Singulative Structures and Plurality

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In this paper, I will offer a new account of singulative structures in Welsh and Arabic which combines insights from recent research on plurality and the mass-count distinction. I take plural marking to be number neutral and that exclusive readings are pragmatically induced (Sauerland et al. (2005); Spector (2007); Zweig (2009); Ivlieva (2013); Mayr (2015)). I analyse collective nouns as essentially mass-like, with covert pluralisation, in the vein of the exoskeletal iceberg semantics of de Vries and Tsoulas (2021) (EIS). EIS, takes Landman's (2020) proposal that nominal denotations are *i(ceberg)-sets* consisting of a pair $< body, base >$ where *body* is an extension in the familiar sense, and *base* a counting base, and suggests that the i-sets are created in the syntax in a manner inspired from Borer's (2005) exoskeletal model. An advantage of the system is that operators, including pluralisation, can apply partway through the construction of the nominal. The analysis is that exhaustive operators apply to plurality to negate stronger alternatives, but this is only compulsory for overt pluralisation (or pluralisation that takes place above the i-set in exoskeletal iceberg syntax). Exhaustive operators are optional for plurality below i-set, c.f. Ivlieva (2013). This analysis posits that syntactic markedness in the number domain necessitates semantic competition, though semantic competition may be optionally induced without it. As such, an anti-alignment pattern of syntactic/semantic markedness for the singular/plural domain is required compute the interpretations available for the singulative/collective domain.

To illustrate the problem at hand, consider the number marking systems of Welsh and Arabic, where singular/plural is attested, but also a singulative/collective system where the singular term is morphologically derived from a non-singular base. I will follow grammarian tradition and call this a collective, though I offer no theoretical assumptions to this term. The singulative term is semantically and syntactically used as singular count, and collectives have the semantics of general number in the sense of Corbett (2000), thus may be used to refer to either atoms or sums.[1] On the understanding that plurality is number neutral, the general number feature of collectives can be interpreted as syntactically unmarked plurality. Note, if we take the collective to not be plural-flavoured, but something else, then we are left wondering why the singular is marked in the collective/singulative system, and why it has no plural in Welsh, and why the plural of the singulative is restricted in Arabic.

(1)   Singular / Plural system

     a.   Singular → Plural

     b.   brechdan → brechdanau (Welsh, sandwich, sandwiches)

     c.   sanduwiish → sanduwiishaat (Arabic (sound plural), sandwich, sandwiches)

     d.   'asad → 'aswaad (Arabic, (broken plural), lion, lions)

(2)   Singulative / Collective system

     a.   Colective → Singulative → Plural of singulative (Arabic only)

     b.   pysgod → pysgodyn → *pysgodynau (Welsh, fish, a fish, *fishes)

     c.   samak → samak-ah → samak-aat (Arabic, fish, a fish, fishes)[2]

The singular/plural system in both Welsh and Arabic follow observations that are well known in the literature: bare plurals are exclusive (refer to sums only) in existential upward entailing (UE) contexts (3), and inclusive (refer to sums or atoms) in downward entailing (DE) contexts (5) and questions. Following Ivlieva (2013), this is easily analysed as negation of semantically stronger alternatives before event closure in UE contexts (4). The derivation of (3) in (4) shows that the

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[1]Singulatives also serve as classifiers (Grimm, 2012; Mathieu, 2013; Fassi Fehri, 2004).

[2]The Arabic feminine termination -ah, is replaced by vowel elongation in sound plurals

literal *Dafydd bought one or more sandwiches* has a stronger alternative, *Dafydd bought one sandwich*, which is negated. The conjunction of the prejacent and the negated alternative reduces to *Dafydd bought two or more sandwiches*. In DE environments (5) there is no stronger alternative to the plural. As such, no pragmatic enrichment and reduction takes place (6). For space reasons, I show only Welsh, but the pattern holds for both sound and broken plurals in Arabic.

(3) Prynodd Dafydd frechdan-au
buy.past.3 Dafydd sandwich-pl
Dafydd bought sandwiches (2 or more)

(4) $exh(\lambda e.\exists X[^*sandwich(X) \wedge ^* buy(e) \wedge ^* AG(e)(d) \wedge ^* TH(e)(X)])$
$\lambda e.\exists X[^*sandwich(X) \wedge ^* buy(e) \wedge ^* AG(e)(d) \wedge ^* TH(e)(X)] \wedge \neg \lambda e.\exists X[^*sandwich(X) \wedge ^* buy(e) \wedge atom(X) \wedge ^* AG(e)(d) \wedge ^* TH(e)(X)]$
$= \lambda e.\exists X[^*sandwich(X) \wedge |X| > 1 \wedge ^* buy(e) \wedge ^* AG(e)(d) \wedge ^* TH(e)(X)]$

(5) Ni phrynodd Dafydd unrhyw frechdan-au
Neg buy.past Dafydd any sandwich-pl
Dafydd didn't buy any sandwiches

(6) $\neg \exists e \exists X[^*sandwich(X) \wedge ^* buy(e) \wedge ^* AG(e)(d) \wedge ^* TH(e)(X)]$
No stronger alternatives, no pragmatic enrichment.

The problem is, then, if we take the collective to be plural-flavoured, it should follow a semantic derivation similar to just described. However, it is not obligatorily exclusive in existential contexts, though such an interpretation is strongly preferred. Again, this holds for the Arabic collective, too.

(7) Prynodd Dafydd bysgod
buy.past Dafydd fish.col
Dafydd bought fishes / ?a fish[3]

Further, if the collective is plural-flavoured, then it is unexplained why the singulative pluralises in Arabic. Note however, the bare plural of the singulative is restricted: unlike plurals of singulars it cannot appear in questions, and in DE contexts it is generally seen as ungrammatical unless it appears with an NPI such as ayy 'any'. (c.f. Mathieu (2014)).

(8) *hal ištarā Ahmed-u samak-aat-in?
Q past.buy.m.3 Ahmed-nom fish-sg.f.pl-acc?
Did Ahmed buy fish?

(9) Ahmed lam yaštarī *(ayy) samak-aat
Ahmed neg pres.buy.m.3 any fish-sg.f.pl
Ahmed didn't buy any fish

The analysis put forward is that plural marking is inclusive, and alternatives are necessarily computed for all morphological plurals, be that plurals of singulars, or plurals of singulatives in UE and DE contexts. Non-morphological plurals (collectives) do not necessitate competition, though they may optionally induce it. Considering that the plural of the singulative will be semantically equivalent to a collective, it will be blocked in cases where a collective can be used, due to economy. For Welsh, this is transparent: all plurals of the singulative are blocked. For Arabic, the plural of the singulative is blocked in some domains (questions), but is saved in others by repair strategies that are not available in Welsh, such as covert numerals (in UE existential contests) and domain widening in DE contexts.

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[3]*pysgod* has changes to *bysgod* due to Welsh phonological mutation. It is semantically transparent and does not effect the meaning of the noun.

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