Property concepts and non-mereological semantics in Wolof

Property concepts across categories
Adjectival meanings—known in the typological literature as property concepts (PCs)—are lexicalized in two ways in the Senegambian language Wolof: i) via stative verbs (PCVs) denoting relations between individuals and properties (1); ii) via mass nouns, denoting the abstract properties themselves (PCNs) (2).

(1) PCVs: xonq/njool/bees/baax/rafet
red/tall/new/good/pretty

(2) PCNs: doole/sago/wersék/xel/rafetaay
strength/calm/luck/wit/prettiness

The latter strategy is widespread in languages which lack an open class of adjectives (Dixon, 1982). It has recently been argued that PCNs cross-linguistically have mass-like substance denotations, establishing a model-theoretic link between mereological structure and gradable PC meanings (Francez and Koontz-Garboden, 2013) (henceforth F&KG).

This paper argues against such a link, and claims that data from Wolof suggest a contrary position: that PC lexemes, regardless of category, are characterized by denoting in non-mereologically ordered domains.

Empirical landscape
Unlike a predicate nominal like pokal ‘strong person’ (3), a PCN is not predicated of individuals with a copula (4); nor does it predicate directly like a PCV (6). (N.B. the na element, glossed FIN, indicates present temporal orientation with PCVs.) Instead the possessive verb am ‘have’ is semantically required to achieve truth conditions when predicated of an entity. Thus a compositional PCN predicate like in am doole (5) looks indistinguishable from a possessed mass substance noun like am ceeb ‘have rice’ (7)

(3) Ali pokal la-∅ (4) *Ali doole la-∅ (5) Ali am na-∅ doole
‘Ali is a strong person.’ Intended: ‘Ali is strong.’ ‘Ali is strong.’

(6) Awa rafet/*doole na-∅ (7) Ali am na-∅ ceeb
Aliou pretty/*strength FIN-3SG Ali have FN-3S rice
‘Awa is pretty/*strong.’ ‘Ali has rice.’

According to F&KG, predication of PCNs via possessive morphosyntax is found in a wide array of unrelated languages and is consistent with PCNs having abstract mass substance denotations. In (7), composition with am supplies the semantically necessary possessive relation between the substance and individuals who have it, as reflected in the denotation in (8). In (8), p is a variable over portions of abstract matter, and strength a constant naming the substance strength in the model.

(8) a. [[doole]] = \lambda p . \text{strength}(p)  \quad b. [[am doole]] = \lambda x \lambda D^\uparrow . \exists D^\uparrow p[\text{strength}(p) \& \pi(x, p)]

D^\uparrow ranges over positive portions and restricts quantifier to elements of D^\uparrow.

This analysis has implications for the grammar of gradability and comparison of PCNs: F&KG note that while portions are ontologically distinct from degrees, they can be systematically related to scales. In many languages, mass nouns license gradable morphology (e.g. English (so) much; more), and in these cases measurement is monotonic on mass domains’ ordering under the mereological part-of relation (Schwarzschild, 2006; Wellwood et al., 2012). Thus, PCNs are expected to pattern exactly with other mass w.r.t gradable morphology, the only difference being the more ‘abstract’ nature of the quantified portions.
Against portions  However, evidence from Wolof gradable constructions suggests that gradability is not linked to mereological structure with PCNs, unlike with mass nouns. First of all, qualitative intensifiers lool and torop (both meaning ‘very’) co-occur with both PCVs (9) and possessed PCNs (10), but not possessed substances (11). The reverse pattern obtains if the quantity adverbial bu bēri (consisting of bu, a relative marker, and bēri, a stative verb meaning ‘to be a lot’) is substituted for lool in (9)-(11).

(9) Awa rafet na-∅ (lool)  Awa pretty FIN-3SG (very) ‘Awa is (very) pretty.’

(10) Awa am na-∅ xel (lool)  Ali am na-∅ ceeb (*lool) Awa have FN-3S wit (very)  Ali have FN-3S rice (*very) ‘Awa is (very) witty.’ ‘Ali has rice.’

Additionally, Wolof has two morphologically distinct exceed comparative constructions, which differ in their selectional restrictions. Bare PCNs only occur with the noun-selecting āpp comparative, which measures quantity (12). Surprisingly, a possessed PCN can also freely occur with the qualitative ēn(-a) comparative, which otherwise only selects for gradable PCV (13). Note that composition with ēn(-a) is not available for possessed substance nouns like ceeb ‘rice’.

(12) Awa-a āpp \{rafet\_{PCV} \} Aida
    Awa-FOC EXC *pretty/strength/rice Aida
    ‘Awa is stronger/has more rice than Aida.’

(13) Ali-a ēn-a \{am doole\_{PCN} \} Aida
    Ali-FOC EXC pretty/π strength/*π rice Aida
    ‘Ali is prettier/stronger than Aida.’

Conclusion: PC lexemes denote states I argue that the Wolof data challenges F&KG’s claim the the denotations of PCNs are modeltheoretically equivalent to substance nouns. I propose instead that Wolof PCNs denote sets of Davidsonian states, and PCVs denote relations between individuals and Davidsonian states (the latter is consistent with Anderson and Morzycki (2012)’s state-based analysis of gradable adjective denotations). Composition with am ‘have’ derives a predicate of individuals, type-theoretically equivalent to a PCV denotation.

I propose that states are ordered but not mereologically: as atoms and extensive parts are undefined for states, a state can only be ordered with respect to other states of its kind (e.g. Awa’s strength versus Aida’s strength) by intensity. PCNs still satisfy the grammatical conditions on mass nounhood by denoting non-atomic orderings. But the ontologically distinct nature of state and substance domains is clear in gradable contexts: substance measurement tracks mereological quantities, while state measurement tracks intensity along a qualitative dimension.

I conclude that Wolof provides important insights into the question of semantic variation in PC constructions, and challenges analyses of PCNs involving portions of abstract matter. The data support an enrichment of the semantic ontology with (Neo-) Davidsonian states and for treating property concept lexemes as a semantic natural class, unified in their reference to ordered state domains.

References