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Historical shifts with the INTO-CAUSATIVE construction in American English

Abstract: The syntactic and semantic properties of the INTO-CAUSATIVE construction, involving the pattern 'V NP into V-ing', has been studied in some detail, but its historical development has received less attention. This paper looks at the historical shifts in the construction with much more representative and robust corpora than have been used for previous studies. Based on nearly 11,440 tokens from more than 950 million words of text, the paper considers several important changes in the lexical, syntactic, and semantic properties of the construction. The study also establishes the value of large, diverse historical corpora and their role in researching syntactic and semantic change.

Keywords: INTO-CAUSATIVE, representativeness, corpus-based, big data, construction grammar, diachronic

1 Introduction

The typical INTO-CAUSATIVE construction is composed of a verb of deception, pressure, fear, or enticing (e.g. *fool, bribe, frighten*, and *lure*) followed by *into*-VP[*ing*], as illustrated by the following corpus examples[1]:

(1) a. *This **fools** the gentlemen's wives <u>into thinking</u> the whole thing is pretty important.*
         (COHA 1929 MAG)
     b. *Thus congress can neither **bribe** nor **drive** the president <u>into doing</u> anything which he may regard as unwise or wrong.*
         (COHA 1988 NF)

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1 The examples are from the corpus COHA (Corpus of Historical American English).

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    c. *You cannot **frighten** me <u>into doing</u> that wrong thing.*
        (COHA 1896 FIC)
    d. *They tried to **lure** him <u>into joining</u> the Communist Party, he said.*
        (COHA 1966 MAG)

All these examples involve a meaning in which the subject agent causes the object causee to perform the action or to be in the state of affairs expressed by the VP[*ing*]. This so-called INTO-CAUSATIVE construction in Present-Day English (PDE) has been studied in some detail, focusing on how meaning and structure are related (see, among others, Francis et al. 1996; Hunston and Francis 2000; Gries and Stefanowitsch 2003; Rudanko 2006, Rudanko 2011; Kim and Davies 2016). What has been much less studied, however, is the historical development of the construction, which will be the focus of the present study. Without understanding where the INTO-CAUSATIVE construction has come from and how it has been changing during the past 100–200 years, it is difficult to fully understand the construction in PDE.

    In this study, we attempt to answer a number of questions about changes in the lexical, semantic, and syntactic properties of the INTO-CAUSATIVE construction. We first investigate whether the construction has become more common or less common in English over time, how much lexical diversity there has been over time – in terms of new matrix verbs (e.g. *talk, coerce, trick*) that have been used in different periods – and what kind of matrix verbs have entered in at different periods. We also consider the semantic properties of the construction, focusing on changes in the semantic classes of verbs that take the construction (e.g. verbs of force, persuasion, trickery, etc). For instance, we will examine whether the use with manner-neutral verbs (e.g. *lead*) and positive verbs (e.g. *encourage*) are a recent innovation (as suggested by Rudanko 2006), or whether these uses have been around for a much longer period of time.[2]

    In addition, we discuss innovative uses of the construction from within a CxG (Construction Grammar) approach. The INTO-CAUSATIVE construction, evoking a cause relation, involves several distinctive syntactic and pragmatic properties which cannot be predicted from other related constructions. For example, as pointed out by Rudanko (2006: 316), the goal argument entails the accomplishment of the state of affairs expressed by the V-*ing* clause. To account for this, we employ a CxG approach, which shows that the construction is an extension of the caused-motion construction and that it shares several grammatical properties with related constructions, including the resultative construction.

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2 Rudanko (2006) focuses on seven manner-neutral verbs (*impel, induce, influence, lead, motivate, prompt, stimulate*) in terms of the cause event involved in the construction.

It is worth mentioning that there are several related constructions which this paper does not cover. For instance, examples like *The Chinese feel forced to turn their energies into building underground cities* (COHA 1972 MAG), involve a cause relation, but with subject control – in the sense that the unexpressed PRO subject of the gerundive clause is coindexed with the subject. Our data do not include such subject control verbs. Another related instantiation of the caused-motion construction, which our study excludes, is the *out of -ing* construction that Rudanko (2011) and Gawlik (2013) investigated, using the corpora TIME and COCA, respectively. The COHA corpus also yields some examples of this pattern starting in the 1900s:

(2)   a. *She easily talked me out of attempting the summit climb.*
          (COHA 1960 MAG)
      b. *She folded a hand on her cheek, forcing the cheek out of drawing by her hand's pressure*
          (COHA 1912 FIC)

The complementation pattern, as observed here, is similar to the INTO-CAUSATIVE construction. For instance, the verb *talked* selects three arguments: a subject *she*, an object, and a PP. The implicit subject of the V-*ing* clause is coreferential with the object, giving the status of object control. But in spite of the similarities between the two constructions, we will focus on just the INTO-CAUSATIVE construction.

    This paper is organized as follows. In Section 2, we first briefly review the previous research that has been done on the historical development of the INTO-CAUSATIVE in English. Section 3 discusses the corpora that were used in the study and offers a brief overview of the methodology employed in finding the relevant tokens. Section 4 offers empirical analysis of the construction, based primarily on the data from the Corpus of Historical American English (COHA), which contains more than 400 million words of text from the 1810s–2000s. In Section 4 we examine the incredible range of lexical diversity over time (and which continues to increase), and we consider the range of semantic types for the matrix verb over time. We also discuss how a CxG approach can account for such diversity, as well as for innovative uses of verbs in the construction. Our discussion then focuses on relatively recent changes with the construction – its use with neutral verbs, with positive verbs, in an "indirect" construction, and with reflexives and in a "hybrid" construction with *way*. Finally, we consider a change that is more strictly syntactic – the shift from infinitival to gerundival complements. Section 5 provides concluding remarks.

2 Previous research

As has been mentioned, the INTO-CAUSATIVE construction in contemporary English has been the focus of a great deal of research (see, among others, Bridgeman et al. 1965; Francis et al. 1996; Gries and Stefanowitsch 2003; Hunston and Francis 2000; Rudanko 1991, Rudanko 2002, Rudanko 2005, Rudanko 2006, and Rudanko 2011; Wulff et al. 2007; Kim and Davies 2016), but the historical development of the construction has received much less attention. As we will see, this is due to the lack of useful and robust historical corpora (until recently). English historical linguistics has a strong tradition of small, well-designed corpora, in the range of one to five million words each. These include the Brown family of corpora, with one million words each in Brown (US 1960s), LOB (UK 1960s), Frown (US 1990s), FLOB (UK 1990s), B-Brown (US 1931), BLOB-1901 (UK 1901), AmE06 (US 2006), BE06 (UK 2006); the ARCHER corpus (1.8 million words, 1650–1999), CONCE (Corpus of Nineteenth Century Texts; 1,000,000 words, UK, 1800s), and the Helsinki Corpus (1.6 million words, Old English through the early 1700s). These small corpora have certainly proven their value in research on high-frequency syntactic constructions, such as modals and other auxiliaries, pronouns, and prepositions. However, much less has been done or can be done in terms of lexical change, where there are just a handful of tokens for most words (e.g. Baker 2009, Baker 2011).

The articles and chapters by Rudanko (2000, 2005, 2006, 2011) comprise virtually all that has been published about the history of the INTO-CAUSATIVE construction, each of whose main points we briefly discuss here. Rudanko (2000: Ch. 5) examines the INTO-CAUSATIVE construction in the 1700s and in the late 1900s. The data for the 1700s is based on the Chadwyck-Healy Corpus of eighteenth Century English (which later became part of the Literature Online database), and the data from the late 1900s comes from the Bank of English and the British National Corpus. Rudanko finds that in the 1700s, the construction is still quite rare, and that there are a total of just 28 tokens with 19 different matrix verbs. For each verb, he gives the relevant tokens from the corpus, and he provides some useful semantic categorization of the verbs as well. In terms of changes from the 1700s to the late 1900s, Rudanko suggests that there is a much wider range of verbs that allow the construction in the later period, and that the INTO-CAUSATIVE construction is best analyzed from a CxG perspective (e.g. Goldberg 1995).

Rudanko (2005, 2006) are both based on texts from just contemporary English, although there is an attempt to extrapolate back historically from this data. Rudanko (2005), which is based on the Bank of English Corpus (including the United States News, SUNNOW, and *Times* corpora), suggests that there has

recently been an increase in manner-neutral verbs (e.g. *lead, impel, induce, influence, motivate, prompt*, and *stimulate*) and he suggests that this is more common in British than in American English. Rudanko (2006) examines the LOB (Lancaster-Oslo/Bergen) corpus for British English and the Brown Corpus for American English, as well as the FLOB and FROWN corpora, each of which comprises about one million words. He provides data for more than fifty matrix verbs that had not been mentioned in previous studies, and he suggests that British English has been more innovative in moving from [to V] to [V-ing] complements with some of these innovative verbs (see Rohdenburg 2007; Vosberg 2003; Mair 2002).

Rudanko (2011) is based primarily on data from contemporary English, but Chapter 2 and Chapter 4 of the book deal with the INTO-CAUSATIVE construction in sections of the Corpus of English Novels (CEN). This corpus contains 20 million words of text from publicly available novels (mainly from Project Gutenberg) from 1880–1922, including 12.3 million words from British novels and 5.9 million words from American novels. In total, Rudanko finds 93 tokens of the construction (with 50 different matrix verbs) in the British novels and 57 tokens (with 32 different matrix verbs) in the American novels. In terms of semantic categorization, this book suggests that verbs of deception (e.g. *betray, cheat, deceive, entrap, inveigle, mislead*, and *trap*) are the most common type of verb, and he suggests that verbs of force and pressure were more common in British than in American novels. Finally, he compares the data from 1880–1922 with a smaller corpus of novels from the late 1900s (taken mainly from the Bank of English), and he shows that the construction has increased in frequency over time. In this same chapter, Rudanko also comments briefly on the 66 tokens of the construction in the Brown family of corpora – one million words each from US 1961 (Brown), US 1991 (FROWN), UK 1961 (LOB), and UK 1991 (FLOB). The book notes that there has probably been an increase in the overall frequency of the construction in the last 30–40 years, but he suggests that larger corpora may tell us more about the historical changes.

3 Methodology

As discussed earlier, our study is designed to look at historical aspects of the INTO-CAUSATIVE construction with much larger and more representative data than has been done previously. It is based on large and robust corpora that were not available to previous researchers of the construction, but which have become available in the last 6–7 years.

The majority of the data for our study is taken from the following corpora of American English[3]:

Table 1: Corpora used in the study.

Corpus	Tokens	Corpus size	Texts	Period
Corpus of Historical American English (COHA)	3,874	400 million	100,000+	1810–2009
TIME Magazine Corpus of American English	1,718	100 million	275,000+	1926–2006
Corpus of Contemporary American English (COCA)	5,848	450 million	190,000+	1990–2012
TOTAL	11,440	950 million	565,000+	

As can be seen in Table 1, our study uses a much larger data set than has been available for any previous study on the INTO-CAUSATIVE construction. The study is based on more than 5,500 tokens with over 500 different matrix verbs for the 1810s–1980s (from COHA and TIME), and then another 5,800 or so tokens for the 1990–2000s (from COCA). This means that we have about 100 times as much data as in a small set of corpora like those in the Brown family of corpora (1960s–1990s), and 30–40 times as much data as from the Corpus of English Novels (1880–1922) that was used in Rudanko (2011). In addition, we have data from each decade during the past 200 years, which allows us to follow changes in the construction decade by decade, and which has not been possible in previous studies.

In terms of corpus composition, COHA is the largest structured corpus of historical English that is based on a variety of genres (see Davies 2012a, Davies 2012b). It is more than 100 times as large as any other structured and balanced corpus of historical English, and it contains 207 million words of fiction (novels, short stories, plays, and movie scripts), 97 million words from popular magazines, 40 million words from newspapers, and 61 million words from non-fiction books. Crucially, it maintains roughly the same genre balance (and in most cases sub-genres) decade by decade. The TIME Magazine corpus is based on more than 275,000 articles in TIME Magazine from the 1920s to the 2000s. And finally, COCA is based on spoken, fiction, magazine, newspaper, and academic texts from 1990 to the current time, and it maintains the same genre (and sub-genre) balance from year to year (see Davies 2009, Davies 2011). Together, these corpora (all of which are freely available from http://corpus.byu.edu) provide a wealth of data on the INTO-CAUSATIVE construction, which greatly adds to the data that from smaller corpora that have been presented in previous studies.

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3 There is also a small amount of data from the GloWbE and NOW corpora, which will be introduced later in the paper.

To obtain the tokens from the corpora, the search that we have adopted is a simple one:

(3)   [vv*] {0,4} into [v?g*]

This searches for any expression that is composed of a lexical verb followed by the preposition *into* and a verb ending in *-ing*, where the distance between the verb and *into* can be from zero to four. Strings with a distance of 1–4 would find, for example[4]:

(4)   *he talked {them$_1$/the$_1$ men$_2$/the$_1$ younger$_2$ men$_3$} into$_4$ coming.*

The context 0,4 represents 4 or less (including zero) collocate distances between the matrix verb and the *into* clause. The distance zero is to include examples like the following passive constructions[5]:

(5)   a. *which is a venture that I never **was persuaded into undertaking** before*
            (COHA FIC 1869)
       b. *If I **was misled into making** statements that were untrue in my last meeting*
            (COHA FIC 1922)
       c. *... unhappy pedestrians who **were seduced into taking** this street as a short cut somewhere else.*
            (COHA 1867 FIC)

4 Lexical, semantic, and syntactic changes over time

4.1 Lexical diversity and innovative uses

Before looking at the increasing range of matrix verbs that participate in the construction, we will briefly consider the overall increase in frequency of the

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4 This method would, however, miss examples like *he talked the really old and crazy and nearly toothless men into coming.* While the corpus web interface can find strings as long as 21 words in length, we found that the vast majority of all relevant tokens are found within this four word frame. For example, of 200 random tokens of [*talk* + *into* V-*ing*] in the corpus, 197 of them had the matrix verb within four words of *into*.

5 We excluded examples with intransitive verbs which lack an object as in *go into hiding, go into making, spring into being there*, etc.

SECTION	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
FREQ	2	23	73	129	155	188	250	310	289	352	460	555	535	652	709	603	642	691	846	917
PER MIL	1.69	3.32	5.30	8.04	9.41	11.02	13.47	15.26	14.03	15.93	20.26	21.63	21.75	26.78	28.89	25.15	26.96	27.30	30.28	31.01

SEE ALL YEARS AT ONCE

SECTION
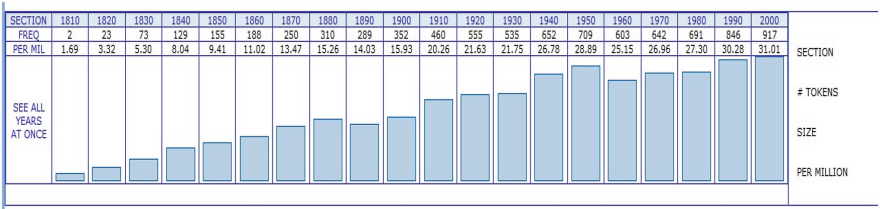
TOKENS

SIZE

PER MILLION

Figure 1: Overall increase in frequency: COHA web interface.

INTO-CAUSATIVE construction over time in American English. Figure 1 shows the normalized frequency (per million words) of INTO-CAUSATIVE in COHA by decade from the early 1800s to the current time (lexical verb + pronoun + *into* + V-*ing*, e.g. *talked them into coming*).

Figure 1 shows us that the overall increase (with all verbs) has been quite consistent during the past 200 years, which supports the data found in Rudanko (2011: Ch. 2). In addition to the overall increase in frequency, there has also been an increase in the number of matrix verbs that participate in the construction, and this is shown in Table 2.

Table 2: Most frequent new verbs by time period.

Period	Freq	f≥1	f≥2	New verbs (frequency ≥ 2)
1840s–1860s	4.13	67	25	frighten 10, deceive 5, persuade 5, force 5, cheat 4, delude 3, inveigle 3, irritate 3, seduce 3, shame 3, startle 3, surprise 3, talk 3, trick 3, provoke 2, quicken 2, tease 2, terrify 2, lure 2, draw 2, entice 2, flog 2, construe 2, bully 2, cajole 2
1870s–1890s	6.54	56	16	coerce 9, flatter 4, trap 4, fool 4, rouse 3, spur 2, stimulate 2, train 2, transform 2, gull 2, hoodwink 2, whip 2, worry 2, cow 2, crush 2, argue 2
1900s–1920s	9.01	92	20	bluff 8, hypnotize 7, kid 5, nag 4, throw 4, shock 3, bamboozle 3, starve 3, stampede 2, trip 2, push 2, anger 2, astonish 2, jar 2, jeer 2, jolly 2, browbeat 2, conjure 2, dupe 2, enchant 2
1930s–1950s	11.49	99	22	pressure 9, prod 7, maneuver 6, rush 5, threaten 3, needle 3, josh 3, spur 3, squeeze 2, steer 2, surprise 2, rationalize 2, panic 2, plunge 2, blackjack 2, con 2, corner 2, cow 2, interest 2, jockey 2, shake 2
1960s–1980s	12.28	119	13	embarrass 4, guide 3, kick 3, lock 2, nudge 2, sucker 2, taunt 2, terrorize 2, trigger 2, harry 2, change 2, co-opt 2, drag 2
1990s–2000s	14.99	93	15	throw 7, draft 3, move 3, whip 3, will 2, transform 2, chase 2, hook 2, invest 2, jolt 2, nurture 2, sink 2, steer 2, stun 2, sway 2
TOTAL		544		

This table shows the overall normalized frequency in each of the seven periods (and this corresponds to Figure 1 above), followed by the number of new verbs in that period that occur at least once (f≥1) and twice (f≥2), as well as a list of the new verbs that occur at least twice (with the number of tokens of each verb in that period).

Although COHA contains tokens for the INTO-CAUSATIVE with 544 different matrix verbs, this is in no way a comprehensive list of all possible verbs. There are 89 other verbs that occur in the 100 million word TIME Corpus, but which are not in COHA. These include verbs such as (1920s) *heffle, hornswoggle* (1930s) *egg, sting, catspaw* (1940s) *preach, pound, smooch* (1950s) *cramp, dope, jar* (1960s) *jolly, gig, stiffen* (1970s) *drill, hook, Svengali* (1980s) *blarney, blow*, and (1990s) *euchre, sober*. Some illustrative examples from the corpus are given in the following:

(6)   a.   *Last week Senator Heflin tried, at length, to* **heffle** *the Senate* **into adopting** *a resolution condemning the nameless bottle-thrower (note the lay on the senator's name)* (1920s)

      b.   *This was supposed to have* **stung** *Dictator Stalin* **into assuming** *a defiant attitude.* (1930s)

      c.   *Then his boss* **catspawed** *him* **into marrying** *a European mistress who was getting troublesome.* (1940s)

      d.   *they had encouraged his wife to* **smooch** *the customers* **into buying** *more drinks* (1950s)

      e.   *he* **Svengalied** *willing authors* **into writing** *potboilers and racy romans clef* (1970s)

      f.   *Moynihan, who ...* **blarneyed** *Nixon* **into endorsing** *the idea [note: Moynihan was* Irish-American]

Note the incredible range of lexical diversity with these verbs. And lest one think – even with these additional verbs – that we have exhausted the full range of possible verbs, there are another 47 verbs from COCA (for just the 1990s–2000s) that are not found in COHA or TIME. The most common of these (occurring three times or more in COCA) are *socialize, funnel, prompt, twist, whisk, tip, gain, game, group, grow, assemble, buffalo, distract, fashion, spoon, steamroll, jawbone*, and *misdirect*.

The amount of lexical creativity can further be attested to by the GloWbE corpus, which contains approximately 1.9 billion words of data from web pages that were collected in 2013.[6] There are approximately 250 verbs that occur with the construction in GloWbE, which do not occur in COHA, TIME, or COCA. They include such unexpected verbs as *carve, complain, deflect, depress, edge, Google, lumber,*

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6 http://corpus.byu.edu/glowbe/

slant, or *squirrel* (see (7), from the US portion of the corpus) or *blag, cloud, cuddle, hack, magick, muddy, randomize, style*, and *tug* (see (8); from the UK portion), e.g.

(7)   a.   *how did you all even managed (sic) to **carve** yourselves into thinking that it's a right thing to do?*
      b.   *and maybe I can **deflect** them into being impressed with that*
      c.   *I think Burger King is trying to **depress** me into getting fat*
      d.   *Scott is after a royal title and has **Googled** his way into getting one*
      e.   *I've been **lumbered** into enjoying this!*
      f.   *Of course Verizon is trying to **squirrel** me into upgrading*

(8)   a.   *And well done Auntie to **blag** your way into getting some funding from overseas*
      b.   *to **cloud** and deceive us into believing that all hope is lost*
      c.   *He'd been **cuddled** into doing some work experience by a social worker*
      d.   *When science is **muddied** into being seen as an act of writing*
      e.   *He was told that this blood had been **randomised** into having a HIV test*
      f.   *how far Labour has **tugged** the Tories into engaging with the details*

Even more evidence for lexical creativity can be attested by the NOW Corpus.[7] NOW currently has about 3.8 billion words, and it continues to grow by about 5–6 million words each day, or about 1.8 billion words each year. There are more than three billion words of data from 2014 to the current time, all of which is later than the texts in GloWbE. There are approximately 2,030 different matrix verbs in NOW that occur with the INTO-CAUSATIVE construction, compared to the approximately 800 verbs in GloWbE. In just the past 6–7 months, there are approximately 105 new verbs that did not occur in NOW before that time, e.g.

(9)   a.   *allow their loss to **becloud** them **into perpetuating** violence (16-09-17)*
      b.   *The industry has **stereotyped** me **into taking** only Mallam roles (16-10-01)*
      c.   *we just **melded** it **into making** the record (2016-12-16)*
      d.   *[it] did not **ruffle** him **into playing** the man rather than the ball (16-12-22)*

In other words, month by month, new verbs appear with this construction in the NOW corpus.

Indeed, the range of verbs is seemingly endless. As Hunston and Francis (2000: 103) ask (referring to the INTO-CAUSATIVE construction), "are there any limits to the creativity of speakers: can we state categorically that something

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7 http://corpus.byu.edu/now/

cannot be said"? Given the tens of thousands of lexical verbs in English, and the possibility that thousands of these could potentially be used in a causative sense (see Goldberg 1995), it is undoubtedly the case that if we had another billion or so words of corpus data, we would find many more verbs as well. But as long as the semantic properties of the matrix verb in question match with the INTO-CAUSATIVE constructional meaning, we should not be surprised if it occurs with the construction.

A feasible theoretical basis for accounting for such creative uses of the construction comes from CxG, which is applied to synchronic data for the INTO-CAUSATIVE construction in Rudanko (2002, 2011) and especially Kim and Davies (2016). In this approach, the lexical creativity that we find over time has to do with the interaction between the core meaning of these innovative verbs and the argument structure of the INTO-CAUSATIVE construction. In CxG, argument structures are taken to be 'constructions', and a verb's inherent 'core' lexical meaning is distinguished from the semantics associated with the argument structure constructions (Goldberg 1995, Goldberg 2006; Rappaport Hovav and Levin 2001). Adopting this CxG view that speakers' knowledge includes not only core verbal meaning but also constructional meanings, we suggest that the INTO-CAUSATIVE construction is a metaphorical extension of the caused-motion construction (see Rudanko 2006, Rudanko 2011; Gries and Stefanowitsch 2003; Wulff et al. 2007 for a similar line of suggestions). The INTO-CAUSATIVE construction shares several properties with the caused-motion constructions – in the sense that it involves the meaning of 'causation', as we have discussed so far.

The pivotal assumption that CxG makes is that as long as a verb (with the subject's role as a causer) can fit into this frame semantics, it may be used in the construction 'creatively'. In accounting for such a creative use of language, instead of postulating an additional verb entry, CxG assumes that an independent argument structure construction (e.g. the resultative construction) licenses these two additional arguments, thus interacting with the original verb meaning. This model, which is based on argument structure, posits a small number of argument-structure constructions and core verb meanings, and it allows us to limit the number of lexical entries needed for each verb, eventually yielding a parsimonious lexicon (see Hilpert 2014: Ch. 2; Goldberg 2006; Michaelis 2012, Michaelis 2013). The innovative use of the construction is thus expected, because the set of possible matrix verbs that can occur in the construction is not predetermined. Crucially, any verb can be a candidate for the construction – as long as it can evoke a causative reading. Thus we should not be surprised to see highly innovative and creative uses of the construction over time, which we in fact do. Stated somewhat differently, the CxG model not only allows for increasing lexical diversity over time, but in a sense it almost predicts that this will be the case.

4.2 Semantic generalizations

With more than 680 different matrix verbs in COHA alone, it may seem a bit overwhelming to understand the principal changes in semantic categories of these verbs over time. But we can focus on general trends, involving the most frequent verbs, which of course account for a large percentage of all tokens. For example, the following twenty verbs in Table 3 account for 1,935 of the total 3,874 tokens in COHA, or about 50% of all tokens.

Table 3: Most frequent verbs (overall, all periods).

		TOTAL	1810–30s	1840–60s	1870–90s	1900–20s	1930–50s	1960–80s	1990–2000s
1	talk	415	0	3	6	13	104	141	148
2	trick	204	0	3	4	28	45	48	76
3	bring	117	5	11	21	20	28	24	8
4	force	117	0	5	11	30	21	37	13
5	fool	114	1	0	4	26	23	20	40
6	deceive	97	0	5	17	31	20	13	11
7	frighten	82	0	10	23	20	15	10	4
8	coax	81	2	5	13	7	7	19	28
9	call	71	11	20	21	12	5	2	0
10	delude	71	0	3	11	19	13	17	8
11	coerce	67	0	0	9	9	21	12	16
12	mislead	67	0	1	11	18	15	16	6
13	scare	67	1	1	9	10	17	9	20
14	pressure	57	0	0	0	0	9	27	21
15	beguile	57	1	12	19	11	10	3	1
16	lure	55	0	2	2	6	13	17	15
17	lead	53	1	4	15	9	11	7	6
18	bully	51	0	2	4	15	8	8	14
19	goad	48	0	0	1	10	12	12	13
20	provoke	44	0	2	2	5	8	14	13
	ALL	1935	22	89	203	299	405	456	461

In classifying the matrix verbs in the INTO-CAUSATIVE construction by semantic properties, we adopt Rudanko's system (2011). Largely based on the semantic categories in Hunston and Francis (2000), Rudanko (2011: 25) classifies the matrix verbs selecting the INTO-CAUSATIVE into six categories, according to the way in which the subject causes the object to perform the action described by the gerundive phrase: by means of deception or trickery (*beguile, cheat, deceive*), exerting force or pressure (*coerce, drive, goad*), arousing fear (*astonish, badger, horrify*), persuading or enticing (*bribe, cajole, coax*), other specific means (*constrain, fascinate, laugh*), and by nonspecific means (*lead, stimulate,*

trigger).[8] However, as Rudanko (2011) also points out, it is important to note that not all verbs fit neatly into just one semantic class. For example, *goad* and *prod* are in a sense both verbs of force and of (strong) persuasion. There is no iron-clad semantic categorization that would not be open to criticism.

In terms of overall changes in semantic classes, perhaps the most useful view of the data would be to look at the most frequent verbs in different time periods. (See Rudanko 2011 for a similar approach, based on the much smaller CEN Corpus). Table 4 identifies the top 15–20 verbs in COHA in each thirty year time period, by semantic class. The verbs *call* and *bring* are bolded and underlined; verbs of force are underlined (e.g. *force, coerce, drive, pressure*); verbs of persuasion are in italics (e.g. *coax, persuade, wheedle*); verbs of emotional effect are in bold (e.g. **surprise, startle, scare**); the neutral verb *lead* is in small caps, the verb *talk* is in Verdana typeface; and all other verbs (primarily verbs of deception) are in normal font (e.g. *deceive, cheat, trick*).

We can make a number of generalizations from these data.[9] First, note the high frequency of *call* and *bring* in the early decades.[10] Second, note the increase in the verb *talk* (technically a member of the semantic class "persuasion") since the early 1900s, and its dominant position since the 1930s. Third, note that by the 1840–1860s, nearly all of the semantic classes are already accounted for: *call* and *bring, talk* (=persuasion), other persuasion verbs (e.g. *coax, persuade*), the neutral verb *lead*, emotional effect (e.g. *frighten, surprise*), verbs of force (e.g. *force, drive*), and verbs of deception (e.g. *beguile, deceive*). Fourth, it may be possible to begin to show trends between verbs of persuasion and force, which would tie in nicely with the claim in Wulff et al. (2007) that British English uses verbs of force more than American English, whereas American English uses verbs of persuasion more than British English. The data in Table 4 may suggest that in the 1930s–1950s there are more verbs of persuasion, whereas in the 1960s–1980s and 1990s–2000s there may be more verbs of force. But crucially, this assumes that we can accurately distinguish between the two classes of verbs. To return to the examples given above, are *prod, goad*, and *provoke* verbs of (strong) persuasion, or are they verbs of force? Again, any icon-clad

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8 Verbs like *beguile* may be used either in a negative sense ('trick') or in a positive sense ('charm'). However, when it is used in a positive sense, it is typically used transitively, as in *His paintings beguiled the Prince of Wales*. The corpus COHA yields 73 tokens of the INTO-CAUSATIVE construction with the verb *beguile*, most of which are used in a non-positive sense.

9 A similar result may be obtained from a distinctive collexeme analysis. For details, see Gries and Stefanowitsch (2003), Hilpert (2006), and Fonteyn and Hartmann (2016).

10 The vast majority of the tokens with *bring* and *call* are in the fixed phrase "*call / bring something into being*", where *being* is probably best considered a noun, although on the surface (*verb someone into *ing*) the phrase certainly has some similarity to the INTO-CAUSATIVE construction.

Table 4: Most frequent verbs, by semantic category (by decade).

1810–30s	n	1840–60s	n	1870–90s	n	1900–20s	n	1930–50s	n	1960–80s	n	1990–2000s	n
call	11	**call**	20	**frighten**	23	Deceive	31	**TALK**	104	**TALK**	141	**TALK**	148
bring	5	beguile	12	**call**	21	Force	21	Trick	45	trick	48	trick	76
resolve	2	**bring**	11	**bring**	21	Trick	21	**Bring**	28	force	37	fool	40
coax	2	**frighten**	10	beguile	19	fool	19	Fool	23	pressure	27	coax	28
		force	5	deceive	17	**bring**	17	Coerce	21	**bring**	24	pressure	21
		betray	5	LEAD	15	**frighten**	15	Force	21	fool	20	**scare**	20
		deceive	5	coax	13	delude	13	Deceive	20	coax	19	coerce	16
		coax	5	persuade	13	mislead	13	**scare**	17	delude	17	lure	15
		persuade	5	mislead	11	betray	11	trap	17	lure	17	**bully**	14
		cheat	4	force	11	*wheedle*	11	drive	15	mislead	16	con	14
		LEAD	4	delude	11	bully	11	**frighten**	15	provoke	14	**force**	13
		delude	3	tempt	11	**TALK**	11	argue	15	deceive	13	goad	13
		drive	3	coerce	9	**call**	9	mislead	13	coerce	13	provoke	13
		TALK	3	drive	9	drive	9	blackmail	13	prod	12	seduce	13
		surprise	3	**scare**	9	beguile	9	delude	13	goad	12	deceive	11
		startle	3	inveigle	8	cajole	8	kid	13	trap	11	lull	10
		shame	3	betray	8	goad	8	lure	13	**frighten**	10	shock	9
		seduce	3	*wheedle*	7	inveigle	7	goad	12	**scare**	9	**bring**	8
		irritate	3	entrap	6	**scare**	6	lead	11	bully	9	delude	8
		inveigle	3	**TALK**	6	shame	6	beguile	10	tease	8	shame	8
		trick	3							tempt	8		

semantic categorization of different groups of verbs that we present here would be open to criticism. Fortunately, because COHA, TIME, and COCA are all publicly availably corpora, researchers can extract and (semantically) re-categorize the data as they see fit, and thus examine this issue in even more detail.

4.3 Increase in neutral verbs?

Rudanko (2005) suggests – based on data from Present-Day British and American texts – that there has recently been a semantic shift in those manner-neutral verbs that have begun to be used with the INTO-CAUSATIVE construction. Rudanko defines neutral verbs as verbs in which there is "unflavored" interaction (i.e. not necessarily negative or deceptive) between two groups, such as with the verbs *influence, impel, induce, lead, motivate, prompt*, and *stimulate*. However, the underlying assumption is that in earlier periods, most (or all) causative verbs had negative prosody (e.g. *force, deceive, frighten*), and therefore the presence of these neutral verbs in Present-Day English must somehow be explained.

The data from COHA show that there in fact has been little or no increase with these verbs over time. Table 5 shows the number of tokens with these verbs in each of the seven time periods since the early 1800s. The normalized frequency of this group of verbs is found in Figure 2.

Table 5: Frequency of the neutral verbs in the INTO-CAUSATIVE construction.

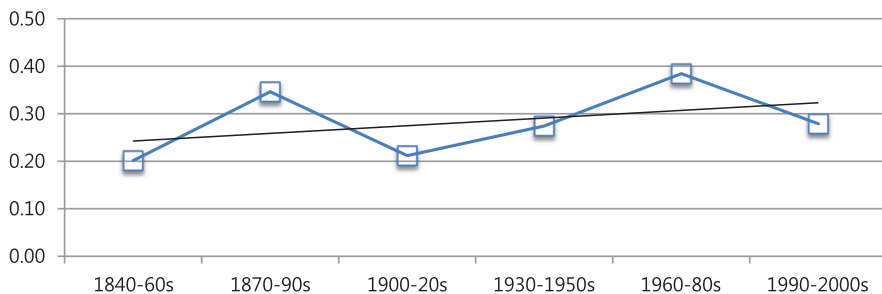|	1810–30s	1840–60s	1870–90s	1900–20s	1930–1950s	1960–80s	1990–2000s
lead	1	4	15	9	11	7	6
draw	0	2	3	3	2	10	2
guide	0	1	0	0	0	3	1
steer	0	0	0	0	2	0	2
stimulate	0	0	2	0	0	1	1
trigger	0	0	0	0	0	2	1
usher	1	2	0	0	0	0	0
influence	0	0	0	1	1	0	1
interest	0	0	0	0	2	1	0
galvanize	0	0	0	1	0	1	1
condition	0	0	0	0	1	1	0
propel	0	0	0	0	1	1	0
reason	0	0	1	0	0	0	0
impel	0	0	1	0	1	0	0
program	0	0	0	0	0	1	0
motivate	0	0	0	0	0	1	0
induce	0	0	0	0	0	0	1

Figure 2: Frequency of "neutral" verbs in COHA.

The table and figure show us that while there might have been a small increase over time (note the slightly increasing trendline), these verbs were certainly already present 150–170 years ago, at nearly the same frequency that they have now.

The following are just a handful of tokens with these verbs from the 1840s–1880s.

(10) a. *I revived the subject of the drama, and **led** him **into speaking** of his own plays (1824)*
      b. *Heart of mine alone refuseth To be chided, To be **guided into hating** where it perished (1848)*
      c. *I was **drawn into speaking** of my life at home (1862)*
      d. *land ... can be **stimulated into producing** a meagre green crop of some kind (1880)*
      e. *I have never yet been able to **reason** myself **into feeling** old (1884)*

The bottom line, however, is that we can find many examples of the INTO-CAUSATIVE with these neutral verbs (especially with *lead*) in the 1800s – they do not represent a semantic extension of the construction in the past few decades.

4.4 Increase in positive verbs

There is one semantic class of verbs where there does appear to be a recent change (and which has not been discussed in previous research), and this is an increase with "positive" verbs like *charm, enchant*, and *romance* – where there is influence from X on Y, but in a positive sense. Table 6 shows the frequency of INTO-CAUSATIVE with these verbs in the different time periods, and Figure 3 that follows provides the normalized frequency (per million words).[11]

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11 To this list of positive verbs, we may add verbs like *urge*. The semantic distinction between positive and negative prosody is often somewhat ambiguous, especially since the semantic

Table 6: Frequency of some "positive" verbs.

	1810–30s	1840–60s	1870–90s	1900–20s	1930–1950s	1960–80s	1990–2000s
charm	0	0	0	1	6	3	7
jolly	0	0	0	2	2	0	0
enchant	0	0	0	2	0	0	1
urge	0	1	0	0	1	1	0
ease	0	0	0	0	0	1	1
motivate	0	0	0	0	0	1	0
romance	0	0	0	0	0	0	1
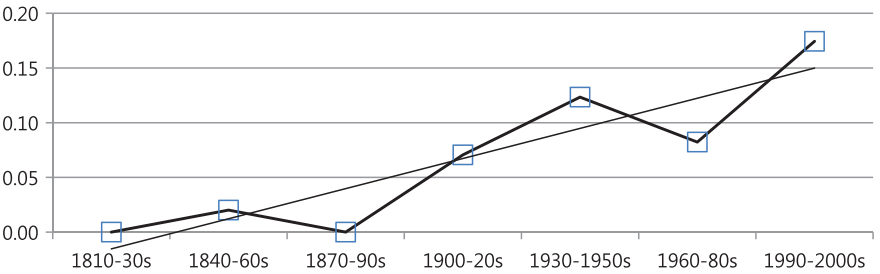
Figure 3: Frequency of "positive" verbs in COHA.

association is determined not only by the verb meaning but also by the given context. For example, the positive association, connected to a specific world, makes the word pleasant or affirmative in the context it is used, but there could be another world where this is not so pleasant. In determining the positive, negative, and neutral sense of the INTO-CAUSATIVE construction, we have checked not only the matrix verb's meaning but also the context in which it occurs (although we still admit that there may be some variations in the judgement, depending on which possible world we assume). For instance, we identified three instances with the verb *urge* from COHA:

(i) a. he was often urged at night into telling stories till he dropped asleep.
         (COHA 1851 FIC)
     b. Many an ardent New Dealer ... urged Nelson into checking Eberstadt's growing power.
         (COHA 1943 MAG)
     c. Herbart had urged using mathematics in the study
         (COHA 1963 NF)

The verb meaning alone may give us some negative sense, but as we can see from the situations involved, these examples have a rather positive (or at least non-negative) sense.

The following are a handful of examples with these verbs, and most of them come from more recent decades.

(11) a. *By talking fast you could sometimes **jolly** the railroads **into cutting** rates way done (1934)*
      b. *you can **ease** the child **into relating** his homework period to the regular activities of others (1970)*
      c. *or weak parents will **be motivated into doing** a better job of looking after their children (1971)*
      d. *That sister of mine could **charm** a marble statue **into carrying** on a pleasant conversation (1977)*
      e. *It's not about **romancing** the client **into buying** the clothes (1995)*
      f. *A dreadlocked man with a mellifluous voice **enchants** you **into buying** lavender (2004)*

These verbs are supplemented by examples with other positive verbs in COCA, none of which appear with the INTO-CAUSATIVE in the 400 million words of COHA.

(12) a. *It wasn't some dusty book that **inspired** Darwin **into thinking** about the order of life in new ways*
          (1999-Mag; with one other token as well)
      b. *Like a mother cat licking her kitten, he **groomed** her back **into trusting** him*
          (1994Mag; with one other token as well)
      c. *Do you think a gay person could **pray** himself **into being** not gay?*
      d. *to **love** some of us **into loving** some of them*
          (2007-News; with one other token as well)

These examples of the INTO-CAUSATIVE with positive verbs is quite interesting, in terms of the semantic extension of the construction. Along with the negative verbs (e.g. *force, mislead, frighten, wheedle*), there have from the beginning also been less negative verbs of persuasion, such as *coax* and the verb *persuade* itself. So it appears that there was always the possibility of extending this to explicitly positive verbs, such as *motivate, enchant*, and *love*, but it is only in the last few decades that such an extension has actually taken place.

4.5 Increase in indirect causation

In semantic terms, the INTO-CAUSATIVE construction might be viewed as follows (see Rudanko 2002, Rudanko 2005; Kim and Davies 2016):

(13) *X causes Y to do / become Z*

This works well for nearly all verbs, in which there is direct causation from X to Y, as in:

(14) a. *Bill (X) talked Sue (Y) into paying (Z) for the meal*
      b. *Fred (X) bamboozled his friends (Y) into supporting (Z) his plan*

Within just the past two or three decades, however, the construction has apparently spread semantically to cases where the causation is much more indirect, which is a topic that has not been discussed in any previous research. In these cases, X merely *creates an environment* in which Y can do something (Z). The following are a handful of examples from COCA and GloWbE-US[12]:

(15) a. *It (X) has helped to **build** America (Y) into exploring new frontiers (Z)*
          (COCA SPOK 1994)
      b. *My gators start, like seeds, small, but you (X) **feed** them (Y) into becoming attractions (Z)*
          (COCA FIC 2004)
      c. *Fran (X) also **organized** Kathy (Y) into buying (Z) some smart cotton dresses*
          (COCA FIC 1997)
      d. *when his wife (X) **educates** him (Y) into believing (Z) that her staying home is a feminist statement*
          (COCA MAG 1998)
      e. *We're (X) trying to **integrate** this person (Y) into being (Z) a law-abiding citizen again*
          (COCA NEWS 2009)
      f. *so a heading in a list (X) implicitly **splits** the list (Y) into spanning multiple sections (Z)*
          (GloWbE-US)

To restate what is happening with these examples, in (15a) something (X) has helped America (Y) to be a certain way, and then (indirectly) America (Y) can explore new frontiers (Z). Or in (15b), you (X) feed the gators (Y) and then (indirectly, as a result) they become attractions (Z). There are also cases

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12 The US portion (385 million words) of the 1.9 billion word GloWbE corpus.

like (15c), where it is not clear just how much Fran (X) influenced Kathy (Y) to buy some dresses (Z). In other words, there is probably a continuum in terms of force or influence, with the most prototypical sentences being like (14), but extending out to much more indirect causation, as in the examples in (15).

As far as the historical development of these cases of indirect causation, the corpus evidence suggests that this is a very recent phenomenon. We have individually examined each of the 544 matrix verbs for the INTO-CAUSATIVE construction in COHA, to identify those that do not belong to one of the prototypical categories such as force, persuasion, coercion, or emotional reaction. Although it is conceivable that there are a handful of examples that we have missed in the 400 million words of text in COHA, our research suggests that there are no examples of indirect causation before the 1990s. Since that time, however, they appear rather frequently in COCA and GloWbE, as evidenced by examples like those in (15) above. Assuming this is correct, it is quite interesting to see how the construction has recently expanded (again, see Goldberg 1995) to include the new semantic and pragmatic space of indirect causation, which was previously not possible.

4.6 Increase in reflexives and a hybrid construction

Another case in which the construction has expanded over time is with the "reflexive" INTO-CAUSATIVE:

(16) a. *the whole moral, physical, political and religious organization of society, resolved* <u>*itself*</u> ***into making*** *the most of human labor*
(COHA 1827 MAG)
   b. *He had* ***deluded*** <u>*himself*</u> ***into believing*** *that his debts were paid.*
(COHA 1891 NF)
   c. *few men in places of leadership have* ***charmed*** <u>*themselves*</u> ***into thinking*** *they are solving a money problem*
(COHA 1934 MAG)
   d. *You* ***drug*** <u>*yourself*</u> ***into believing*** *what is not.*
(COHA 1956 FIC)
   e. *I* ***fooled*** <u>*myself*</u> ***into thinking*** *I was a director*
(COHA 1973 FIC)
   f. *I'm trying to* ***force*** <u>*myself*</u> ***into taking*** *downtime*
(COHA 2003 MAG)

As is seen in Figure 4 (copied from the online COHA interface), there has been a clear increase in the use of the reflexive construction since the early 1900s:
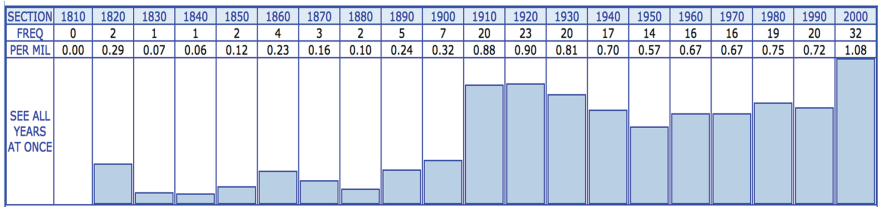
SECTION	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
FREQ	0	2	1	1	2	4	3	2	5	7	20	23	20	17	14	16	16	19	20	32
PER MIL	0.00	0.29	0.07	0.06	0.12	0.23	0.16	0.10	0.24	0.32	0.88	0.90	0.81	0.70	0.57	0.67	0.67	0.75	0.72	1.08

SEE ALL YEARS AT ONCE

Figure 4: Frequency of the "reflexive" *way*-construction in COHA.

In the prototypical construction (e.g. all of the examples in examples 1–15 above), there are two distinct participants X and Y:

(17) a. *Bill (X) talked Sue (Y) into paying (Z) for the meal*
      b. *Fred (X) bamboozled his friends (Y) into supporting (Z) his plan*

In the reflexive construction, there is no distinct Y participant, but Y is coreferential with the subject X itself:

(18) *You (X_1) drug yourself (X_2) into believing (Z) what is not*

In other words, over time there has been a relaxation on the requirement that there be an explicit and distinct participant Y.

This shift may be related to an even more interesting "hybrid" construction, which involves features of both the INTO-CAUSATIVE and what is known as the "*way* construction" (Israel 1996; Goldberg 1995, Goldberg 1997, Goldberg 2006; Mondorf 2010). The canonical *way* construction is composed of a verb of movement, followed by a possessive and then *way*, which is then followed by a preposition:

(19) a. *The rat chewed his way through the wall.*
      b. *We elbowed our way out of the building.*
      c. *I snored my way into a hangover.*

The verbs in this construction are unergatives (although not unaccusative verbs), but they occur with the possessive X-way followed by a path denoting PP.[13] In these sentences, the subject referent moves along the path denoted by the PP. The key semantic feature of the construction is 'causation' in the sense that the subject agent causes the creation of a path involved in the construction (Jackendoff 1990; Goldberg 1995; Christie 2011). That is, the construction involves a meaning where the subject X "causes" Y (possessor) to go along the path denoted by Z either by means of the main predicate or in the manner denoted by the main predicate.[14] This in turn means that the *way* construction is an extension of the caused-motion construction.

The *way*-construction is fairly common in COHA, and occurs about 18,500 times. Figure 5 shows the normalized frequency of the construction by decade from the 1810s–2000s. As can be seen, the frequency has been fairly flat since the 1820s, with perhaps just a small increase in the last 10–20 years.
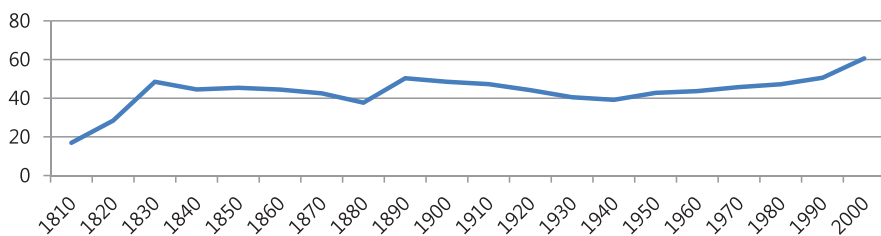
Figure 5: Frequency of the *way* construction in COHA (per million words).

Although the *way* construction itself has increased very little over the last 200 years, a "hybrid" construction that involves some features of both the INTO-CAUSATIVE and the *way* construction has increased a great deal during the past two or three decades:

(20) a. *those few wealthy Jews who could* **bribe** <u>*their way*</u> **into sending** *a son or a daughter beyond the boundaries*
         (COHA 1958 FIC)

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13 Unergatives are internally caused verbs in the sense that they can be causativized with an external causer, as in resultative constructions. See, among others, Levin and Rappaport Hovav (1996).

14 The possessor needs to be coreferential with the subject, as seen in **We elbowed his way out of the building*.

  b. *Mubbie always **joked** his way **into losing***
   (COHA 1995 DIC)
  c. *They **lied** <u>their way</u> **into taking** our country to war*
   (COHA 2005 NF)
  d. *Lewis'mom had a knack for **talking** <u>her way</u> **into living** in a ramshackle house*
   (COHA 1995 NEWS)

(21) a. *"I had to **imagine** <u>my way</u> **into being** a good mother," she said.*
   (COCA 2009 NEWS)
  b. *what we're doing is - - is **muddling** <u>our way</u> **into making** a war criminal a hero*
   (COCA 1999 SPOK)
  c. *and we would **grow** <u>our way</u> **into destroying** the huge deficits*
   (COCA 1991 SPOK)
  d. *so we need our parents and our moms to **act** <u>their way</u> **into loving** themselves*
   (COCA 2006 SPOK)
  e. *Mr. Zell **talked** <u>his way</u> **into managing** some off-campus housing property*
   (COCA 2001 NEWS)

Examples of this "hybrid" construction are quite recent. Before the 1990s, there was one single example in COHA. In just the last decade or two, however, we find that the hybrid construction has increased a great deal. There are 9 tokens in COHA (1810–2009), 31 in COCA (1990–2015), and 160 in GloWbE (which is from 2013).

  We do not claim that this hybrid construction shares *all* of the features of both the *way* construction and the INTO-CAUSATIVE construction. But the important fact is that, as with the reflexive construction in (16), there is no distinct Y participant. For example, in (21e), Mr Zell (X) does not talk another person (Y) into managing the properties. This is even more apparent in the examples in (22), where there is an intransitive matrix verb (*imagine, stammer, nose*) and therefore by definition it would be difficult to have X exerting control or influence on another person Y:

(22) a. *"I had to **imagine** my way **into being** a good mother," she said.*
   (COCA NEWS 2009)
  b. *he had **stammered** his way **into asking** Lois to dance with him*
   (GloWbE-US)
  c. ***Nose** your way **into doing** extracurricular activity you are interested in.*
   (GloWbE-US)

Note that the possessive phrase in all these examples must be coreferential with the subject (X), similar to the reflexive examples.

There might be different interpretations and analyses of this hybrid construction, in terms of exactly which features of the INTO-CAUSATIVE and the *way* constructions are present. But at a simple surface level, certainly some features of both constructions are present. In addition, the empirical data is very clear that this construction is quite new, which is again an interesting extension of the INTO-CAUSATIVE construction in the past two or three decades.

4.7 Shift from [to V] towards [into V-ing]

To this point, we have discussed several ways in which the construction has changed lexically or semantically. In this final section, we will consider how it has changed syntactically over time.

Several researchers have noted the shift in Late Modern English from [to V] to [V-*ing*] complements. This is apparently taking place in a wide range of constructions, such as with verbs like *start, begin, love, like, hate, bother, propose*, and *try* (see Rohdenburg 2007; Vosberg 2003; Mair 2002, Rudanko 2000), e.g.:

(23) a. *He started [to walk / walking] down the road.*
      b. *I tried [to fix / fixing] things.*

The question is whether such a shift may have happened with the INTO-CAUSATIVE verbs as well. Rudanko (2005) suggests (based primarily on extrapolations from contemporary corpora) that there has in fact been a movement towards [V-ing] with the INTO-CAUSATIVE construction, and that this is perhaps most apparent in British English. In order to examine this question with our corpora, we looked at the relative percentage of [into V-ing] and [to-V] complements in COHA and COCA, to see how many verbs had an increase in the percentage of [into V-ing] over time, and how many had a decrease. Table 7 summarizes the results.

The columns in Table 7 represent the following. [ing-H] shows the number of tokens for the string [verb + pronoun + *into* + V-ing] (e.g. *forced him into leaving*) in the 1810s–1940s portion of COHA, and [to-H] shows the number of tokens of [verb + pronoun + *to* + V] (e.g. *forced him to leave*) in COHA (1810s–1940s; H = historical). The columns [ing-C] and [to-C] show the equivalent figures for COCA (1990s–2000s; C = contemporary). [%-H] shows the percentage of all

Table 7: [V-ing] and [to V] in COHA and COCA.

Verb	ing-H	ing-C	to-H	to-C	%ing-H	%ing-C	% change
tease	9	12	32	2	0.22	0.86	3.90
shock	3	19	18	26	0.14	0.42	2.96
lure	6	36	23	23	0.21	0.61	2.95
coax	22	79	132	118	0.14	0.40	2.81
tempt	11	12	451	171	0.02	0.07	2.75
goad	6	37	18	22	0.25	0.63	2.51
shame	10	29	22	18	0.31	0.62	1.97
provoke	10	23	71	73	0.12	0.24	1.94
pressure	0	59	2	336	0.00	0.15	1.49
force	16	60	2528	7534	0.01	0.01	1.26
lead	21	27	3948	4453	0.01	0.01	1.14
frighten	32	19	35	23	0.48	0.45	0.95
coerce	10	50	4	39	0.71	0.56	0.79
scare	21	60	9	51	0.70	0.54	0.77
call	33	2	526	1146	0.06	0.00	0.03
bring	25	52	1337	1591	0.02	0.03	1.72
push	3	53	5	655	0.38	0.07	0.20
drive	22	10	286	560	0.07	0.02	0.25

tokens in COHA (1810s–1940s) that are [into V-ing] and [%-C] shows the same for COCA. Finally, [% change] shows the increase or decrease from COHA (1810s–1940s) to COCA (1990s–2000s). Note that we selected only those verbs where there were at least 20 tokens of [into V-ing] and 20 tokens of [to V] over time, so that there was enough data to make a meaningful comparison.

There are ten verbs in which there was an increase of at least 25% in [V-ing] over time: *tease, shock, lure, coax, tempt, goad, shame, provoke, pressure*, and *force*. With another four verbs (*lead, frighten, coerce, scare*) the increase or decrease over time was much less apparent – less than 25% change in either direction. The verbs *call* and *bring* are probably in a special class. The CLAWS tagger tags *being* as a verb (e.g. *called/brought it into being*), although it is perhaps better analyzed as a noun. There are only two verbs (*push* and *drive*) where there was a clear movement from [into V-ing] towards [to V] over time. However, the verb *push* (e.g. *they pushed him* [*into accepting/to accept*] *the offer*) only occurs eight times with either of the two constructions in COHA during the 1810s–1940s (most of the tokens are in COCA). The one verb with a clear shift from [into V-ing] to [to V] over time was *drive*, e.g.:

(24) a. *You shall not **drive** me **into betraying** his secret*
          (COHA FIC 1859)
      b. *Grief **drove** him **to open** the doors of her armoire*
          (COCA FIC 2008)

In spite of this one verb *drive*, then, there is a clear tendency for verbs to move from [to V] towards [V-ing] over time, thus confirming the claims of researchers such as Rohdenburg (2007), Vosberg (2003), Mair (2002), and Rudanko (2000).

 From the perspective of Present-Day English, it is interesting to consider those verbs that allow [into V-ing] in COCA (even if the number of tokens does not meet the threshold of 20 used above), but which have no tokens of [into V-ing] in COHA. The following are a handful of examples of such verbs from COCA. Note that some of these are clearly verbs that strongly prefer [to V] complements, and most of them would probably sound much better with [to V] (e.g. *induced the defendant to buy*):

(25) a. *the government had **induced** the defendant **into buying** material that he would not have bought on his own*
          (NEWS, 2002)
      b. *that **prompted** the subconscious **into serving** up its first true memory of him*
          (FIC, 2007)
      c. *What **possessed** you **into executing** your revenge in such a manner?*
          (FIC, 2007)
      d. *who will not try to push, cajole, threaten, even beg me **into accepting** my "proper" role*
          (MAG, 1990)
      e. *[he] played a prominent role in **motivating** the Kenyan cell **into organizing** for violent action*
          (NEWS, 2000)
      f. *she offered her arm to the guard ... [to] **dare** him **into escorting** her from the chamber*
          (FIC, 2006)
      g. *fear of time running out often **compels** us **into running** after it*
          (ACAD, 2000)

There are other verbs where there are occasional cases of [into V-ing] and where there are opposing cases of [to V], but in these cases a post-verbal [V-to] clause would probably be the result of extrapositioning (e.g. *it killed/hurt/pleased him to know what had happened*), or where it is more adverbial (e.g. *he moved it to*

create more space in the room). As a result, they are perhaps not as relevant to the [into V-ing] vs. [to V] contrast, but the [into V-ing] sentences are still quite striking:

(26) a. *the other side can't **kill** us **into agreeing** with us*
          (SPOK, 2006)
      b. *They'd also **hurt** them **into admitting** their new names*
          (SPOK, 2008)
      c. *The image **pleased** her **into wishing** she was the woman waiting to receive those fillets*
          (FIC, 1998)
      d. *And he has the courage to try to **move** her **into trusting** him*
          (SPOK, 1997)

5 Concluding remarks

We believe that there are at least three important contributions from this paper. First, at a strictly empirical level, we have mapped out in some detail several changes with the INTO-CAUSATIVE construction (e.g. increases in positive verbs, indirect causation, reflexives, and the "hybrid" construction with *way*), most of which have not been discussed in any previous studies. Second, as we have suggested in Section 4, a CxG approach can offer us a feasible way to account for the incredible lexical change and innovation that we find in the corpora. Any approach that seeks only to count and catalogue the different verbs that participate in the construction would be misguided. A CxG approach predicts that this type of lexical innovation would be the norm, not the exception. Finally, we have seen the crucial importance of large corpora.

A recurring theme throughout this paper has been the importance of robust corpus-based data (see Davies 2014, Davies 2015). As we have discussed, a tiny four million word corpus like the Brown family of corpora only provides 65–70 tokens of the INTO-CAUSATIVE construction (with approximately twenty different matrix verbs), whereas COHA, TIME, and COCA provide more than 5,500 tokens with more than 500 different matrix verbs for the 1810s–1980s, and then another 5,800 or so tokens for the 1990–2000s. The robust data from these corpora have enabled us to look at constructions like the INTO-CAUSATIVE with a rich set of relevant data. As we have seen in Section 4, we have been able to map out the more than 500 different matrix verbs to show which new INTO-CAUSATIVE verbs arose decade by decade in COHA and TIME, and to see the rich lexical diversity of the construction. As for syntax shifts with the construction, we have also seen that there has been an overall increase from [to V] to [into V-ing] complements

with many different verbs, which supports the claim that others have made that [V-ing] clauses are expanding at the expense of [to V] clauses generally in English. We have also found evidence that the construction with "neutral verbs" (like *lead* or *guide*) has in fact existed since the 1800s, and is therefore not an innovative feature of the construction. On the other hand, the large corpus has allowed us to observe that there has been an increase with "positive verbs", such as *charm, inspire*, or *love*. We have also identified the recent rise in "indirect causation" in cases like "*it has helped to build America into exploring new frontiers*".

The important point is that in each one of these cases, the corpora that we used in this study (COHA, TIME, COCA, and supplemented at times with GloWbE) have provided us with a wealth of data. If we examine the number of tokens in the tables and charts in this study, smaller size corpora (such as ARCHER or the Brown family of corpora) would not have been nearly big enough to provide useful data. They would typically only have 1/100th the number of tokens that we have in COHA, TIME, and COCA, and in most cases that is far too small to say any insightful about the construction. In sum, this study proves the value of large, robust corpus for the diachronic study of English including the new INTO-CAUSATIVE constructions.

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