

# **Constructionalization and the Sorites Paradox: The emergence of the *into*-causative<sup>1</sup>**

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This article discusses the relationship between *constructionalization* and *constructional change* (Traugott & Trousdale, 2013). Expanding on recent critical reviews, the paper argues that the problems with constructionalization arise from the ambiguity of the concept: it refers simultaneously to processes leading to the new node and to the point of the new node itself. The issues are illustrated by tracking the emergence of the *into*-causative: the data show that a series of interrelated changes in multiple parts of the network provided both necessary and facilitating conditions, some of which predate the *into*-causative by several generations. The suggestion is that constructionalization should be reserved for its point reading, while aspects of its process reading are better captured by *constructional emergence*.

Keywords: constructionalization, constructional change, constructional emergence, *into*-causative, Early Modern English, associative links, Diachronic Construction Grammar

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## **1 Introduction**

Construction Grammar (CxG) assumes that language is a structured network of form–meaning pairings called constructions (Goldberg, 1995, 2006; Langacker, 2008). Hence, *constructionalization*, which refers to the process of adding a new construction (or node) to the network, is an attractive, even logical extension of constructionist approaches to language change. The concept also allows a distinction between the creation of new nodes on the one hand and constructional changes within existing nodes on the other (Traugott, 2015; Traugott & Trousdale, 2013; Trousdale, 2014).

As straightforward as it seems at first glance, constructionalization has been met with criticism (Börjars, Vincent, & Walkden, 2015; Hilpert, 2015, 2018; see also Diewald, 2015). The sceptical views hold that the distinction between constructionalization and constructional change is conceptually imprecise and empirically untenable. Building on these points, the central argument in this paper is that the issues with constructionalization arise from

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its ambiguity, because constructionalization refers simultaneously to the processes surrounding a new node and the point of the new node itself. This ambiguity gives rise to the so-called Sorites Paradox (How many grains of sand are a heap?): how many changes constitute the coming into being of a new construction? Where does constructionalization start and where does it end (Börjars et al., 2015; Flach, to appear; Hilpert, 2018)?

The problems are illustrated by tracking the emergence of the *into*-causative (*They talked him into complying with the rules*) from a series of changes in the caused-motion construction (*They talked him into compliance*) and shifts in the English complementation system. Crucially, some of these changes predate the earliest record of the *into*-causative by several centuries, which makes it difficult to identify the scope of constructionalization. Hence, this paper suggests that constructionalization is useful if it refers to its point reading, while its process reading is subsumed under *constructional emergence*. All changes, whether they are directly or indirectly associated with a new node, are seen as constructional change. This view substantially reduces the (theoretical) importance of the node and foregrounds dynamic links between elements in the network.

To provide support for this view, Section 2 reviews the relationship between constructionalization and constructional change. Section 3 describes the *into*-causative relative to its neighbours in the network and sketches out a timeline. Section 4 tracks the emergence of the *into*-causative by looking at changes within the caused-motion construction in two corpora of Early Modern English (1500–1700). Section 5 revisits the conceptual issues in the context of the major empirical findings. Section 6 closes with concluding remarks on the implications for node-centric and link-based perspectives in (Diachronic) Construction Grammar, arguing that link-based views are better suited to model the dynamicity of language change.

## 2 Constructionalization & constructional change

One of the current questions in Diachronic Construction Grammar (DCxG) concerns the relationship between *constructional change(s)* and *constructionalization* (Hilpert, 2018). Constructionalization involves changes in both form *and* meaning, leading to a new form–meaning pairing ( $F_{\text{NEW}}-M_{\text{NEW}}$ ). Constructional change refers to change(s) in *either* form ( $F_{\text{NEW}}-M_{\text{OLD}}$ ) *or* meaning ( $F_{\text{OLD}}-M_{\text{NEW}}$ ) (Traugott, 2015; Traugott & Trousdale, 2013; Trousdale, 2014).

The problems with this otherwise straightforward distinction lie in the details of its three main properties. First, constructionalization is said to be “accompanied by changes in degree of schematicity, productivity, and compositionality” (Traugott & Trousdale, 2013, p. 22). In addition, constructionalization may be preceded or followed by constructional change(s), so-called “pre- and post-constructionalization constructional

changes”, respectively (Traugott & Trousdale, 2013, p. 27). Analogously, I will refer to the accompanying changes as “con-constructionalization constructional changes”.

Second, constructionalization is considered to be gradual (Traugott & Trousdale, 2013, p. 22), because it is accompanied by constructional changes. However, gradualness is at odds with the definition of constructionalization as a change in *both* form *and* meaning, which invites the idea of a more abrupt change (similar to reanalysis).

Third, to count as change, constructionalization is complete only when the new form–meaning pairing has spread from the innovation of an individual to other members of the speech community (Traugott, 2015, p. 54; Traugott & Trousdale, 2013, p. 2).

As an interim summary, the distinction between constructionalization and constructional change essentially involves up to five phases:

- (i) pre-constructionalization constructional changes,
- (ii) con-constructionalization constructional changes (changes that accompany constructionalization),
- (iii)  $F_{\text{NEW}}-M_{\text{NEW}}$  (a new node with new form and new meaning),
- (iv) conventionalization (spread in a population of speakers), and
- (v) post-constructionalization constructional changes.

Under Traugott & Trousdale’s (2013) definition, constructionalization comprises phases (ii)–(iv): constructionalization is accompanied by constructional changes, which results in the new form–meaning pairing, which subsequently requires spread from the innovation of a single speaker to count as a conventionalized unit.

This characterization has evoked reference to the Sorites Paradox (Börjars et al., 2015; Hilpert, 2015, 2018). The paradox arises in contexts of phenomena that assume implicit, but numerically unspecifiable thresholds: how many grains of sand make a heap? With respect to constructionalization, this translates to two main sets of questions.

The first set of questions concerns the relationship between constructionalization and constructional change. How many steps  $F_{\text{NEW}1\dots n}-M_{\text{OLD}}$  and/or  $F_{\text{OLD}}-M_{\text{NEW}1\dots n}$ , i.e., constructional changes, are required in the lead-up to  $F_{\text{NEW}}-M_{\text{NEW}}$ ? It is difficult to identify the beginning of constructionalization without arbitrary starting points for both  $F$  and  $M$  (Börjars et al., 2015; Hilpert, 2015, 2018). A related issue is the question how accompanying changes (“con-”) are distinguished from changes preceding or following constructionalization (“pre-”, “post-”). It is impossible to say which type of change counts as constructionalization and which counts as constructional change (Börjars et al., 2015; Diewald, 2015; Hilpert, 2018).

A second set of questions concerns the relationship between constructionalization and conventionalization. How much spread in the speech community is required for innovation to count as a new node? When does propagation stop being a con-constructionalization change and become

ordinary frequency change, i.e., a form of post-constructionalization change? In other words, what distinguishes altered replication (Croft, 2000) in the innovation-to-change phase from altered replication in post-constructionalization? (At least in open-slot constructions, even the first replication likely involves some form of visible node-internal change, such as the expansion of collocational material.) In addition, making spread in the population a necessary condition for constructionalization is complicated by the fact that the idea of the speech community is itself subject to the Sorites Paradox: how many speakers make a speech community (Börjars et al., 2015, p. 364)? Measuring conventionalization is an inherently difficult empirical challenge, but it is particularly problematic to draw the empirical line in a diachronic context in general and between constructionalization and constructional change in particular (Hilpert, 2018).

What appears to be at the root of the problem is that *constructionalization* is ambiguous between a “process” and a “point” reading: it refers simultaneously to constructional changes surrounding the new node *and* the new node itself. The point reading of (iii) is a hyponym of the process reading of (ii)–(iv), which gives rise to (nearly) all issues that are subject to the Sorites Paradox.

We can look at what the definition of *constructionalization* entails from a different angle. If constructionalization is defined as  $F_{\text{NEW}}-M_{\text{NEW}}$ , such that neither a new form, nor a new meaning alone constitute a new form–meaning pairing, then constructionalization is necessarily instantaneous: the assumption *constructionalization is gradual* is logically impossible, or at least inconsistent with its definition.<sup>2</sup>

This article proposes to reserve *constructionalization* for the point when a new construction is observed as per the definition laid out for the construction. This reduction is symbolized by the shorthand “cxzn”. For example, if we define the *into*-causative as an object-control structure with a sentential complement (cf. Section 3), finding this pattern in historical records constitutes cxzn. Any preceding and subsequent changes are subsumed under *constructional emergence* and include changes in form, function, frequency, internal distribution, productivity, and/or communal spread (Hilpert, 2013, p. 16). This view makes it possible to describe changes in the network of related constructions without arbitrary distinctions of pre-, con-, or post-constructionalization changes.

### 3 The *into*-causative

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<sup>2</sup> As Diewald points out (2015, p. 119), the definition of constructionalization is further complicated by the nature of a construction as a Saussurean sign, i.e., an indivisible combination of form and meaning. Therefore, change in either  $F$  or  $M$  necessarily constitutes a new form–meaning pairing by definition.

This section describes the *into*-causative as a construction—i.e., as a generalization over similar instances—which is sufficiently distinct in form and meaning from other constructions in the network. This is less trivial than may appear at first. But, as pointed out above, the definition of a node (and its distinction from other nodes) determines the location of *cxzn*. The section concludes with a sketch of the *into*-causative’s conjectured emergence.

### 3.1 Synchronic properties

The *into*-causative is a complex transitive argument structure construction with a prepositional sentential complement, as illustrated in these examples from contemporary American English (COCA; Davies, 2008):

- (1) a. *If he’d been caught, he’d surely have been lynched. He tricked the slaves into believing he was taking them to freedom.* [COCA, 2011]
- b. *How could I have let Alexis talk me into lying to my parents?* [COCA, 2001]
- c. *Booksellers were terrorized into removing it [Rushdie’s book].* [COCA, 1990]

A CAUSE(R) prompts a CAUSEE (*slaves, me, booksellers*) to perform an action specified in the oblique (*believing he was taking them to freedom, lying to my parents*). The matrix verbs specify the manner of causation (*trick, talk, terrorize*). While the construction has been noted for its lexical creativity (Davies, 2012; Hunston & Francis, 2000; Kim & Davies, 2016; Rudanko, 2005), the productivity is limited to a fairly narrow range of FORCE, TRICKERY, FEAR, and COMMUNICATION verbs (Gries & Stefanowitsch, 2004; Stefanowitsch, 2014). Since the verbs are not inherently causative, the meaning ‘X CAUSES Y DO Z’ is contributed by the syntactic form [SUBJ V OBJ *into Ving*]. The division of labour between lexis and syntax make the *into*-causative particularly suitable for an analysis in Goldbergian CxG (Rudanko, 2005, 2011; Stefanowitsch, 2014; Stefanowitsch & Gries, 2005; Wulff, Stefanowitsch, & Gries, 2007).

The *into*-causative is closely related to the caused-motion construction (sometimes seen as a subtype, Rudanko, 2005, 2011), as in (2):

- (2) a. *The advent of World War II ushered Greece into a new period of German occupation.* [COCA, 1990]
- b. *When they finished, they kicked the shells into the sea.* [COCA, 2007]

The *into*-causative and the caused-motion constructions share the general form [SUBJ V OBJ OBL<sub>PP</sub>] and the associated general meaning ‘X CAUSES Y MOVE Z’, where the CAUSEE moves along a path into a physical or metaphorical container. As both constructions imply successful causation,

Rudanko (2011, Chapter 2) has also argued that they are subtypes of the resultative (e.g., *he hammered the metal flat*; Goldberg, 1995, Chapter 8).

Their strong connection is evident in ambiguous cases with deverbal nouns (*engineering, hiding, nursing, plumbing, teaching*):

- (3) a. *Anne, her sister and her parents* were forced into hiding. [COCA, 1999]
- b. *Mrs Campos* blamed [him] for coercing Hector into engineering. [COCA, 2006]
- c. *they're trying to figure out how to get* their kids into birding [COCA, 2003]

The classification of ambiguous uses depends on properties assigned to the *-ing* gerund. For example, should the corresponding verb be a conventional verb to count as an instance of the *into*-causative? In the absence of clear indications to the contrary (e.g., coordination in *forced into hiding and exile*), this would classify (3a) and (3b) as *into*-causatives (*to hide, to engineer*), but (3c) as caused-motion (*?to bird*). Which strategy is chosen is a definitional question, but the ambiguity shows tight structural and semantic links. In a diachronic context, ambiguous uses play an important role as “bridges” or “critical contexts” (Diewald & Smirnova, 2012; Smirnova, 2015) and they are key in tracking the *into*-causative’s emergence. In the synchronic context, important formal and semantic differences provide good arguments that they are separate constructions: the *into*-causative is more specific both in form and meaning.

First, the *into*-causative is structurally more complex. The oblique is a sentential complement with object-control (*slaves believed NP, booksellers removed NP*). The object of the matrix clause is the understood subject of the complement clause and its referent is therefore in control over the action specified in the oblique. It is for this reason that structures such as *the team poured energy into completing the project* are not *into*-causatives: it is *the team* (subject) that completed the project, not *energy* (the object). This is an analytical distinction in the definition of the node that is not necessarily shared by others (cf. Duffley, 2018). But whether object-control is seen as formal (Sag & Pollard, 1991) or purely pragmatic (Duffley, 2018) does not change the fact that the causee (*slaves, booksellers*) controls the action in the oblique (*believing, removing*).

Object-control entails a semantic constraint on the CAUSEE, which needs to be animate. Objectively inanimate objects are construed as (metonymically) animate:

- (4) a. ... 3. *Require them to maintain high interest rates to entice capital into staying in the country.* [COCA, 1998]

- b. *Because freezers work best when filled with food, you can “fool” the freezer into using less energy: Fill milk cartons with water at least halfway and place them in the freezer.* [COCA, 1991]
- c. *We’ll make molecules that will fool the body into making antibodies to breast cancer.* [COCA, 1998]

There is no animacy constraint in the caused-motion construction (*He kicked the shells into the sea*), so that subject-control patterns (*They poured money into completing the project*) could be seen as a complex extension of the caused-motion construction.

By the same token, the oblique argument (the GOAL) is more specific in the *into*-causative. First, by definition, the *into*-causative is restricted to the preposition *into*, while the caused-motion construction occurs with a much wider variety of prepositions (*she sneezed the foam off the cappuccino, he loaded the hay onto the truck*). Second, while movement can be into, off, or out of a container, a location, or a state of being in the caused-motion construction (*onto the truck, off the cappuccino, into compliance*), movement in the *into*-causative is always movement into self-controlled action. Under this definition, *They talked us into being nice to her* is an instance of the *into*-causative (*be* as a copula), while the “existence” sense in *God brought us into being* is not.

The greater structural complexity and the more specific semantic constraints motivate the postulation of the *into*-causative as a separate construction, because aspects of its form and/or meaning are unpredictable from its parts or from related constructions (Goldberg, 1995, p. 4). However, what we consider essential properties of a construction remains a question of definition and the zoom factor on both *F* and *M*. For a different analytical purpose, it may not be necessary to assume that the meaning of the *into*-causative is ‘X CAUSES Y DO Z’ and one could be content with the more general description of ‘X CAUSES Y MOVE Z’ of the caused-motion construction. The same logic holds for form: [SUBJ V OBJ *into* Ving] for the *into*-causative is more specific than [SUBJ V OBJ OBL<sub>PP</sub>], the form of the caused-motion construction. Under a more coarse-grained view, the *into*-causative and the caused-motion construction may not be seen as separate nodes. (Although the decision for the more specific definition(s) is a well-motivated analytical choice.)

### 3.2 Diachronic assumptions

Not much is known about the origin of the *into*-causative. Its earliest cited records so far date from the mid-18th century (Rudanko, 2000, 2015). The construction grew steadily during the Late Modern English period and increased five-fold in frequency over the last 200 years alone (Davies & Kim, 2019; Flach, to appear). Previous research focused on this frequency development as a function of lexical innovation and semantic expansion

(Davies, 2012; Davies & Kim, 2019; Rudanko, 2000, 2005, 2015). In Flach (to appear), I suggest that the syntactic form has become a more reliable cue of causative meaning: stronger links between syntax and semantics means that the construction could license an increasingly greater variety of formerly less compatible lexical material by supplying the argument roles.

Based on the high prominence of nominal *into*-patterns in COHA, Davies (2012, pp. 164–6), suspects that the *into*-causative emerged from patterns with an NP or nominal *being* (*they bullied themselves into power; he called them into being*). This hypothesis is consistent with the construction’s close connection to the caused-motion construction, which make a diachronic relationship highly plausible (see Rudanko, 2015 for a detailed discussion of Davies’ conjecture regarding the relationship between the nominal and verbal patterns in Late Modern English). As we see below, their connection goes back to (at least) Early Modern English.

Since the *into*-causative is more complex, it is a reasonable working hypothesis that it is the younger construction. This chronology receives further support by the spread of gerundials since Old English and associated changes in the complementation system during Early Modern English (De Smet, 2008; Fanego, 2004; Fonteyn, 2019; Rohdenburg, 2006; Vosberg, 2006). These developments provided both necessary and facilitating conditions for the emergence of the *into*-causative.

Example (5) shows the proposed timeline. It distinguishes four transitive *into*-patterns, based primarily on the nature of the oblique: NPs (A), nominal *-ing<sub>N</sub>* (B), complex, ambiguous, but potentially sentential *-ing<sub>C</sub>* (C), and clearly sentential verbal *-ing<sub>V</sub>* (D):

- |        |   |                                  |
|--------|---|----------------------------------|
| (5) A. | <i>He moved the army into France.</i>           | [ <i>into</i> NP]                |
| B.     | <i>It turned mirth into mourning.</i>           | [ <i>into -ing<sub>N</sub></i> ] |
| C.     | <i>We put ourselves into mourning for her.</i>  | [ <i>into -ing<sub>C</sub></i> ] |
| D.     | <i>You hectoring me into telling the truth.</i> | [ <i>into -ing<sub>V</sub></i> ] |

This classification foregrounds formal properties that distinguish between constructions. That said, I use “pattern” rather than “construction” to highlight the fact that A–C are heuristic, coarse-grained reference points for the analysis (although at least Patterns A and B represent instances of the caused-motion construction). While more specific semantic properties could be identified *within* these patterns, such as the animacy of the CAUSEE (*the army, mirth, ourselves, me*) or the abstractness of the GOAL (*France, mourning*), the current argument does not require a more fine-grained classification. Finally, Pattern D is the new node  $F_{\text{NEW}}-M_{\text{NEW}}$  as the end-point of the accumulation of changes in other parts of the network (Patterns A–C). In Pattern D, ambiguity has disappeared: it has no alternative reading as an instance of a previously established pattern as per the definition (Smirnova, 2015, p. 89; “isolating context”, Diewald, 2006, p. 82).



## 4 Constructional emergence

### 4.1 Data

The data for the transitive Pattern A were extracted from the tagged version of the *Penn-Helsinki Corpus of Early Modern English* (PCEME, Release 2, ~2m tokens, 1500–1710; Kroch, Santorini, & Delfs, 2004). Since Patterns B–D are extremely rare, they were extracted from the *Early English Books Online* database (EEBO-V3, 1bn tokens, 1500–1700, via CQPweb at Lancaster University). For the illustration of subsequent developments, additional examples are cited from the *Corpus of Late Modern English Texts* (CLMET-3.1, ~35m tokens, 1710–1920; De Smet, Flach, Tyrkkö, & Diller, 2015) and the *Corpus of Historical American English* (COHA, ~450m tokens, 1810–2009; Davies, 2010).

The queries looked for a verb followed by up to four unspecified tokens and *into* (Pattern A; PCEME), followed by a string in *-ing* (Patterns B–D; EEBO). All matches were manually cleaned and only transitive or passive uses were retained. EEBO tokens with prenominal modifiers in *-ing* were removed, because they are instances of Pattern A (e.g., *into raging fires*, *into boiling water*). Allowing only four-token objects to increase precision likely affected recall (aggravated by the problem that many matrix verbs are not tagged as verbs; cf. Flach in press).

This yielded 1,198 tokens for Pattern A (PCEME, 689.4 pmw) and 1,985 for Patterns B–D (EEBO, 2.4 pmw). The results are summarized in Table 1 for PCEME and in Table 2 for EEBO. The EEBO tokens were not further distinguished between Patterns B and C due to rampant ambiguity. However, the data contain five clear examples of Pattern D from the late 17th century.

Since EEBO has substantial limitations with respect to balance, representativeness, and tagging, EEBO data have to be interpreted carefully. However, since the expected evidence of Patterns B and C in conventional corpora would only amount to a handful of instances (~2.4 pmw), EEBO is an immensely valuable resource by its sheer size. Many of its shortcomings are not unique to EEBO but apply to diachronic material in general. Nevertheless, examples from EEBO are only cited if they could be verified in fully scanned copies in online archives or Google Books to ascertain the year of attestation with a greater degree of confidence.

Table 1: Frequency breakdown of 1,198 tokens of Pattern A [SUBJ V OBJ *into* NP] in PCEME.

Period	<i>N</i>	<i>F</i> <sub>rel</sub> (pmw)	% abstract GOAL
1500–1569	289	509.0	13.5 %
1570–1639	437	695.3	19.7 %
1640–1710	472	871.5	27.1 %

Table 2: Frequency breakdown of 1,985 tokens of Patterns B–D [SUBJ V OBJ *into -ing*] in EEBO.

Period	<i>N</i>	<i>F</i> <sub>rel</sub> (pmw)	% animate CAUSEE
1525–1549	11	2.9	9.1 %
1550–1574	46	1.9	4.3 %
1575–1599	175	3.6	8.0 %
1600–1624	206	2.0	7.8 %
1625–1649	283	1.9	9.9 %
1650–1674	606	3.4	15.3 %
1675–1699	663	2.0	22.1 %

## 4.2 Analysis

Given its frequency of 689.3 pmw across PCEME, it is safe to assume that the canonical caused-motion construction was well-established in Early Modern English:

- (6) a. *And Iesus came agayne into Cana of Galile, wher he turned water into wyne.* [PCEME, 1534]  
 b. *Have I not brought my selfe into troubles ynoughe?* [PCEME, 1556]  
 c. *She laboured to translate them again into French* [PCEME, 1571]  
 d. *hee draweth them hedlong into manie grieuous sinnes.* [PCEME, 1593]

Pattern A [*into NP*] occurs freely with CAUSEES on all levels of animacy (individuals, collectives, animals, inanimate objects). The GOAL designates physical movement into a variety of containers, such as locations (*Scotland, France, market place*), vehicles (*vessel, ship*), body parts (*head, arteries*), substances (*wine, water, blood*), or states of being (*troubles, sin, wickedness*).

The relevant change in Pattern A is the rise of abstract GOALS (*wickedness, possession, punishment*) at the expense of concrete places, containers, or substances (*France, house, wine*). As can be seen from Table 1, the proportion of abstract GOALS doubles from 13.5% in the first period (1500–1569) to 27.1 % in the third period (1640–1710).<sup>3</sup>

In EEBO, Pattern B [*into -ing<sub>N</sub>*] starts appearing in the second quarter of the 16th century, mostly of the type *merry queer is turned into weeping* (1534) or *turn the blessing of God into cursing* (1540). The nominal status of the GOAL can be inferred from frequent coordination (*mirth shall be turned into mourning and lamentation*). The majority of the earliest examples have inanimate objects (*mirth, joy, prayers, cursing*), but there are cases with animate objects:

<sup>3</sup> These proportions depend on whether *hand* (e.g., *put matters into thy hands*) is seen as abstract (in a ‘care’ or ‘control’ sense) or as a metaphorical container (in a ‘body part’ sense). In the latter case, the proportions of abstract GOALS are 9.7 %, 15.8 %, and 22.2 % across the three PCEME periods. Since the differences remain on the same order of magnitude, the choice of classification does not affect the argument of the relevant distributional shift.

- (7) a. *But that ... the Patriarches were circumcised, being allured into partakinge of the couenant hauinge vdoubtedly ... bin taught righteousnesse and innocence* [1578, John Calvin, *Institvtion of Christian Religion*, translated by T. Norton]
- b. *God hath set thee in this world, and he hath spread out his gracious gifts and the great treasures of his goodness upon thee, which if thou mark in thy body, thou shalt have matter enough to ravish thee into wondering* [1574, Jean Calvin, *Sermons of Master Iohn Caluin*, translated by Arthur Golding]

Although these examples come from a French author, they were translated into English by different people. This suggests, as a minimal assumption, that Pattern B licensed animate objects, although they remain low throughout the 16th century (cf. Table 2).

The nature of the matrix verbs suggests that Pattern B is a more specific subtype of the caused-motion construction, because it occurs mostly with verbs of change (*turn, change, convert, metamorphosize*), creation (*form, make, produce*), declaration (*decree, speak, call [into being]*), or transfer (*bring, put, take*). They encode the transition of an object from one state to another, implying strong causal involvement of the CAUSER.

The major change in Patterns B [*into -ing<sub>N</sub>*] and C [*into -ing<sub>C</sub>*] occurs during the 17th century, when their proportion of animate CAUSEES increases from below 10 % to around 22 % (cf. Table 2). The examples in (9) also illustrate the ambiguity of the GOAL between state (nominal) and action (verbal) that arise almost naturally with animate CAUSEES:

- (8) a. *it is not the pure love of fin that drawe backe the godly into finning againe* [1639, J. Sedgwick, *The bearing and burden of the spirit*]
- b. *and by setting forth promifes and priviledges, and prerogatives, and works done on Gods part, and Christs part for us and in love, rather argues us into going & working, & loving reflections again* [1646, J. Saltmarsh, *Free-grace: Or, The Flowings of Christs Blood Freely to Sinners*]
- c. *If God deal thus with his people, that when he leads them into suffering and difficult work* [1649, R. Tichborne, cited from EEB0-ID A94343]
- d. *God hath predestinated us to Sufferings, and we are baptized into Suffering* [1653, J. Taylor, *Eniautos a course of sermons for all the Sundaies of the year*]

The GOAL is normally nominal during this period. The CAUSEE is moved into states of sin or suffering, which are not usually self-controlled processes (especially in a religious context). The nominal character is evident in frequent coordination (*into suffering and difficult work*). While sinning implies more self-control than suffering, the ambiguity between the state a

person is in and the self-propelled process associated with that state remains. The ambiguity is facilitated by the absence of a definite article (*the partaking of the convent* would also be possible), which provides a link between purely nominal and more verbal gerunds (De Smet, 2008; Fanego, 2004).

Despite the persistent ambiguity, there is a notable change during the middle of the 17th century. Consider the examples in (9): the semantics of *speak* and *mock* entail a much greater agentivity of the CAUSEE, so that a verbal interpretation of the GOAL becomes possible:

- (9) a. *we need no Fines, Racks, nor heavy Imprecations, to scare us into Truth-speaking* [1672, W. Penn, *The spirit of truth vindicated*]  
 b. *And wee see by Experience, that an Oath will not bind ill men, but is a Snare and a stumbling block to the upright hearted, who need no fearing Affervations, to awe them into Truth-speaking* [1683, W. Holgate, *To all who desire satisfaction in the case of oaths*]  
 c. *Another thing that leads foolish ones into mocking at sin, is, because it doth not appear to them at present in its proper colours, it appears to them in Disguises, in Masks.* [1677, J. Ryther, *A looking-glass for the wise and foolish, the godly & ungodly*, EEBO-ID A58034]

*Truth-speaking* implies a conscious act of speaking on the part of the CAUSEE in (9a) and (9b). Likewise, the complement *mocking at sin* in (9c) suggests a willful act of mockery, in which the CAUSEE has control or responsibility over the result.

Once the possibility of a control interpretation has emerged and CAUSEES can be moved into states of action, it is a short step to unambiguous object-control structures with sentential complements (Pattern D), which first appear by the end of the 17th century. Five such clear examples could be identified in EEBO, which occur in relatively short succession:

- (10) a. *whereby he was honestly trepanned ... into giving sentence against himself.* [1678, S. Rolle, *Loyalty and peace, or, Two seasonable discourses*]  
 b. *Visitation, which is no less comfortable to the dying, is yet less dangerous to the living: it frightens not men into enriching an order, by impoverishing their heir; nor into expiating the sins of their life by a worse at their death.* [1687/1688, J. Harrington, *Some reflections upon a treatise call'd Pietas Romana & Parisiensis*]  
 c. *Besides, you Hector'd me into saying I lov'd both, because you scorn'd to Name the one you Lov'd.* [1689, R.B. Orrerey, *Mr. Anthony a comedy*]  
 d. *Then throwing her false, but showy, charming Arms, about the Neck of her Heart-breaking Lord, and Lover, who lay sighing, and listening by her Side, he was charmed and bewitched into saying all*

*Things that appeased her* [1698, A. Behn, All the histories and novels written by the late ingenious Mrs. Behn]

- e. *This was paid above-board; but when the Captain and I am at leisure, to aunt for all the Sums of Money he as clandestinely received from the Party that Fooled him into being an Author, it will surprise the Nation to hear there was so much mischief carried on, under so Thin and Mean a Cover.* [1700, R. Kingston & R. Smith, A modest answer to Captain Smith's immodest memoirs]

The examples in (10) exhibit the structural and semantic properties defined for the *into*-causative: a CAUSE(R) acts upon a CAUSEE in a way that the CAUSEE performs the action specified in the oblique—cxzn has occurred. To be sure, its precise point is a question of corpus size and the quality of the tagging and the query; we would likely find earlier uses in larger and better databases.

A final point shows that demarcation remains difficult and illustrates that the evaluation of the evidence is influenced by hindsight knowledge. Consider example (11) from 1577, a century before the examples in (10):

- (11) *That in the morne awake, I could but merueile much,  
What cause by day, by night should dryue, me into dreaming such.*  
[1577, N. Breton, *A floorish vpon fancie*]

From a modern perspective, this is an instance of the *into*-causative with *such* as a pronominal complement. Yet, it seems more likely that *such* is a pronominal modifier (*such dreaming*) and that the verse form influenced the position of *such* to rhyme with *much*. In PCEME, modifying uses (*such intention, such a case of joy*) far outnumber pronominal uses. The indirect evidence against an *into*-causative in (11) is supported by the fact that nearly a hundred years pass before similar patterns appear. It illustrates how assuming a new form-meaning pairing also requires that alternative analyses are significantly less likely (Diewald, 2006; Smirnova, 2015). Having said that, without hindsight knowledge that the *into*-causative *did* become a well-established member of the constructional network, all instances of Pattern D, like (11), may have been classified as instances of the caused-motion construction, the idiosyncrasy of an individual, or an error in the data (Flach, to appear).

After cxzn in the late 17th century, the *into*-causative continues to rise in frequency in Late Modern English:

- (12) a. *I do not wonder my niece was frightened and terrified into taking this measure; and, to speak honestly, I think my niece will be justified to the world for what she hath done.* [CLMET, 1749]  
b. *The house was large and elegant, and betrayed me into furnishing it rather better than suited my present circumstances;* [CLMET, 1763]

- c. *Do not be laughed into doing that which you know to be wrong.* [CLMET, 1837]
- d. *Recently it has been rumored that Hambros has been trying to coerce the grand, foxy old man of Greece ... into concluding an agreement which would give it an absolute monopoly of Greek public financing.* [COHA, 1929]
- e. *“Whoa. Back up. I couldn’t possibly smooth-tongue you into doing something you didn’t want to do. Do you want to do it?”* [COHA, 1966]

While there is no change in form or meaning, the examples in (12) illustrate a subtle construction-internal distributional shift. The matrix verbs in early Late Modern English are predominantly verbs of FEAR (a), TRICKERY (b), or OTHER (c), while verbs of FORCE (d) and COMMUNICATION (e) that dominate the contemporary *into*-causative are in the minority or even largely absent. This distribution is reshuffled over the late 19th and 20th centuries: verbs without an implied cause for action (esp. COMMUNICATION) or those with preempting alternative complementation profiles (esp. FORCE) increasingly feed on the ability of the construction to provide argument roles independent of verb meaning or subcategorization constraints and become proportionally much more frequent over time (Flach, to appear).

A final empirical remark before discussing the findings concerns the rise of prepositional *-ing* complements in English as an additional facilitating factor. As a rough approximation, the frequency of a preposition (mostly *of*, *in*, *by*, *for*, *without*, and *from*) followed by verbal *-ing* rises from 399.8, to 1118.6, to 2655.1 per million words over the PCEME periods (1500–1569, 1570–1639, 1640–1710). Similarly, non-finite gerundial complements as part of the Great Complement Shift are on the rise in Early and Late Modern English (Rohdenburg, 2006; Vosberg, 2006).

In summary, there is a consistent development from the movement of a CAUSEE into a location (Pattern A), to movement into a state (Pattern B), to movement into a metaphorical container ambiguous between state and action (Pattern C), to movement into action over which the causee has control or responsibility (Pattern D). These changes are accompanied by pattern-internal shifts, e.g., in the animacy of the CAUSEE or the abstractness of the GOAL. The rise in frequency of all patterns facilitated newer developments, as continued use strengthened their existing links.

## 5 Discussion

This section revisits the two main sets of questions concerning constructionalization (as laid out in Section 2) against the background of the empirical data (as discussed in Section 4). The first set asked how many changes constitute constructionalization and how accompanying changes are

distinguished from changes preceding or following constructionalization. The second set pertained to the relationship between constructionalization and conventionalization.

As a starting point for the discussion, Figure 1 summarizes the findings from Section 4 in diagrammatic form; it is impressionistically based on the data in EEBO and PCEME as precise numbers are difficult to determine, especially for the highly ambiguous instances of Patterns B and C.

The diagram depicts the emergence of the *into*-causative as the result of a multi-layered succession of constructional changes in different parts of the network. These changes result in *cxzn*, which in turn is followed by constructional changes. The phases in the original conception (pre-, con-, and post-constructionalization changes) are subsumed under *constructional emergence*. The vertical lines symbolize assumed associative links between related argument structure patterns (A–D) and more general preconditions (X). (While links are assumed to exist between X and A–D, they have been left out for better readability.)

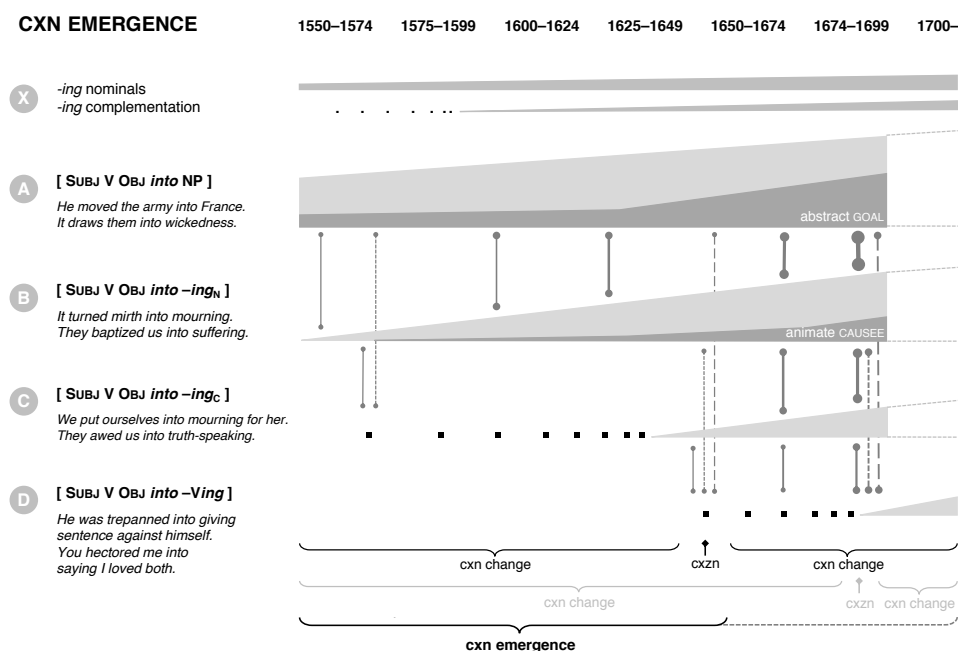


Figure 1: Emergence of the *into*-causative as the result of multi-layered successive constructional changes in the network. The dots and the height of the grey areas represent frequencies, but are not drawn to scale.

In the 16th and 17th centuries, the well-established caused-motion construction in Pattern A rose in frequency and shifted towards a higher proportion of abstract GOAL arguments (*wickedness, possession, punishment*). This contributed to the rise of Pattern B, which itself occurred increasingly more often with animate CAUSEES towards the end of the 17th century. These

changes were mutually reinforcing (indicated by thicker vertical lines), and paved the way for the ambiguous, but potentially complex Pattern C by the end of the 16th century. Pattern C increasingly implied that the causee had control over the state or process in the oblique, which further strengthened the preconditions for the *into*-causative. At the end of this development was Pattern D in the late 17th century, i.e., a new form [SUBJ V OBJ *into* Ving] with a new meaning ‘X CAUSES Y DO Z’ with no alternative analysis.

This cxzn is instantaneous, as both form and meaning are new: none of the attested examples up to this point warrant the assumption of  $F_{\text{NEW}}-M_{\text{NEW}}$ . That is, all instances until cxzn are  $F_{\text{OLD}}-M_{\text{NEW}}$  or  $F_{\text{OLD}}-M_{\text{OLD}}$  (depending on one’s definition of  $M$ ). Note that if the definition of the *into*-causative had been more general, i.e., that of the caused motion construction ([SUBJ V OBJ OBL<sub>PP</sub>] and ‘X CAUSED Y TO MOVE Z’), the time window here would not show cxzn at all. In a way, cxzn is an analytical anchor, but it is constructional change that we see in the data.<sup>4</sup> Put differently, constructional emergence looks at constructional change through the lens of the construction under investigation without assigning a special status to any of these changes (as preceding, accompanying, or following changes).

The diagram highlights the demarcation problem between constructional changes that precede constructionalization (pre-) and those that accompany it (con-): is C the starting point of constructionalization? Or B or even A? It is impossible to separate two types of changes for the constructionalization of the *into*-causative in the network of related patterns (A–C) and beyond (X).

The second set of problems concerns the relationship between constructionalization and conventionalization. Recall that the constructionalization view assumes that a linguistic innovation needs to spread in the community to count as change (Traugott, 2015; Traugott & Trousdale, 2013). But how much spread in the community lies on either side of the boundary between constructionalization and post-constructionalization change?

At face value, it is a convincing argument that one example is not enough for  $F_{\text{NEW}}-M_{\text{NEW}}$  (Traugott & Trousdale, 2013, p. 2). If we accept this position, we need to shift cxzn of the *into*-causative further to the right, say, to around the time when unambiguous tokens are frequent enough to qualify as a conventional unit (assuming we can define sufficient frequency). This is illustrated by the grey scenario in Figure 1. But this immediately raises the question of what the dots are *before* the later cxzn point, if not instances of  $F_{\text{NEW}}-M_{\text{NEW}}$ .

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<sup>4</sup> Note at this point that many processes that are commonly evoked in grammatical change or constructionalization have not been discussed in this paper at all, such as schematicity, productivity, or compositionality (Traugott & Trousdale, 2013, p. 22). This is partly because the *into*-causative immediately feeds on the schematicity and non-compositionality of its relatives and there is no evidence that the *into*-causative was systematically restricted in productivity.



It is a well-established assumption in diachronic linguistics that the earliest attested example is likely not its first use. But we could step back for a moment and think about what this actually means. If an observation is in all probability not the first time the pattern has been used, then we necessarily acknowledge that it *has* already gained foothold in the speech community. This foothold may be restricted to a very limited part of the community—but since the idea of the speech community is itself subject to the heap paradox (Börjars et al., 2015, p. 364), limited spread is not per se an argument against assuming that *cxzn* has occurred. (Moreover, even if a first attestation were its first use, the construction did not come into being *ex nihilo*: even a first use is nearly always an extension of conventional material by utterance recycling, i.e., most of its parts were already shared by interlocutors to the point where the use of known material in slightly altered form or in a new environment may go unnoticed.)

It is important to remember that limited spread in a population of speakers is not unique to diachronic data. Usage-based approaches acknowledge that speakers form their constructional inventories relative to their linguistic experience, which varies substantially between speakers (Dąbrowska, 2015). It is conceivable that there are speakers with no or only a weak representation of the *into*-causative. Yet, just as this possibility does not invalidate the constructional status of the *into*-causative today, the lack of communal spread in diachronic data (however defined) does not invalidate the assumption that the *into*-causative was part of the constructional inventory of (at least) some speakers in a (sub)section of the historical speech community. In addition, upholding the distinction between innovation and spread as theoretically relevant for constructionalization essentially assumes monogenesis by a single speaker. Yet, polygenesis is an equally plausible scenario: as the precursory patterns for the *into*-causative are plentiful, speakers in unrelated parts of the larger speech community may have had sufficient conventionalized material to go from Patterns B or C to D independently.

Trivially, detecting any kind of spread depends on the size of a corpus and sheer luck. Patterns C and D are rare even in the EEBO corpus.<sup>5</sup> Again, this neither speaks against conventionalization, nor is lack of recorded evidence unique to diachrony. Many synchronic structures are so rare that they remain undetected in the largest of corpora for any number of reasons, but they may well be shared between a sizeable amount of speakers. That is, the size and quality of the fishing net determines the quantity of the catch: without EEBO, *cxzn* of the *into*-causative would have been placed much later (the same holds for the detection of the low-frequency Patterns B and C). Conversely, a bigger and/or better EEBO database might hold even earlier examples of Patterns B–D. While earlier evidence would shift *cxzn* of the *into*-causative further back

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<sup>5</sup> The tokens of Patterns B–D with animate CAUSEES have a combined frequency of just 0.3 pmw in EEBO. Hence, the expected frequency in the 2-million token PCME corpus is well below 1 in any given period. Likewise, the query used for this study may well have missed a number of earlier tokens of all patterns.

in time, the range of this shift is bounded by the development of *-ing* nominals and prepositional complementation. This suggests that the picture above presents a reasonably accurate guesstimate of the emergence of the *into-causative*.

We also need to recall that the assumption of a separate construction for the *into-causative* is influenced by hindsight knowledge, precisely because it is the result of successful conventionalization. In other words, if the *into-causative* had not caught on in the speech community, isolated examples may have been judged as errors in the data, the idiosyncrasy of an individual, or a partially sanctioned extension of the caused-motion construction.

In summary, by reserving constructionalization to the point of a new form–meaning pairing (cxzn), the question of how many changes in either form or meaning comprise a new form–meaning pairing does not arise. Second, if “spread” is removed as a necessary condition for cxzn, it falls under constructional change as a form of frequency change (Hilpert, 2013, 2018). This has the advantage that measuring spread in a population of speakers does not require a solution in both constructionalization and post-constructionalization contexts. It can be discussed together with other constructional changes as the result of altered replication of conventional material (Bybee, 2006; Croft, 2000).

## 6 Concluding remarks

This contribution addressed the relationship between constructionalization and constructional change and critically evaluated a number of problems that arise from this distinction. Starting from the observation that the notion of *constructionalization* (Traugott & Trousdale, 2013) is ambiguous between a process and a point reading, the suggestion is that cxzn is analytically helpful for the identification of  $F_{\text{NEW}}-M_{\text{NEW}}$ . Its process-reading is covered by *constructional emergence*, which in turn subsumes cxzn as well as constructional change(s) on either side of cxzn. This perspective avoids, or at least significantly reduces, many of the issues resulting from terminological and conceptual ambiguity. In addition, the alternative perspective relegates conventionalization solely to constructional change. While measuring conventionalization remains challenging, it becomes an empirical question in the context of constructional change.

The point of cxzn depends on pre-defined properties of the construction under investigation. Many aspects are analytical distinctions, sometimes arbitrary, and depend on the “zoom factor” of the descriptive goal. For some purposes, subschemas are relevant, for others, including the present one, they are backgrounded. The question what constitutes a node is relative, not only with respect to the starting point of either *F* or *M* (Hilpert, 2018).

All developments in the constructional emergence of the *into-causative* presumably lead to connective links between network members. This is

tantamount to assuming that emergence, which looks at (parts of) the network through the lens of the emerging construction, is always part of larger restructuring processes (Torrent, 2015). This conclusion is not new; functional approaches to language change have always stressed the importance of viewing change as a dynamic and interdependent process. However, by backgrounding the relevance of the node, link-centered perspectives are rather well equipped to integrate this dynamicity (Hilpert & Diessel, 2016; Schmid, 2016).

Modelling (almost) all changes in the network as *constructional change(s)* has additional advantages beyond reducing demarcation problems. While the discussion in this paper focused on the emergence preceding *cxzn*, emergence does not stop at *cxzn*. This is indicated by the dashed curly bracket in Figure 1 and was the window of attention in Flach (to appear). The emergence perspective can be linked straightforwardly to the idea of “emergent grammar” (Hopper, 1987). This is not to say that constructionalization is per se incompatible with emergent grammar. But its focus on the node, the high relevance assigned to the distinction between constructionalization and pre- or post-constructionalization changes, and their arbitrary boundaries make the connection to emergent grammar more difficult. On a related note, principles of emergence do not only apply to the rise and strengthening of links (and nodes), but also to their potential weakening and eventual disappearance. Put differently, constructionalization does not cover “constructional death” (Sommerer, this volume)—and it is difficult to imagine what *deconstructionalization* would be.

Finally, it should be kept in mind that this discussion analyzed a fully schematic syntactic construction. It remains an open question whether *constructional emergence*, which subsumes the point-reading of *cxzn*, applies straightforwardly to morphological paradigms and/or partially filled constructions. It could be noted that the *cxzn* view does not make a principled distinction between procedural (grammatical) and contentful (lexical) *cxzn*. Instant node creation is perhaps less contentious for lexical than for grammatical constructions. But with the rare exception of ad hoc coinage, virtually all new lexical items, including their new meanings, are subject to some form of recycling of previously known material. Just as the emergence of a schematic construction results from an accumulation of changes elsewhere in the network, new lexical constructions are the result of accumulated constructional changes (and their identification also depends on analytical definitions). Since lexical and grammatical constructions lie on a continuum of constructions, it is feasible to assume that the principles of *constructional emergence* can be applied for units along this continuum.

So although the suggestion of *constructional emergence* may appear to add to unnecessary terminological proliferation, it should be seen as a modest attempt to contribute to clarification, discussing some pointers for future refinements of issues in Diachronic Construction Grammar.

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