Parts of clusters and Ukrainian singulatives

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Singulatives are derived unit nouns, i.e., expressions designating a singular object individuated from a plurality perceived as a homogeneous collection of entities (Acquaviva 2015, Kagan et al. t.a.). In this paper, we examine Ukrainian word formations such as *hrad* 'hail' → *hradyna* 'hailstone' and propose a mereotopological analysis on which the singulative morpheme *-yna* is an atomizer. It selects for an aggregate predicate, i.e., a property of entities prototypically conceptualized as clusters, and turns it into a predicate of discrete singular integrated wholes.

The suffix *-yna* always attaches to an uncountable concrete noun to form a countable concrete unit noun, but it combines only with a subset of uncountable nouns. The base is typically an aggregate noun, i.e., an expression designating entities naturally perceived as forming cohesive collections, as in the table below.

	GRANULAR	OBJ MASS	AMBIGUOUS	LIQUID	PL TANTUM
BASE	*žyto*	*posud*	*cybuľa*	*rosa*	*korali*
	'rye'	'dishes'	'onion(s)'	'dew'	'coral beads'
SGV	*žytyna*	*posudyna*	*cybulyna*	*rosyna*	*koralyna*
	'a grain of rye'	'a dish'	'an onion'	'a dew drop'	'a coral bead'

Following Grimm (2012), we adopt mereotopology, a theory of wholes extending standard mereology with topological notions which enables to capture subtle distinctions between different spatial configurations of objects (Casati & Varzi 1999). For instance, the notion of MAXIMALLY STRONGLY SELF-CONNECTED (MSSC) allows for distinguishing between integrated wholes and other mereological objects such as scattered entities and arbitrary sums. On the other hand, the concept of CLUSTER (CLSTR) enables to define pluralities of transitively connected entities, i.e., aggregates of objects. We assume that an Ukrainian granular noun like 'hail' denotes an aggregate predicate (1). The suffix *-yna* denotes a predicate modifier that takes an aggregate predicate and yields a predicate of MSSC objects (2). Thus, when it combines with (1), we obtain the semantics in (3), specifically the singulative *hradyna* denotes a set of separate hailstones. This accounts for the distribution of *-yna* and the effect of the singulative designating a unit within an aggregate.

(1) $[\![\,hrad\,]\!] = \lambda x[\text{CLSTR}(\text{HAIL})(x) \vee {}^*\text{HAIL}(x) \vee \text{MSSC}(\text{HAIL})(x)]$

(2) $[\![\,{-}yna\,]\!] = \lambda P_{\,:\,\text{AGGR}(P)}\ \lambda x \exists y[P(y) \wedge x \sqsubseteq y \wedge \text{MSSC}(P)(x)]$

(3) $[\![\,hradyna\,]\!] = \lambda x \exists y[[\![\,hrad\,]\!](y) \wedge x \sqsubseteq y \wedge \text{MSSC}([\![\,hrad\,]\!])(x)]$

References: • Acquaviva (2015) *Singulatives* • Casati & Varzi (1997) *Parts and places: The structures of spatial representation* • Grimm (2012) *Number and individuation* • Kagan, Geist & Erschler (t.a.) *Mass-count distinction and the Russian singulative suffix -in*