# Structural effects of morphological directionality in psych verbs. A typology

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INTRODUCTION. Languages differ with respect to the morphological structure of their verbal inventory in the psych domain: Some languages derive intransitive experiencer-subject (ES) verbs from more basic transitive experiencer-object (EO) verbs by morpho-syntactic operations such as stative passivization (e.g. German, English), reflexivization (e.g. German, Spanish), or mediopassive voice (e.g. Greek, Icelandic). Other languages apply transitivization to intransitive bases, e.g. via causative affixes (e.g. Turkish, Japanese, Yucatec Maya) or embedding under causative predicates (e.g. Korean, Chinese).

(1)   *Morphological structure of experiencer verbs*
    a.      transitive EO basis        → intransitive ES derivation
            *gleðja* 'please'                *gleðjast* 'please:MID'                          (Ice.)
    b.      intransitive ES basis       → transitive EO derivation
            *pwukkulepta* 'be.ashamed'    *pwukkulepkey hata* 'be.ashamed:ADVR do' (Kor.)

The psych verb inventory of most languages displays a strong preference for one derivational pattern. This is in line with the overall typology of *transitivizing* vs. *intransitivizing* languages (Nichols et al. 2004). For psych verbs, this classification is especially pertinent, given that variable linking is a widely recognized characteristic of this domain (Belletti & Rizzi 1988, Pesetsky 1995). The present study tests this observation on a larger scale, presenting comparative empirical data on the interplay of morphology and syntax in the psych domains of five typologically diverse languages: Icelandic, Spanish, Korean, Chinese and Finnish. The aim is to investigate a possible link between determinants of morphological directionality and the presence or absence of another well-known property of psych predicates: non-canonical syntax (Aikhenvald et al. 2001, Bhaskararao & Subbarao 2004).

METHOD. Following the current methodology in typological studies of lexical domains (s. Nichols et al. 2004, Comrie et al. 2006, Haspelmath & Tadmor, eds. 2009, etc.), we defined conceptual subdomains on a language-independent level in order to elicit comparable psych verbs/constructions in the sample languages. We selected five basic emotion domains (HAPPINESS, SADNESS, ANGER, FEAR, DISGUST) as proposed e.g. by Johnson-Laird & Oatley 1989 (see also Ekman 1992, Turner 1999, Levinson et al. 2007, Sauter 2009). Based on semantic factors structuring each domain and *Universal Antecedent Events* (see e.g. Ekman 1999), we devised a questionnaire which was used to elicit lexicalizations for various experiential contexts from native speaker informants. The resulting data were analyzed, coded and glossed to create a cross-linguistic database of alternating psych verbs. A comparison of the coding patterns for morphology and argument structure across items sheds light on the repercussions of morphological operations on syntax within and across languages.

RESULTS. As expected, each language employed a variety of mechanisms in order to effect the psych alternation. *Bases* were operationalized as the morphologically less complex member of a pair of alternants with opposing argument realizations. Both morphological (i.e. derivational) and syntactic (i.e. periphrastic) operations were included in the analysis. The distribution of base orientation (cf. Nichols et al. 2004) across bases and languages is as follows:

(2)   *Structural patterns in sample* (n = 393)[1]

| LANGUAGE | BASES TOTAL | % BASE ES | % BASE EO | MAIN ALT. STRATEGIES |
|---|---|---|---|---|
| Icelandic | 30 | 6.67 | 90 | mid. voice |
| Spanish | 119 | 0 | 100 | reflexive |
| Korean | 113 | 91.15 | 0 | periph. causative |
| Chinese | 71 | 92.95 | 2.82 | periph. causative |
| Finnish | 60 | 45 | 28.34 | morph. caus., inch./mid. |

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[1] Where percentages do not add up to 100, the remaining items exhibited double derivation. Some marginal cases in which items showed both a clear base orientation and double derivation were also excluded.

The overall patterns are rather clear-cut. Icelandic and Spanish are detransitivizing beyond doubt, applying (historically linked) morphological strategies such as middle voice and reflexivization to EO bases. Chinese and Korean, in turn, predominantly transitivize ES bases using a host of periphrastic constructions. Finnish takes a middle ground, distributing its bases across linking patterns, with ES bases occurring around 1.5 times as often as EO bases. The two main strategies employed in this language are causativization and the formation of inchoative/mediopassive verbs, both of which are achieved via morphology.

This distribution of morphological strategies falls squarely within recent observations in valence typology (Nichols et al. 2004, Malchukov & Comrie 2015). Experiential predicates by definition select for a sentient, and thus animate, participant. This places our entire sample in Nichols et al.'s (2004) class of *animate verbs*, for which they observed a number of strong global correlations: First, languages with a propensity to intransitivize will disfavor causative derivations. Second, detransitivization was found to be globally rare, with the critical exception of the Indo-European phylum (cf. also Cysouw 2011), while transitivization is common in the Asian macro-area. Both of these results are clearly reflected in (2). An implication of the latter is that the morphological directionality of the psych alternation may reduce to simple areal typological factors. This is highly relevant, given Nichols et al.'s (2004) third pertinent observation: Transitivization frequently relies on regular and functionally bounded morphological operations, while intransitivizing predicates tend to expand their domains over time, incurring structural irregularities along the way. Crucially, the intransitivizing language type has been claimed to correlate with the presence of psych properties (Landau 2010, Verhoeven 2010, 2014, Temme & Verhoeven 2016), challenging assumptions of universal structures. Again, the patterns displayed by the languages in (2) align neatly with this assumption: Icelandic is arguably infamous for its wealth of oblique subjects (Zaenen et al. 1985) and Spanish displays clitic alternations and non-canonical word order effects in non-agentive EO predicates (Franco 1990, Landau 2010). In contrast, the secondary, i.e. transitivized EO predicates of Chinese and Korean behave identical to canonical transitive verbs, i.e. they do not show peculiar syntax with respect to the experiencer object. This correlation seems to be functionally motivated given that the basic intransitive verb in these languages encodes a syntactically prominent experiencer, while the stimulus is a causing actor and the experiencer an undergoer of a caused change in the causativized alternant (Pesetsky 1995). Finnish presents a special case, showing both derivational directions. Interestingly, this coincides with divided opinions on its status: While Landau (2010) claims that Finnish passives exhibit non-canonical behavior in line with phenomena from Icelandic and Spanish, others have argued that Finnish passivization is uninformative with regard to argument status (e.g. Sakuma 2013). Clearly, the placement of Finnish is a touchstone for the interrelation of morphological directionality and the presence of psych properties, a question which can only be resolved through further empirical investigation and work on a larger sample of languages.

We present new, parallelized elicitation data pertaining to the morphological and syntactic behavior of the languages in (2). Furthermore, we discuss the interaction of their genealogically informed morphosyntactic make-up with effects of non-canonicity, providing new evidence for a typologically adequate theory of experiential predicates.

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