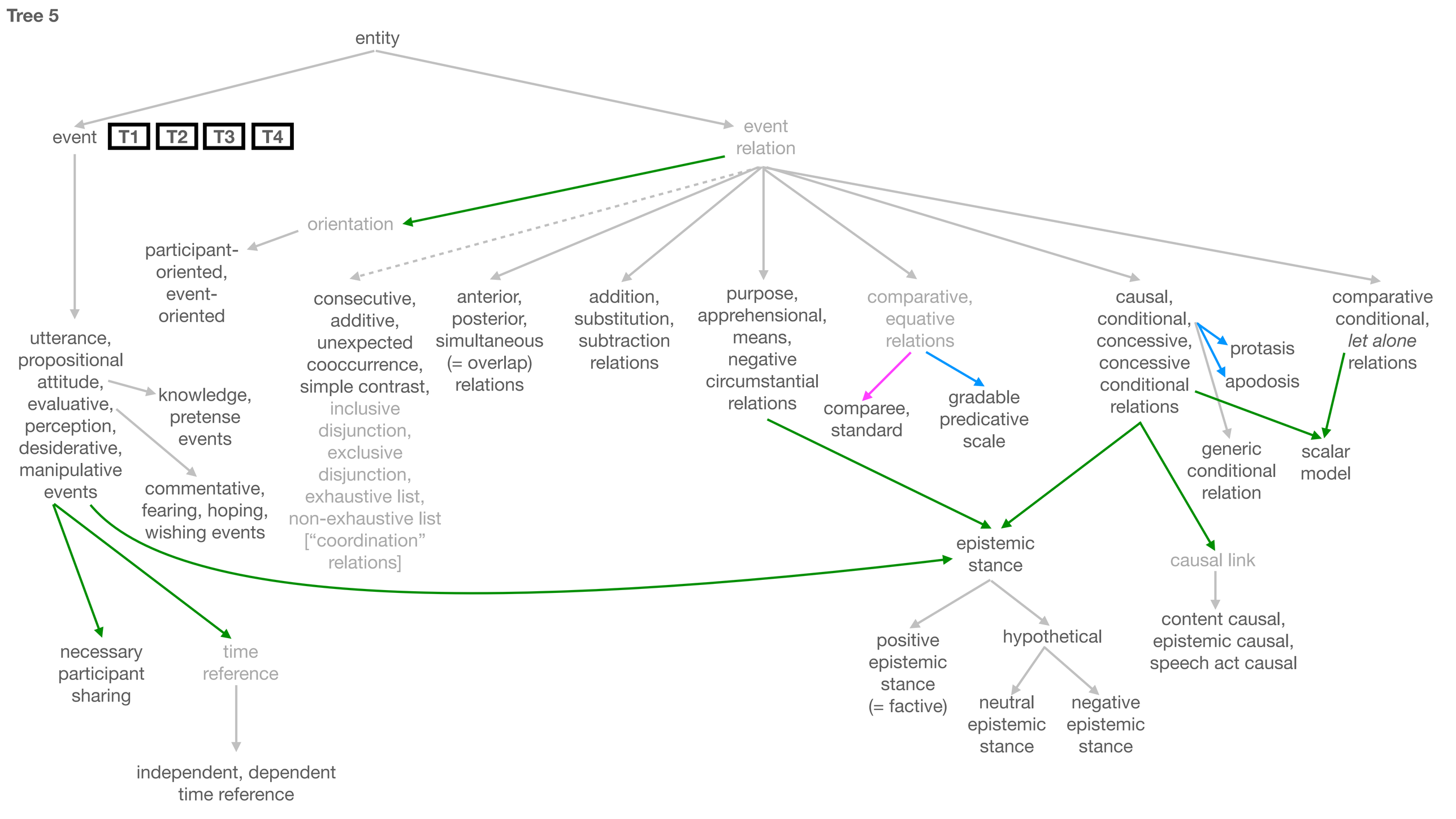

Tree 3
event
T1
T2
T4
T5
valency
avalent, monovalent, bivalent, trivalent
quantitative relation
T1
qualitative event
spatial event
experiential event
social event
weather, existence (= existential) events
(transitory) state, property
T1
change of state (COS) event
agentive COS event
killing/ injuring, damage, contact, contact by impact, creation events
body care events, bodily action event
(body) position, change in (body) position, bodily motion events
location relation, pursuit, motion events
T1
application, removal, combining, caused motion events
sensation, emotion, cognition, perception, ingestion events
interaction events
transfer of possession events
communi-cation events
social role events
possession relation
T1
semantic role
affectee
external cause (= proto-agent)
undergoer (= proto-patient)
departure, passing, arrival phases
manner of motion, path of motion events
beneficiary, maleficiary
theme
patient
force, instrument, causer, causee, cause
agent
A role
comitative
S role
P role
figure, ground
T1
co-agent
(social) role
possessum
T role
message, topic
experiencer, stimulus, expertum
occupant
possessor
recipient
addressee
less affected P (LAP)
less individuated P (LIP)
R role

Tree 4




**NB:** The propositional content of a proposition is essentially the same as the event, including its participants (i.e., “who did what to whom”). In *Morphosyntax,* I follow the mental space analysis of propositions and semantic categories associated with propositions. A proposition is essentially an event in a particular mental space, either ‘reality space’ (i.e. a proposition taken to be true by the interlocutors) or a non-real mental space representing polarity, modal/evidential status, or also a particular time. Hence polarity, modality-evidentiality and tense are subtypes of mental spaces. A non-mental space analysis might simply have polarity, modality-evidentiality and tense as attributes of a proposition.

Tree 5


entity
event
T1
T2
T3
T4
event relation
orientation
participant-oriented, event-oriented
consecutive, additive, unexpected cooccurrence, simple contrast, inclusive disjunction, exclusive disjunction, exhaustive list, non-exhaustive list ["coordination" relations]
anterior, posterior, simultaneous (= overlap) relations
addition, substitution, subtraction relations
purpose, apprehensional, means, negative circumstantial relations
comparative, equative relations
comparee, standard
gradable predicative scale
causal, conditional, concessive, concessive conditional relations
protasis
apodosis
generic conditional relation
comparative conditional, *let alone* relations
scalar model
utterance, propositional attitude, evaluative, perception, desiderative, manipulative events
knowledge, pretense events
commentative, fearing, hoping, wishing events
epistemic stance
positive epistemic stance (= factive)
hypothetical
neutral epistemic stance
negative epistemic stance
causal link
content causal, epistemic causal, speech act causal
necessary participant sharing
time reference
independent, dependent time reference