

English split intransitivity: an historical perspective

Some provisional explorations – SyntaxLab, University of Cambridge 27th November 2018

James Baker

jb750@cam.ac.uk or jsbaker750@cantab.net

1. Background

1.1. Previous work

Baker (2018) discusses *split intransitivity* in (present-day) English and a variety of other languages.

- Split intransitive patterns, also called *unaccusative* patterns, are those which divide intransitive verbs into two (or more?) groups, for example:

- (1) *Lucy talked/swam/arrived.*
- (2) *Lucy outtalked/outswam/*outarrived Chris.*
- (3) *talker, swimmer, *arriver*

Traditional approaches following Perlmutter (1978) have taken the position that intransitives divide into two classes (the “Unaccusative Hypothesis”): *unergatives* and *unaccusatives*.

- *talk, swim* = unergative
- *arrive* = unaccusative

In Baker (2018) I argued that this was too simplistic:

- within and between languages, unaccusativity diagnostics seem to pick out multiple, overlapping classes of verbs (see also i.a. Rosen 1984, Van Valin 1990, Sorace 2000 ...);
- in English, for example:
 - *freeze* and *fall* may both be taken to be “unaccusative”; because for example they can both form prenominal past participles:

- (4) *the frozen ice*
- (5) *the fallen leaves*

- However, *froze* allows resultatives and causatives, and *fall* doesn't:

- (6) a. *The ice froze solid.*
b. *Lucy froze the ice.*
- (7) a. **The leaves fell ???.*
b. **Gravity fell the leaves.*

- A prototypical “unergative” like *talk* allows none of these. *swim* acts like *talk* in most respects:

- *Lucy outtalked/outswam Chris.*
- *talker, swimmer*
- *Lucy talked/swam her way into the harbour.*
- *Lucy was talking/swimming away.*

- But *swim* does allow resultatives:
- *Lucy swam free of the seaweed.*
- Meanwhile stative verbs like *remain* do not (or not consistently) allow any of these constructions.
- Et cetera (cf. Levin and Rappaport Hovav 1995).

The VICTR model:

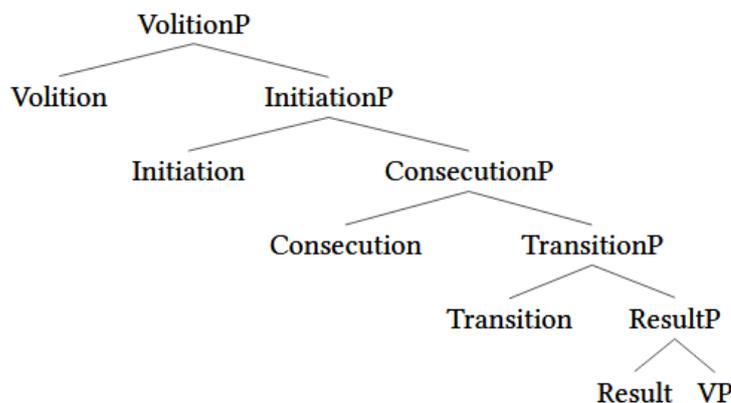
- Patterns like this are best captured in terms of multiple features: [\pm volition], [\pm initiation], [\pm consecution], [\pm transition], [\pm result].
- Different diagnostics are sensitive to different features or feature combinations:

	[volition]	[initiation]	[consecution]	[transition]	[result]
Causatives		-		(+)	
Resultatives				+	
Prenominal past participles <i>for hours</i>			-	+	
<i>V away, V one's way into, -er</i>			+		-
Cognate objects, <i>out-</i>	(+)	(+)	+		

Table 1

- In Baker (2018) I argued that these features were arranged on heads a syntactic hierarchy, the “VICTR Hierarchy”:

(8) The VICTR Hierarchy:



- More traditionally, it could be suggested that [\pm volition], [\pm initiation] and [\pm consecution] are associated with “external arguments” and [\pm transition] and [\pm result] with “internal arguments”.

- On this model, though, some arguments can be *both* “external” and “internal” (e.g. arguments of *swim, go*).
- And some are possibly neither (e.g. arguments of monovalent statives)?
- Details of syntactic hierarchy are however not important here.¹ Focus on *features* to which constructions are sensitive.

Classes of intransitives:

	[volition]	[initiation]	[consecution]	[transition]	[result]
A. <i>talk, cough ...</i>	+/-	+	+	-	+/-
B. <i>swim, slide ...</i>	+/-	+	+	+	+/-
C. <i>shine, stink ...</i>	-	-	+	-	+/-
D. <i>stay, sit ...</i>	+	-	-	-	-
E. <i>melt, sink ...</i>	-	-	-	+	-
F. <i>break, tear ...</i>	-	-	-	+	+
G. <i>come, arrive ...</i>	+/-	+	-	+	+

Table 2

Today’s questions:

- (I) **How have split intransitive patterns changed in the history of English?**
- (II) **Can this also be understood in terms of the VICTR features?**

Outline:

- Rest of section 1: some further theoretical/conceptual issues.
- Sections 2 and 3: various diagnostics in the history of English
 - divided according to whether they traditionally occur with “unergative” or “unaccusative” verbs.
- Section 4: auxiliary selection.
- Section 5: conclusions.

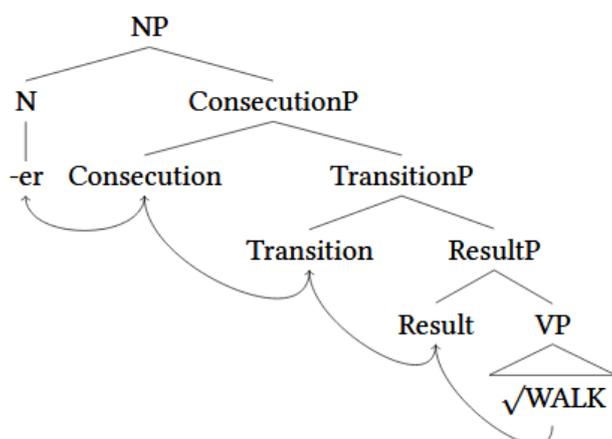
1.2. Diachronic change and the VICTR model

The VICTR model allows for and predicts diachronic change as the features and feature values to which a given construction is sensitive shift.

- For example:
 - Baker (2018) argues that the suffix *-er* (on *talker, swimmer* etc.) is an N head which selects for a [+consecution, -transition] complement.

¹ A problem for the second approach sketched concerns verbs like *flash* and *buzz*, which appear to be [+consecution] but can also take a higher initiator argument. This was one of the arguments for distinguishing [±initiation] and [±consecution] in terms of syntactic position.

(9) *walker*



- but perhaps historically *-er* used to select for a different set of values (e.g. [+volition], see below).
- A construction might become sensitive to *fewer* features (generalisation) or to *more* (restriction).
 - Generalisation:
 - [+volition,+consecution] > [+volition]
 - [+transition,+result] > [+transition]
 - Restriction:
 - [+volition] > [+volition,+consecution]
 - [+transition] > [+transition,+result]
- In general we do not expect these changes to occur in an ad hoc fashion:
 - Generalisation involves a loss of 1 out of 2+ features to which a construction is sensitive.
 - Restriction involves an addition of 1 feature to 1+ existing features.
 - Is one more likely than the other?
 - In any case, change is restricted to certain predictable pathways.

(Baker 2018 introduced the idea of “core feature sets”, one version of which is reproduced below. On this model certain behaviours are “agentive” and others “patientive”, depending on which set of features they depend on – a given behaviour may be sensitive to one or more features from those contained within a given core set. Diachronic change is thus predicted to mostly involve fluctuations which features a given construction is sensitive to *within a given core set*. This idea should be pursued further in future, but presents various complications – I will not discuss it more this evening.)

	[volition]	[initiation]	[consecution]	[transition]	[result]
Agentive core set	+	+	+		
Patientive core set				+	+

Table 3: The core feature sets.

Split intransitivity diagnostics often lead to *non-categorical acceptability judgements* (Baker 2018):

- (10) ?*cougher*, ?*melter*
 (11) ?*Lucy outpersisted Chris*.
 (12) ?*The butter melted its way into the toast*.

- These judgements may (sometimes) be indicative of *changes in progress*: the feature set to which a given construction is sensitive undergoing some alteration.
- Mixed behaviour of verbs within a given category may also be indicative of this.
- These sorts of judgements are difficult (to say these least) to draw in respect of historical periods, but may nevertheless potentially inform our understanding of ongoing changes, possibly in conjunction with historical data.

1.3. Some pitfalls

- The sparsity of the historical record is always going to restrict the degree to which conclusions can reliably be drawn.
- In the case of this particular study, many of the classifications made are *very* preliminary.
- How do we know that *these particular* featural classifications are the right one? Risk of imposing categories onto the data rather than letting the data speak for itself/themselves.
 - Particularly risky given:
 - (a) the prevalence of intermediate judgements, lexical idiosyncrasy etc. (easy to dismiss apparent counter-examples)
 - (b) sparsity of record and difficulty in testing hypotheses precisely.
 - Obviously some predetermined categories are helpful.
 - Testing a theory requires seeing how well the assumptions of that theory do, so can't discard those assumptions entirely.

It may be helpful to think about how well this approach does *in relation to other approaches*.

- See section 5.
- Various possible competing approaches, but a few to consider:
 - The traditional Unaccusative Hypothesis approach (Perlmutter 1978).
 - VICTR approach allows more fine-grained distinctions to be made, and makes clearer predictions about class membership.
 - Sorace (2000): the Auxiliary Selection Hierarchy:

Controlled process (non-motional)	<i>work, play, talk ...</i>
Controlled process (motional)	<i>swim, run, walk ...</i>
Uncontrolled process	<i>tremble, skid, cough, rumble ...</i>
Existence of state	<i>be, belong, sit ...</i>
Continuation of a pre-existing state	<i>stay, remain, last, survive, persist ...</i>
Change of state	<i>rise, decay, die, grow ...</i>
Change of location	<i>come, arrive, leave, fall ...</i>

Table 4: The Auxiliary Selection Hierarchy.

- Here, intransitives are divided into 7 categories.
- Split intransitive behaviours should pick out contiguous portions of the hierarchy (e.g. just the top three categories, just the top four, just the bottom two etc.).

- ASH categories can largely be defined in terms of VICTR features, but VICTR allows a greater number of distinctions (and makes more and different predictions about change).
- Where individual ASH categories aren't picked out by specific sets of VICTR features, behaviours which seem to be sensitive to these categories would suggest VICTR is too weak.
- Here I will often use Sorace's category labels for expositional purposes.
- Other "feature-based" approaches.
 - Does some other division of intransitives into classes, particularly when these classes are defined in terms of features, capture the data better?
 - This would suggest said featural model is better than the VICTR proposal (at least for that phenomenon; perhaps overall we need a synthesis).
 - Here I will only (briefly) consider Ramchand (2008), the approach most similar to the VICTR theory.
 - Ramchand proposes three functional heads *init*(iation), *proc*(ess)² and *res*(ult).
 - *init* and *res* correspond to [+initiation] and [+result], but Ramchand makes no [±volition] distinction. *proc* can represent either [+consecution] or [+transition] properties.

With these things borne in mind, let us proceed to the data.

2. "Unergative" patterns

2.1. *-er*

The deverbal suffix *-er* in PDE derives "agent" nominals. It is robustly accepted with [+volition,+consecution] verbs and a few others, and marginal with [-volition,+consecution] verbs (Baker 2018):

- Controlled non-motional processes [+volition,+consecution, -transition]: *worker, player, talker*
- Controlled motional processes [+volition,+consecution,+transition]: *swimmer, walker, runner*
- Uncontrolled processes: [-volition,+consecution]: *?cougher, ?trembler*

-er is also found with transitives (e.g. *destroyer*) and some nominal roots (e.g. *footballer*).

Kastovsky 1971:

- *-er(e)* found in OE with various verbs
- "overwhelming majority" involve human subjects, with tendency toward repeated/characteristic/professional action
 - (this tendency largely still holds today)
 - exceptions: *sytere* "river" ("one who moves swiftly"), *fiscere* "kingfisher" and some others
 - also cases like *word-samnere* "catalogue" – possibly best analysed as a slightly different construction

² Nb. *proc* ≠ "process" in Sorace's sense (which follows Pustejovsky and others). This is one reason I use [+consecution] rather than [+process].

- Cf. “instrumental *-er*” found today in *cooker, freezer*, etc.

OED: cited from OE/ME with verbs in a number of classes, many of which seldom occur with the suffix today, particularly from late 1300s:

Motional process	<i>player</i>	OE (<i>nacodplegere</i> = “gimnosophista”)
	<i>worker</i>	1382
	<i>talker</i>	1386
Non-motional process	<i>runner</i>	OE
	<i>swimmer</i>	1377
	<i>walker</i>	c1390
Existence of state	<i>sitter</i>	1340
	<i>beer</i>	1382
Change of location	<i>goer</i>	1382
	<i>departer</i>	1382
	<i>comer</i>	1390
	<i>riser</i>	1422
	<i>faller</i>	1440

Table 5

The productivity of the construction expands in a second wave c. 1530–1624:

Uncontrolled process	<i>rumbler</i>	1530
	<i>trembler</i>	1552
	<i>cougher</i>	1611
Continuation of state	<i>laster</i>	1547
	<i>remainer</i>	1565
	<i>stayer</i>	1591
	<i>persister</i>	1611
	<i>survivor</i>	1624
Change of state	<i>decayer</i>	1542
	<i>grower</i>	1562
	<i>dier</i>	1570

Table 6

Rough characterisation:

- in (late) ME (and probably OE given Kastovsky’s findings), *-er* is available to describe the subjects of [+volition] verbs only
 - this suggests *beer* is volitional, which is plausible; apparently used especially of God
- in ENE, scope of *-er* widens greatly, taking in potentially any intransitive subject

-er has subsequently seen a restriction in usage.

- OED is less useful for producing a chronology here.
- Google Ngrams suggests many of these forms – including ones widely judged ungrammatical by PDE speakers (Baker 2018) – have remained reasonably constant in frequency since the 1600s.
 - An exception is *dier*, which shows a marked decline between about 1800–1830.
 - Also *comer*, which shows a marked rise 1830–1885 followed by an equally marked fall 1885–1940:
 - this is not matched by similar patterns with *goer, faller, arriver, departer*.

- Frequency of *survivor* increases ~10x 1750–1800, at which point it is a little above its present day levels.
- Uncontrolled processes:
 - *trembler* only really becomes “established” (it has never been very frequent) after about 1750 (noticeable peak 1900–1925);
 - *cougher* and *rumbler* after 1850;
 - *skidder* after 1900.

Analysis: data is fuzzy at present but guesses can be made:

- the expansion of *-er* to all intransitives was never really established in terms of frequency of use;
- the modern system [+volition,+consecution] probably arises quite early on (perhaps actually competed with the “all intransitives” system?);
- there is a slight weakening to [+consecution] alone (independent of volition) from around the late 1700s/1800s, although this has yet to fully catch on;
- various idiosyncratic have been more-or-less dominant at different times in history (ones surviving today include *survivor*, *early-riser*, *all-comers* etc.)
 - Derivational morphology permits a high degree of idiosyncrasy in general. But note that these forms may all be to some degree relics of an earlier system.

(13) **Availability of *-er*:**

[+volition] > [+intransitive] > dies out in favour of competing system
 > [+volition,+consecution] (> [+consecution])

A note on a recent change:

- *remainder*, not generally accepted in my original PDE surveys (mid-2015), has since become commonplace;
- though in a restricted sense, not generally “ones who remains”;
 ⇒ lexical idiosyncrasy at work.

2.2. out-

The distribution of *out-* in PDE is similar to that of *-er*: widely accepted with controlled processes, more marginal with uncontrolled processes (Baker 2018):

(14) [+volition,+consecution, –transition]: *Lucy outtalked Chris*.

(15) [+volition,+consecution, +transition]: *Lucy outran Chris*.

(16) [–volition,+consecution]: ?*Lucy outcoughed Chris*.

OED – earliest dates in relevant sense (selection of forms; various others listed, often as “obs. / obs. rare” and fairly late):

<i>outrun</i>	motional process	c1385
<i>outdrink</i>	IOD	1450
<i>outride</i>	motional process	1530
<i>out-eat</i>	IOD	1530
<i>outwrestle</i>	reciprocal	1563
<i>outsail</i>	motional process	1580
<i>outswim</i>	motional process	1603

<i>outwork</i>	non-motional process	1611
<i>outtalk</i>	non-motional process	1614
<i>outclimb</i>	motional process	1616
<i>outdance</i>	motional process	1616
<i>outboast</i>	non-motional process	1616
<i>out-snore</i>	non-motional process	1616
<i>outwalk</i>	motional process	1625
<i>outsleep</i>	non-motional process	1627
<i>outfight</i>	reciprocal	1650
<i>outlaugh</i>	non-motional process	1672
<i>outstrut</i>	motional process	1690
<i>outplay</i>	reciprocal	1702
<i>out-squeal</i>	non-motional process	1830
<i>outfence</i>	reciprocal	1873
<i>outsprint</i>	motional process	1938

Table 7

(Cf. Schröder 2008, who finds an increase in new forms with *out-* in the 1600s – also based on OED data – but does not provide any word-by-word or syntactic/semantic class analysis.)

No absolutely clear-cut overall pattern, but:

- *outrun* the earliest attestation by some way (~65 years), and remains easily the most frequent (Ngrams)
 - e.g. about 28x more frequent than *outplay* and 72x more frequent than *outswim* at end of 20th cent.
 - subsequent patterns are to a large extent by analogy with *outrun*?
 - *run* is [+consecution,+transition].
- Other controlled motional processes ([+consecution,+transition]) often quite early to achieve *out-* forms, though perhaps not fully general till very late (e.g. *outsprint* first attested 1938).
- Also attested early on with indefinite object deletion verbs *eat* and *drink*:

- (17) a. *Lucy ate something.*
 b. *Lucy drank something.*

- And attested with several verbs which allow “reciprocal” uses:

- (18) a. *The knights wrestled each other.*
 b. *Lancelot wrestled Galahad.*

(also later *fight*, and much later *outfence*)

- *drink* (first attested with *out-* in 1450), *eat* (1530), *wrestle* (1563) are thus all arguably underlying transitive verbs which may facilitate their early adoption in the transitive *out-* frame:

- (19) *Lancelot outate/outdrank/outwrestled Galahad.*

- Such verbs are plausibly also [+consecution,+transition] in their transitive uses, again facilitating the extension of *out-*:

(20) *Lucy ate the cake.*
Lancelot wrestled Galahad.

⊖-CONSECUTION

⊖-TRANSITION

(see Baker 2018)

- In all these early instances also there is an implied semantics of *deliberate competition*; the importance of this meaning component weakens over time (though has yet to entirely disappear).
- Later (early 1600s) the construction starts to be attested with [+consecution,–transition] verbs like *work, talk, boast, snore*.
 - It's less clear that terms like *outsnore* and *outsleep* have any necessary competitive sense!
 - These are early attested forms of *out-* with [–volition,+consecution] “uncontrolled processes”; however such remain relatively uncommon.
 - *outsleep* about 7x less common than *outswim* at end of 20th cent. (Ngrams).
 - OED does not list *outcough* or *outskid* and speakers' judgements of these are often unclear (Baker 2018) :

(21) ?*Lucy outcoughed Chris.*

Exact pathway of change may be obscured by partialness of historical record but is tentatively as follows:

(22) **Availability of *out-*:**

run > [+volition,+consecution,+transition] > [+volition,+consecution] (> [+consecution])

- Generalisation from single lexical item to featurally defined class of verbs, which grows increasingly general (defined in terms of fewer features)
- Latter stage is still incomplete in spite of early attestation with [–volition] verbs
- Increased semantic bleaching of *out-* from an original “outdo in competition” sense (restricting its distribution in early stages)
- Possibly some persistent lexical idiosyncrasy (a feature of derivational morphology more general):
 - features place limits on availability of form but it may not be consistently attested within those limits
 - though possibly by 20th cent. *out-* is generally available (fully productive) with all [+volition,+consecution] intransitives
 - note also *outlast, outstay* ([–consecution] “continuation of state” verbs)

Nagano (2011; also based partially on OED data):

- *out-* also found with an “intensive” meaning from ME (e.g. *outbaken* “to bake thoroughly”, *out-tire*).
 - But this is an unrelated construction?
- from 1500s *out-* verbs based on N/Adj stems start to appear, e.g. *outgun, outsubtle*.
 - This is possibly related to the general increase in availability of *out-* with V stems in this period.

2.3. Cognate objects

Several intransitive verbs in English, mostly of the [+volition,+consecution] (controlled process) variety, accept cognate object constructions (Baker 2018):

- (23) *Lucy talks the talk.*
- (24) *Lucy walks the walk.*
- (25) *?Lucy coughed a cough.*

The general availability of cognate objects with “unergative” verbs is often somewhat overstated, and it may be more reasonable to say they are restricted to a small number of idiomatic constructions. However, a general restriction to [+consecution] (and particularly [+volition,+consecution]) verbs still holds.

Lavidas 2013:

- distinction between referential and non-referential cognate objects:

- (26) referential: *Lucy sang a song.*
- (27) non-referential: *Lucy smiled a smile.*

- non-referential cognate objects a “recent” development (citing Visser 1963–73)
- early examples:

- (28) *or to laboure oother labour* (c. 1450)
- (29) *efter þire wordis a lowde laȝter he loȝe* (c. 1450)
- (30) *ere the bat hath flowne his cloyster'd flight* (Shakespeare, *Macbeth*)

These examples and the others given suggest the early distribution is similar to today – cognate objects generally restricted to [+volition,+consecution] verbs.

Note however (Lavidas 2013):

- (31) *he knows his own know* (1764)

This is stative, but is no longer grammatical, suggesting a possible generalisation of availability that was not retained.

Earliest example Lavidas cites with a (probably) [–volition] verb is:

- (32) *Catharine blushes a blush of anger* (1828)

This may suggest extension to [–volition] verbs is late, though hard to be certain. Cognate object construction with such verbs still often judged marginal (Baker 2018):

- (33) *?Lucy coughed a cough.*

Further research needed (though Lavidas, who takes his examples mostly from the OED, notes that corpora are of limited use here).

Interestingly *die a death*, which is anomalous in featuring a [–consecution] verb, is actually a very old construction, cited as far back as 1400 (Lavidas 2013):

(34) *and siþen dobil dede to dei* (c. 1400)

Earlier examples involve an additional preposition (Lavidas 2013):

(35) *to maken hire on shameful deeth to deye* (Chaucer)

This suggests *die a death* may be a relic of a time before the featural basis of the cognate object construction became fixed, possibly developing out of an earlier “cognate PP”.

(36) **Availability of cognate objects:**
 [+volition,+consecution] (> [+consecution])

2.4. V *one's way* (= X's way)

This is permitted with most [+consecution] verbs in PDE.

(37) *Lucy talked/walked/coughed her way into the room.*

Rough characterisation of dates after which forms start to become frequent in Ngrams corpus:³

<i>walk</i>	1750
<i>run</i>	1750
<i>work</i>	1800
<i>play</i>	1850
<i>talk</i>	1850
<i>swim</i>	1850
<i>cough</i>	1900

Table 8

That the construction seems more frequent earlier on with verbs like *walk* and *run* is unsurprising, as these already have the motional sense which the construction requires.⁴

Approximate pathway:

(38) **Availability of X's way:**
 [+volition,+consecution,+transition] > [+volition,+consecution] > [+consecution]

But more systematic analysis needed.

2.5. V *away*

Also found principally with [+consecution] verbs. Difficult to test from corpora due to various other constructions with same surface form.

(39) *Lucy was working away (in the garden).*

(40) *Lucy was running away (from the monster).*

(41) Possible more-or-less abstract movement:

a. *The ships were sinking away.*

b. *The ice was melting away.*

³ The reliability of Ngrams before about 1800 is somewhat questionable; this and subsequent results should be interpreted with caution.

⁴ Though nb. sometimes in an abstract sense, e.g.

(i) *Lucy worked her way into the upper echelons of university administration.*

(ii) *Cambridge United played their way into third place.*

c. *The soldiers were dying away like flies.*

3. “Unaccusative” patterns

3.1. Resultatives

PDE allows simple resultatives of verbs classified in Baker (2018) as [-initiation,+transition]:

(42) *The toast burned black.*

(43) *The bicycle broke into pieces.*

Parallels with transitives/“unergatives”:

(44) *Lucy burned the toast black.*

(45) *Lucy broke the bicycle into pieces.*

(46) *Lucy shouted herself hoarse.*

Also possible with [+consecution,+transition] verbs:

(47) *Lucy swam free.*

(48) *Lucy and Chris ran apart.*

Broccias (2008) considers the history of resultatives in English, frequently citing Visser (1963).

- Considers the period up to EModE. No clear examples with intransitives cited in OE or ME.
 - Broccias finds a single OE case of *wendan* “to turn, become” in a resultative context (with *swear* “swarthy”), but this does not qualify as a resultative on my criteria (≠ ~“becoming swarthy as a result of turning”)
 - Most OE cases involve verbs *don* “to make”, *fremman* “to make”, *sciepan* “to create” etc.
- Overall, though, availability of construction widens during the ME period.
 - Broccias’s examples cited are mostly of verbs which do not allow “unaccusative” uses (at least not today), e.g. *bake*, *cut*, *purge*
 - But also (still transitive) cases with *break*, *burst*, *stop* etc.
- From the 1500s “reflexive” type resultatives are found regularly:

(49) *They drunk themselves so drunk.* (1552)

- Examples cited are all with [+consecution] verbs, as present-day distribution.

Absence of evidence is not evidence of absence, but (non-reflexive) intransitive resultatives don’t arise till later?

(50) Availability of resultatives – possible timeline (1):

make verbs > transitives⁵ > “unergatives” (with *-self*) > “unaccusatives”
(at each stage the previous formations remain possible)

⁵ It is not the case that all transitives allow the resultative construction, but this is not of particular interest here.

- It does seem plausible that non-reflexive intransitive construction might not arise until the construction is most general in other contexts, but this is only speculation – and tells us little about the origins of and changes to the intransitive construction itself.

Ngrams (including all inflected forms):

- *grow tall* first becomes common around 1700;
- *burn black* is attested throughout 1700s (sporadically at first); similar patterns with *break/tear into pieces*;
- *freeze solid* first appears around 1775;
- No robust attestation of the *swim/run/walk free, swim/run/walk apart* type ([+consecution,+transition]; motional processes) before about 1800 – more sporadic earlier instances though not easily distinguished from non-resultative constructions.

Some evidence that the construction is first possible with [–initiation,–consecution,+transition] (change of state) verbs and spreads later to [+consecution,+transition] verbs, though data not fully clear.

- so, if this is correct, true intransitive resultative first arises with those intransitive verbs which:
 - don't allow the *self* construction ([+consecution], at least roughly);
 - have transitive alternants (which presumably allow resultatives themselves; these verbs are [–initiation] in their intransitive forms (Baker 2018 following Ramchand 2008)).
- ⇒ extension involves both analogy (*She burned the toast black* > *The toast burned black*) and fills an existing gap in the availability of resultative constructions.

(51) **Availability of resultatives – possible timeline (2):**

[–initiation,–consecution,+transition] > [–initiation,–consecution,+transition] AND
[+consecution,+transition]

3.2. Causatives

PDE intransitive verbs classified as [–initiation] have transitive “causative” alternants (Baker 2018 following Ramchand 2008) – these generally express changes of state, though some express an atelic change of location:⁶

- (52) a. *The toast burned.*
b. *Lucy burned the toast.*

- (53) a. *The ship sank.*
b. *The iceberg sank the ship.*

⁶ In Baker (2018) I suggested the causative alternation was most possible with [–initiation,+transition] verbs, though it also occurs with some but not all [–initiation,+consecution] verbs:

- (i) *The lights flashed/sparkled.*
(ii) a. *Lucy flashed the lights.*
b. **Lucy sparkled the lights.*

This may represent a change in progress (generalisation or restriction of the featural basis of the alternation).

Causatives are not generally possible with [+initiation] verbs.

Van Gelderen (2011) overviews valency changes in English from OE to the present day including changes in the availability of the causative alternation:

- Many verbs in OE are exclusively intransitive (after Visser 1963).
 - Some in classes that also do not alternate today, e.g. *ærnan* “to run”, *cirman* “to cry (out)”, *cuman* “to come”.
 - But others now might be expected to alternate: e.g. *aberstan* “to burst out”, *ablican* “to shine”.
 - Many of these intransitives do have morphologically marked causative forms, however (cf. PDE *sit/set*, *fall/fell* etc.)
- Many alternate without morphological marking (after Visser 1963, Hermodsson 1952):
 - includes many change of state verbs: e.g. *drygan* “to dry”, *openian* “to open” – surviving verbs in this class tend to still alternate today
 - but also many others in classes where alternation is no longer generally found:
 - *clipian* “to speak, to cry out”, *lacan* “to jump, to play”, *oferfaran* “to traverse” etc. etc.

Availability of causative alternation has in general narrowed since OE, though some expansion particularly in cases where previously blocked by morphological causatives.

- Availability of morphological/lexical causatives tends still to block the alternation today:

- (54) a. *Lucy died*.
b. *Chris killed/*died Lucy*.

Exact pathway of change unclear (pending further investigation). OE examples with [+consecution,–transition] verbs like *clipian* “to speak” suggest it may have once been possible with intransitives in all classes, before narrowing to [–initiation] verbs as today.

- (55) **Availability of causative alternation:**
[+intransitive] > [–initiation]

3.3. Attributive past participles

Most [–consecution,+transition] verbs in English can occur as past participles in prenominal position (Baker 2018):

- (56) *the melted butter*
(57) *the fallen leaves*
(58) *the newly arrived students*

Past participles of verbs with adjectival senses (*gone*, *fallen*, *melted* etc.) have separate entries in OED:

- One citation of adj. *stayed*:

- (59) *The soul is **stayed** on him, and finds a sure shelter. Somewhat of this blessed stayedness, this sweet shelter, has, I hope, been experienced.* (JJ Gurney, 1845)

- Adjectival *run* “having run” listed in various rare senses:
 - e.g. *run & decayed wines* (1670), *run seamen* (deserters; 1782), *run coal* (1883, 1954), *newly-run fish* (1821);
 - Semantically restricted (never a general word describing “a person or animal who has run”); possibly preferentially in inanimate contexts,
- Not otherwise cited with verbs sampled outside of [–consecution,+transition] class where found today.
 - Adjectival past participles of both change of state and change of location verbs found going back to OE and ME.

⇒ **Availability of adjectival past participles of intransitives has changed little since (at least) the ME period.**

4. A lost diagnostic: auxiliary selection

Earlier English, like many European languages, allowed BE as well as HAVE as the auxiliary in the perfect construction:

(60) *The king is come.*

The HAVE/BE split, now all but lost in English, is a canonical unaccusativity diagnostic. In languages with the split, HAVE is associated with “unergatives” and BE with “unaccusatives”. However, the distribution of the two auxiliaries varies considerably between languages whilst nevertheless exhibiting some common patterns (Sorace 2000 and others).

Baker 2018 (based on Sorace 2000, considering French/German/Dutch/Italian):

- HAVE is always found in these languages with [+volition,+consecution,–transition] verbs (controlled motional processes, e.g. “work”, “play”, “talk”).
- BE is always found with [–consecution,+transition,+result] verbs (e.g. “die”, “go”).
- Other verbs show variable behaviour, with two particularly prominent parameters of variation:
 - Do state verbs occur with BE, with HAVE, or with both?
 - Do motional processes [+volition,+consecution,+transition] occur with BE, with HAVE, or with both?

The history of the English perfect has been quite widely studied, certainly in comparison to the other unaccusativity diagnostics discussed above.

Helsinki Corpus: 1150–1250, 1350–1420 (319,000 words):

- BE with:
 - *go, come, return, enter, pass, fall, turn, depart, fare* (change of location)
 - *become, dry* (change of state)
 - Kytö (1997) reports also *grow, wax* (change of state)
- At least rough correspondence with [–consecution,+transition]

McFadden (2017): HAVE perfect becomes more common than BE perfect around 1350.

- HAVE also starts to appear with verbs like *come* around this time.
- But both options remained frequent until around 1800.

- Decline of BE occurs mostly during 1800s.
- Though BE remains most frequent with *come* and *go* even in the late period, this doesn't tell us much about the pathway of change – it had been particularly associated with these verbs since (at least?) 1570.
- Number of unique lexical verbs attested with BE shows a particular decline after 1800.
 - But McFadden does not say which forms in particular.
- Late attestations with verbs other than *come* and *go*:

(61) *I understand Sir George Seymour and his nephew, Captain Cleveland, are arrived.*
(1835)

(62) *And how is it vanished?* (1837)

(63) *The disciples therefore said unto him, Lord, if he is fallen asleep, he will recover.*
(1881)

These are [+transition,+result] change of location verbs.⁷

- McFadden mentions Sorace (2000) but notes that the small numbers of verbs in the corpora make testing against the ASH difficult.
 - Cf. Legendre (2007), who finds that the loss of BE in Spanish shows correspondence with Sorace's ASH (this can be formalised in terms of the system of Baker 2018).
 - Provisional analysis of French suggests similar.

Kytö (1997), Lipson (1999):

- Change of state verbs (*become, grow, wax*) were slower in adopting HAVE than change of location verbs (e.g. *come, fall, arrive*).
- This is not as predicted by Sorace but not incompatible with present approach; possibly related at least partially to value of [±result] (inherent telicity).

(64) a. *Lucy was growing for years.* [-result]
b. *The towel was drying for hours.*

(65) **Lucy was arriving for hours.* [+result]

- Note also that *become* and *grow* allow result state complements:

(66) a. *Lucy became queen.*
b. *Lucy grew taller.*

Google Books Ngram Viewer: date at which <has + ppart> finally overtakes <is + ppart> in frequency:

- e.g. *has gone* becomes more frequent than *is gone*
- not fully reliable but possibly indicative
-

⁷ Status of *vanish* less clear, but nb. it behaves like a change of location verb in that the causative alternation is at least questionable:

(i) *?The magician vanished the rabbit.

<i>fall</i>	[+transition,(+result)]	1756
<i>rise</i>	[+transition]	1789
<i>arrive</i>	[+transition,+result]	1814
<i>become</i>	[+transition,+result]	1815
<i>sink</i>	[+transition]	1829
<i>enter</i>	[+transition,+result]	1829
<i>depart</i>	[+transition,+result]	1832
<i>grow</i>	[+transition]	1833
<i>come</i>	[+transition,+result]	1837
<i>go</i>	[+transition,+result]	1865
<i>persist</i>	state	1874
<i>decay</i>	[+transition]	1879
<i>stay</i>	state	1912

Table 9

⇒ **No clear support for any hypothesis that the [+result] feature (= inherent telicity) plays a role here.**

No clearer patterning in terms of Sorace's categories:

<i>fall</i>	change of location	1756
<i>rise</i>	"change of state"	1789
<i>arrive</i>	change of location	1814
<i>become</i>	change of state	1815
<i>sink</i>	"change of state"	1829
<i>enter</i>	change of location	1829
<i>depart</i>	change of location	1832
<i>grow</i>	change of state	1833
<i>come</i>	change of location	1837
<i>go</i>	change of location	1865
<i>persist</i>	continuation of state	1874
<i>decay</i>	change of state	1879
<i>stay</i>	continuation of state	1912

Table 10

- <is + ppart> strings remain more frequent with *melt, burn, break, turn* etc.
- BE + *died* is never robustly attested; neither is BE + *waned*

Late survival of BE with *persist, stay* may be of note – these are in Sorace's "continuation of state" class, along with *survive, last, remain* etc.

- *is survived* has never been very common, though shows something of a peak in the early twentieth century (up to 28% as frequent as *have survived* in 1922)
- neither *last* or *remain* is robustly attested with BE at any period

No clear indication of BE forms with verbs in other classes, though complications as many allow transitive uses (e.g. *work, play* etc.).

Although this is probably the most-studied changes in split intransitive patterns, there is still more to be done, and it is difficult to make clear conclusions about the pathway of change other than to observe a general narrowing in the scope of BE in favour of HAVE.

- If McFadden is right, future research should focus on changes in the 19th century.

(67) **Availability of auxiliary BE (partial story):**

[+transition] > NONE

5. Conclusions

5.1. General summary

It is possible to identify, with varying levels of certainty, various pathways of change in the split intransitivity diagnostics found in English:

(68) **Availability of -er:**

[+volition] > [+intransitive] > dies out in favour of competing system
> [+volition,+consecution] (> [+consecution])

(69) **Availability of out-:**

run > [+volition,+consecution,+transition] > [+volition,+consecution] (> [+consecution])

(70) **Availability of cognate objects:**

[+volition,+consecution] (> [+consecution])

(71) **Availability of X's way:**

[+volition,+consecution,+transition] > [+volition,+consecution] > [+consecution]

(72) **Availability of causative alternation:**

[+intransitive] > [-initiation]

(73) **Availability of resultatives:**

[-initiation,-consecution,+transition] > [-initiation,-consecution,+transition] AND
[+consecution,+transition]

(74) **Availability of adjectival past participles:**

[+transition] (little change)

(75) **Availability of auxiliary BE:**

[+transition] > NONE

Some remarks:

- The featural system of Baker (2018) is at least provisionally useful in understanding morphosyntactic patterns in historical varieties of English.
- As predicted, changes in the history of English can (provisionally) be modelled in terms of changes in the features to which a given construction is sensitive.
 - Most of the changes modelled in this way involve generalisation of the construction, i.e. sensitivity to fewer features:
 - e.g. [+volition,+consecution] > [+consecution] (the “unergative” diagnostics, to varying extents)
 - Some constructions have however become more restricted:
 - [+volition] > [+volition,+consecution] (-er in early stage)
 - Causatives: [+intransitive] > [-initiation]

- BE: [+transition] > NONE⁸
- ⇒ There is probably considerably more to be said in these latter two cases, in order to furnish an improved understanding of the pathway of change.

5.2. Comparison with other approaches

5.2.1. Perlmutter 1978

These results would seem to constitute further evidence for disfavouring the Unaccusative Hypothesis in its strong form. We do not observe two absolute, timeless “unergative” and “unaccusative” classes, rather different diagnostics identify different (overlapping) classes of verbs, fluctuating throughout history.

- An exercise: reconstruct from the above data which particular classes each of the diagnostics picks out at different points in history.
- Note how the timings of the changes varies. For example:
 - Both auxiliary BE and adjectival past participles may once have been possible with only [+transition] intransitives – things have moved on with BE, but not (yet?) with the past participles.
 - A shift [+volition,+consecution] > [+consecution] is observable with several diagnostics, at different times (insofar as the data is reliable here):
 - *out-*: from early 1600s, not yet complete;
 - *-er*: from late 1700s, not yet complete;
 - cognate objects: some evidence in 1800s, but still very marginal;
 - *V one’s way*: possibly not till c. 1900, but now widely accepted.

5.2.2. Sorace 2000

Controlled process (non-motional)	<i>work, play, talk ...</i>
Controlled process (motional)	<i>swim, run, walk ...</i>
Uncontrolled process	<i>tremble, skid, cough, rumble ...</i>
Existence of state	<i>be, belong, sit ...</i>
Continuation of a pre-existing state	<i>stay, remain, last, survive, persist ...</i>
Change of state	<i>rise, decay, die, grow ...</i>
Change of location	<i>come, arrive, leave, fall ...</i>

Table 11: The Auxiliary Selection Hierarchy again.

The ASH approach predicts that changes in split intransitive behaviours will involve the widening or narrowing of the sensitivity of diagnostics to (contiguous) portions of the hierarchy, probably one category at a time. A given diagnostic should always encompass either the topmost or the bottommost category.

- This holds in many cases, e.g. the “unergative” diagnostics show spread from top two rows (controlled processes) to also encompass the third (uncontrolled processes).

However:

- restriction of *-er* seems to go from forms scattered throughout the hierarchy (*worker, beer, goer*) to just the top couple of rows (controlled processes)

⁸ This could alternatively be thought of as a generalisation of the availability of HAVE.

- this is a simple enough change in VICTR terms ([+volition] > [+volition,+consecution]), but appears rather unsystematic from an ASH perspective
- at certain stages constructions show limited correspondence with the ASH:
 - *out-*, early on, is apparently restricted to the second row and not found with items in the first (*outrun*, **outwork*);
 - present-day distribution of resultatives and causatives does not show strict ASH correspondence either (Baker 2018);
 - not clear that loss of BE follows the ASH.

Some reason to prefer VICTR approach, therefore, as allowing more variation in pathways of change and possible synchronic systems.

5.2.3. Ramchand 2008

Briefly: many of the changes appear to exhibit some sensitivity to the [+volition] feature and the [+consecution]/[+transition] distinction. It is not clear how Ramchand's approach accounts for these distinctions or how it could provide a similarly fine-grained account of the changes in question.

- Ramchand makes no syntactic distinction between volitional and non-volitional events, only between initiated/non-initiated ones (presence vs. absence of *init*).
- [+consecution] and [+transition] are conflated on Ramchand's approach as *proc* verbs.
- See Baker (2018) for similar discussion.

5.3. Final remarks

- Split intransitivity in English has undergone a great deal of change in its history.
- These changes can provisionally be understood in terms of a VICTR-type model (Baker 2018).
- But much work is still to be done.

References

Baker, J. (2018). *Split intransitivity: Thematic roles, case and agreement*. Doctoral dissertation, University of Cambridge. Available online at www.seven-fifty.net/2018_thesis.pdf.

Other references available on request.