The curious development of *have*-raising in Scotland

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We describe an unexpected development in the late stages of V-to-T loss in dialects of Scots, and we propose an analysis in terms of the acquisitionist grammar competition theory of Yang (2001). Our analysis motivates a rethink of how competition works and demonstrates the utility of the multiple grammar approach for explaining syntactic variation.

Data. *Have*-raising is where 'main verb' *have* shows auxiliary-like behaviour by raising to T or C (1a,b) or contracting onto the subject (1c).

(1) a. I haven't any money. b. Have you any money? c. I've a copy you can use.

The retention of *have*-raising in British dialects represents the last vestiges of V-to-T syntax in English, so an examination of *have*'s development gives us a close-up on the mechanisms of syntactic variation and change. We use judgment and production data from the *Scots Syntax Atlas* (Smith 2015-19) to examine the late stages of this change in Scots. These data – which will be presented in full in the talk – can be summarized by the following observations.

a. *Have*-raising with an indefinite possessum is widely accepted and relatively stable
b. *Have*-raising is less widely accepted with a definite possessum (e.g. *I haven't that book*)
c. Acceptance of *have*-raising with a definite possessum is consistently higher among older speakers (65+) than among younger speakers (18-25)
d. *Have*-raising with definites is retained most by young and old in northeast Scotland, a known relic region with many conservative features (Smith 2001)

In sum, in the late stage of the loss of V-to-T, *have*-raising develops a striking **definiteness effect**, all the more remarkable as it is absent from simple *have*-clauses, *have got* or with *do*.

(2) a. I (don't) have that book. b. I've got that book. c. I haven't got that book.

Do* and *got. We review previous work on the history of *have* to understand the conditions which may have brought about this definiteness effect. There are two key innovations: (i) the rise of *have got*; (ii) the introduction of *do*-support with *have* (henceforth *do-have*). Both innovations introduce new ways to realize possessive clauses and so may be viewed as 'competitor' forms in the sense of Kroch (1989), but they affect *have*'s development in different ways. *Do-have* doesn't appear in British English (BrE) until the mid-1900s (Sutherland 2000), as much as 100 years later than in American English (AmE) (Noble 1985). Its appearance seems to coincide with the loss of *have*-raising, as *have*-raising had already been lost in AmE in the mid-1800s, while it has waned or disappeared from BrE dialects in the 20th century. This picture is further supported by Tagliamonte's (2003, 2012) investigation of multiple dialects of BrE, where we see that *have*-raising (as diagnosed by the availability of contraction) is retained most in those dialects which were latest to adopt *do-have*. *Have got* seems not to have the same effect, as overall rates of *have got* use are similar across dialects studied by Tagliamonte, and while Noble's data shows that *have got* advances so far as to almost completely replace have in BrE, nevertheless *have*-raising is maintained residually in many BrE dialects, at least prior to the introduction of *do-have*.

Types of *have*-clause. We propose that there are three analyses for *have*-clauses in English. (3)-(4) are versions of the transitive analysis for *have*-clauses defended by Myler (2014), where the possessor is introduced as an external argument. They differ with respect to which verbal head is spelled out as *have*: on the high transitive analysis (3, HT), *have* lexicalises the higher head Voice, while in the low transitive analysis (4, LT) it lexicalises *v*. In addition, there is also an analysis where the possessor starts out as the specifier of the possessum and raises by A-movement to Spec,TP (cf. Kayne 1993); we call this the existential analysis (5, EX). As an existential construction, this is incompatible with a definite possessum.

(3) High transitive (HT): $[_{TP}\ DP_i\ [_{T'}\ T\ [_{VoiceP}\ t_i\ [_{Voice'}$ have $[_{vP}$ v DP]]]]]
(4) Low transitive (LT): $[_{TP}\ DP_i\ [_{T'}\ T\ [_{VoiceP}\ t_i\ [_{Voice'}$ Voice $[_{vP}$ have DP]]]]]
(5) Existential (EX): $[_{TP}\ DP_i\ [_{T'}\ T\ [_{vP}$ have $[_{DP}\ t_i$ NP]]]]

Each of these has at least two exponence patterns: one where the highest verb is in situ, and one where it moves to T. With LT, the highest verb is not *have* but rather the null Voice head; when Voice moves, it spells out as *do* (cf. Embick & Noyer 2001, Bjorkman 2011), meaning LT generates *do-have* but not *have*-raising. EX can generate *have*-raising with *v* (=*have*) in T, since this *v* is the highest verb. The *have* in HT can also raise, and in fact we claim that it is associated with two distinct spellout patterns: its trace may spell out as *got* (HT-*got*) or zero (HT-t). The claim that *got* is a spellout of a trace of *have* is motivated by the fact that it only occurs in possessive clauses when *have* is finite (cf. 6a,b) and plausibly in T; if *have* is low, for instance if it follows adverbs, then *got* is impossible.

	in-situ	in-T	Trace=got
HT	have (in)def	have X (in)def	have got (in)def
LT	have (in)def	do X have (in)def	
EX	have indef	have X indef	

(6) I want to have (*got) a pen. (7) I only have (*got) a pen.

The table summarizes what each analysis can generate: HT-in-situ generates *have*-clauses with definite or indefinite possessums; EX-in-T generates unambiguous cases of *have*-raising (with some diagnostic X, e.g. negation) with an indefinite possessum, etc. It is crucial for our proposal that it's not the case that all English speakers have access to all of the analyses in (3)-(5) at any given time: whether a given grammar is acquired depends on the input. We claim that the definiteness effect comes about where competition between the different forms leads to the EX-in-T analysis being the only one which can generate *have*-raising without *got*.

Competition. We adopt the acquisitionist approach to grammar competition in Yang (2001): grammars (Gs) compete to analyse input, and Gs which generate the highest proportion of unambiguous sentences (sentences that no other G generates) are the fittest ones which ultimately win out over generations. Change comes about when there is variation in the input and two or more analyses have a distinct fitness in analysing the variable input. One issue with applying Yang's model to *have* is that the theory doesn't place any conditions on which Gs are selected for competition; in other words, if all of the analyses above are plausible for *have*-raising, then they should all be available to any learner of English at any given time. If this were so, the EX-analysis should never gain any ground: it will always lose as it has no fitness. We propose that learners are generally biased to establish a one-to-one relationship between structures and spellout patterns, and they only consider different spellouts of the same structure if there is positive evidence to force it; call this the *isomorphism bias*.

In our case, this means that learners only entertain multiple versions of the transitive analysis if there is data which requires them, and so in the development of *have* LT will only become involved in competition once instances of *do-have* are found in the input; otherwise HT will provide an analysis of any given *have*-clause as well as the initially abundant instances of *have-X* order. Similarly, and crucially, in a pre *do-have* stage where LT is not under consideration, HT-t will be dispensed with as an analysis when the data which provides unambiguous evidence for it – *have*-raising with a definite possessum – is so sparse that it falls below some threshold which needs to be met for a grammar to be maintained. We suggest that such a situation came about in the history of English when *have got* progressed to near-completion: the rarity of the relevant examples leads to HT-t being dispensed with (HT-in-situ and HT-*got* are still being used). Our corpus data suggest that indefinite possessums may be up to three times more frequent than definites, so it is likely there will be a stage when HT-t has become very infrequent and all of its inputs involve indefinite possessums. A learner can analyse these successfully with EX-in-T, which is not pushed out of competition by the isomorphism bias, so HT-t is given up. This is how the definiteness restriction comes about: *have got* squeezes out HT-t, EX-in-T is still under consideration, and *do-have* is not yet frequent enough for the greater fitness of LT to have forced out EX-in-T.