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Language Change in Samoan and the Degree Semantics Parameter

Summary. The paper presents the result of a corpus study on language change in Samoan, tracing a recent change in the setting of the Degree Semantics Parameter. We suggest that an earlier stage of the language had a negative setting of said parameter. Appropriation of another scalar concept then paved the way for the introduction of degrees into the grammar. Lexical and syntactic re-analysis of the directional particle *atu* ('away') results in a new parameter setting.

Background. There is a considerable amount of crosslinguistic research (e.g. Beck et al. 2009, Bochnak 2015, Bowler 2016, Reisinger & Lo, to app.) showing that languages vary in the semantics of gradable predicates, (1) and (2). For Present-Day Samoan (PDS), Hohaus (2010, 2012, 2015) argues that gradable predicates are of type $\langle d, \langle e, t\rangle\rangle$, like English (2-a).

(1) DEGREE SEMANTICS PARAMETER [+/− DSP]:
A language {does/ does not} have gradable predicates (type $\langle d, \langle e, t\rangle\rangle$ and related), *i.e.* lexical items that introduce degree arguments.

(2) a. $[\![\, tall_{\text{ English, [+DSP]}} \,]\!]^s = \lambda d_d.\, \lambda x_e.\ \text{HEIGHT}_s(x) \geq d$
b. $[\![\, tih$ ('big')$_{\text{ Mainland Comox, [-DSP]}} \,]\!]^s = \lambda C_{\langle e,t\rangle}.\, \lambda x_e.\, x$ counts as tall in s with respect to C

A central piece of evidence for such an analysis comes from the availability of a differential comparative, (3), whose analysis is problematic without degrees (e.g. von Stechow 1984a,b). In PDS, the functional morpheme *atu* ('more, away') serves double duty between comparative and directional particle, operating on different scalar elements, degrees and locations on a path, (4) and (5). At the same time, however, unlike in other [+DSP] languages, there is not an entire paradigm of degree constructions build around this gradable predicate. What is more, the unmarked form of the gradable predicate in PDS receives a superlative interpretation (*E umi Malia.* 'Mary is the tallest.'), which is derived by a covert superlative operator, (6).

(3) *E umi atu Malia [i le lua inisi] i lo lona uso.*
TAM tall DIR. Mary PREP. the two inch PREP. COMP. POSS.3.sg. sister
"Mary is two inches taller compared to her sister."
$\text{MAX}(\lambda d.$ M is d-tall$) >$ $\text{MAX}(\lambda d'.$ M's sister is d'-tall$) + 2$ in

(4) *Ua alu <u>atu</u> Sina.*
TAM(inchoat.) go DIR. Sina
'Sina has just left.'

(5) a. $[\![\, atu_{\text{ degree}}$ ('more')$ \,]\!] = \lambda c_d.\, \lambda d_d.\, \lambda R_{\langle d,\langle e,t\rangle\rangle}.\, \lambda x_e.\ \text{MAX}(\lambda d.\, R(d)(x)) \geq c + d$
b. $[\![\, atu_{\text{ directional}}$ ('away')$ \,]\!] = \lambda c_l.\, \lambda R_{\langle l,\langle e,t\rangle\rangle}.\, \lambda x_e.\ \text{end}(\lambda l.\, P(l)(x)) \neq c$

(6) $[\![\, \text{Op} \,]\!] = \lambda C_{\langle e,t\rangle}.\, \lambda P_{\langle d,\langle e,t\rangle\rangle}.\, \lambda x_e.\ \forall y\, [y \in C\ \&\ y \neq x \rightarrow \text{MAX}(\lambda d.\, P(d)(x)) > \text{MAX}(\lambda d'.\, P(d')(y))]$

The Diachronic Perspective. In 1834, the London Missionary Society introduced a writing system for the Samoan language. The first bible translation, a dictionary and a grammatical description were published in 1862. Based on this timeline and the data available, our generalizations are going to be for the grammar of Samoan late-19th to mid-20th century, here referred to as Early Written Samoan (EWS). We suggest that EWS lacked the directional comparative of PDS and was [-DSP]. Data indicative of this change in parameter setting come from three sources: First, a careful philological study of early descriptions of the language, whose authors explicitly comment on the unavailability of a comparative construction that is structurally parallel to English (Pratt 1862, Funk 1893, Neffgen 1903). Instead, EWS employed the conjunction of antonym pairs to indirectly

bring about a comparison: *E lelei lenei, a e leaga lela* ('This is good, but this is bad'). Conjoined comparatives are reported as a (albeit dispreferred) strategy for comparison as late as 1975 by Marsack (1975, p. 66). Later descriptions do not mention the conjoined comparative anymore (Hunkin 1992, Mosel & Hovdhaugen 1992, Mosel & So'o 1997). The directional comparative is first mentioned by Holmer (1966, p. 27). Second, un-systematic data on synchronic variation across age groups in PDS, the apparent-time method (Bailey et al. 1991; Magué 2006), also show that conjoined comparatives are not consistently accepted by consultants across all age groups and actively produced only by older speakers. Third, a quantitative study on a corpus of written texts from the 19th century finds no clear occurrences of the degree use of *atu* ('more') within a total of 1,776 occurrences.

corpus	# total	# DIR.	# COMP.	# unclear
1862 bible translation	821	820 (99.88%)	0 (0.00%)	1 (0.12%)
Stübel (1896)'s collection	955	953 (99.79%)	1 (0.10%)	1 (0.10%)

We conclude that unlike PDS, EWS is [-DSP] and lacks degree operators in its functional lexicon.

Modelling the Change. We suggest to model this development by assuming two steps of change that go hand-in-hand. On the one hand, a type transfer from locations, ordered elements of paths (see also e.g. Cresswell 1978, Krifka 1998), to degrees, elements of scales, and the re-analysis of directional particle as contextual comparative operator, (7).

(7) $[\![\, atu_{\,\mathsf{directional}}\ (\text{'away'})\,]\!] \in D_{\langle l,\langle\langle l,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle\rangle} \quad \overset{+}{\longrightarrow} \quad [\![\, atu_{\,\mathsf{degree}}\ (\text{'more'})\,]\!] \in D_{\langle d,\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle\rangle}$

Such a re-analysis is plausible in environments in which a motion verb is modified by both a gradable adverb and the particle. Thus, [[verb adverb] [*atu* ('away')]] can also be bracketed as [[verb] [adverb *atu* ('more')]]. On the other hand, the vague predicate would have to be decomposed into a gradable predicate and the covert Op that we find in PDS. We suggest that the latter step was modulated by the truth conditional equivalence of a vague-predicate statement when the comparison class contains only two elements, with a superlative statement.

(8) If $C = \{\mathsf{Mary};\ \mathsf{John}\}$,
$\{s : \mathsf{Mary\ is\ considered\ tall\ in}\ s\ \mathsf{with\ respect\ to}\ C\} =$
$\{s : \forall x\,[x \in C\ \&\ x \neq \mathsf{Mary} \rightarrow \mathsf{Mary's\ height\ in}\ s\ \mathsf{exceeds}\ x\text{'s height in}\ s]\}$
$[\![\, umi\ (\text{'tall'})\,]\!] \in D_{\langle d,\langle e,t\rangle\rangle} + [\![\,\mathrm{Op}\,]\!] \in D_{\langle\langle e,t\rangle,\langle\langle d,\langle e,t\rangle\rangle,\langle e,t\rangle\rangle\rangle}$

This decompositional re-analysis is thus based on the probably most frequent type of utterance context and then spreads to all other utterance contexts. In summary, the two changes in tandem get us from [-DSP] to [+DSP]. The first step introduces a new functional Deg head, the second provides the gradable predicate and a second degree operator. The change in parameter setting is thus however not "an abrupt change in grammars" (Lightfoot 1997, p. 171).

Concluding Remarks. So far, Samoan is the only language for which we can plausibly assume a change in the setting of the DSP. In Samoan, degrees enter the grammar through two well-known mechanisms of language change: (i) syntactic and semantic re-analysis (facilitated through structural ambiguity, on the one, and truth conditional equivalence in a specific utterance context and decomposition, on the other hand), and (ii) borrowing from another domain (here another scalar domain). The transition from [-DSP] to [+DSP] also raises some interesting questions about the nature of semantic change. Language change is often argued to be "cyclical change" (van Gelderen 2016, p. 4). The change from [-DSP] to [+DSP] however is plausibly one-directional.

Selected Short References. Beck, S. et al. (2009). "Variation in Comparison Constructions." *LV* 9: 1-66. ::: Krifka, M. (1998), "Telicity." In S. Rothstein (ed.), *Events and Grammar* (Dordrecht: Kluwer, 197-235). ::: Lightfoot, D. (1991), *How to Set Parameters* (Cambridge: MIT Press). ::: Marsack, C.C. (1975), *Samoan* (Norwich: EUP). ::: von Stechow, A. (1984), "Theories of Comparison." *JoS* 3.1-2: 1-77. ::: Stübel, O. (1896), "Samoanische Texte." *Veröffentlichungen aus dem Königlichen Museum für Völkerkunde* 4.2-4: 54-246.