First-order person features and the contrastive hierarchy

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Harbour (2016) proposes a theory of person features that generates exactly the attested systems of grammatical person contrasts, listed in (1), improving on e.g., Halle (1997); Harley & Ritter (2002a,b), which either overgenerate or include ad-hoc stipulations. However, there is a cost: **A.** The features are formally more powerful: rather than first-order predicates (simple properties), they are operations on lattices, adding and subtracting elements (from the universal ontology comprising a speaker i, an addressee u, and arbitrarily many others o) to or from the lattice they apply to, rather than marking presence or absence. These higher-order features are not commutative: applying features in different orders gives different results. E.g., ⟨−participant, +author⟩ yields 1EX, while ⟨+author, −participant⟩ yields 3. Sensitivity to ordering gives more distinctions with fewer features. **B.** Two other mechanisms are needed: one to delete empty sets (subtraction can result in the null set), and another to narrow the result of a given specification so as to eliminate overlap with the result of another specification. This second operation is nonlocal—it must have access to the results of other feature combinations.

We show that if feature dependencies are taken to reflect a contrastive hierarchy, not a feature geometry, and if we adopt Harbour's person ontology, we can generate all and only the attested partitions using first-order features, without extra mechanisms to adjust the results.

Harley & Ritter (2002a) propose (2), which (without HEARER) accounts elegantly for the partitions in (1a), (1c), and (1d). Languages that distinguish INCL from EX 1st person force the addition of HEARER: inclusives bear both SPEAKER and HEARER. This system cannot generate (1b), since any language that uses SPEAKER must also use PARTICIPANT. And it overgenerates, permitting a 2/INCL vs. 1EX vs. 3 tripartition as well as a five-way system in which general participants contrast with 1EX, 2EX, INCL, and 3. Also, as Harbour & Elsholtz (2012) argue, feature geometries stipulate combinations of features; they do not explain why some combinations are or are not attested. **Halle (1997)** uses the features author [±auth] and participant [±part]. Quadripartition involves full cross-classification: e.g., the Walbiri exclusive is characterized as [+auth, −part]. Halle notes that in Walbiri, there is no singular 1EX pronoun, attributing this to the contradiction that arises if [+auth] and [−part] are attributed to a single individual. For him, in languages with a tripartition, this combination is simply not used—a situation Harbour characterizes as "parametric deactivation." But some languages with quadripartition differ from Walbiri in having 1SG forms that pattern with 1EX.PL, and Halle gives no reason why only one of the four logically possible combinations of two feature values can be left unused.

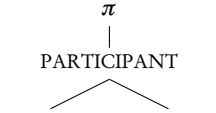
We propose that the key insights of Harbour's account can be achieved with first-order features, organized not into a feature geometry, but rather into a contrastive hierarchy (Dresher 2009 & works cited therein). In this view, acquisition of formal representations involves successive subdivision of the inventory (here, the person ontology) by the assignment of features. The sequence of divisions determines the relative scope of the features: a later feature divides only (some or all) subinventories distinguished by earlier features. No stipulations are made as to the order of divisions: feature scope varies freely from one language to another, constrained only by the fact that some combinations may be semantically incoherent.

Given the first-order features [±auth] and [±part], (1a) is derived with no divisions, (1b) with a single division by [±auth], and (1c) with a single division by [±part]. Using both features gives (1d) or (1e), depending on their scope. If [±part] takes wider scope, as in (3), [±auth] is contrastive only in the [+part] realm; this yields the tripartition (1d). If [±auth] takes wider scope, then we propose that the interpretation of [±part] is automatically narrowed to 'participant other than speaker'—the only possible interpretation that allows it to be contrastive where the inclusion or exclusion of the speaker has already been marked. This allows [±part] to be contrastive on both branches, yielding quadripartition (1e) as in (4).

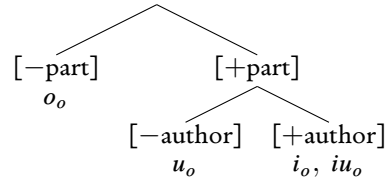
The narrowing of [±part], which gives essentially [±hearer], derives from its position in the contrastive hierarchy: it has a narrow interpretation iff it has narrow scope. Its meaning thus depends on the domain it divides. No analogous narrowing of [±auth] is possible to allow full cross-classification in (3); the interpretation 'speaker other than a discourse participant' is nonsensical. We conclude that with a contrastive hierarchy, it is possible to account for exactly the attested person partitions with first-order features and no additional mechanisms.

(1) a. Monopartition: No person contrasts
b. Author bipartition: $\{i_o, iu_o\}$ / $\{u_o, o_o\}$
c. Participant bipartition: $\{i_o, iu_o, u_o\}$ / o_o
d. Tripartition: $\{i_o, iu_o\}$ / u_o / o_o
e. Quadripartition: i_o / iu_o / u_o / o_o

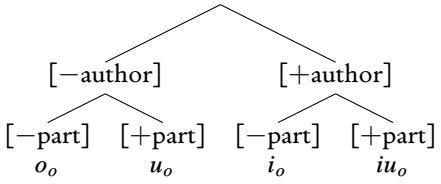
(2)



(3)



(4)



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