

Reflexive analytic causatives: a diachronic analysis of transitivity parameters

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The present study is an exploration of the field of analytic causatives. It focuses on reflexive constructions with *bring*, *cause*, *make* and *force*. The analysis builds on Mondorf & Schneider's (2016) finding that causative *bring* has specialized to modal-negated-reflexive uses. It explores whether this emerging constraint reduces overlap with other causatives. A second focal point is on the nature of the constructions' constraints. The article applies Hopper & Thompson's (1980) concept of transitivity as a cline. Employing the same 76-million-word corpus as Mondorf & Schneider (2016), which consists of fiction from the fifteenth to the twentieth century, the article shows that reflexive uses of analytic causatives have almost quadrupled over the past 500 years. Results confirm that *bring* is the only reflexive causative strongly associated with modal and negated contexts. Furthermore, some of the constructions display characteristic transitivity profiles.

1 Introduction

There is a wealth of analyses of the English analytic causatives *make*, *have* and *get* (e.g. Palmer & Blandford 1969; Shibatani 1975; McCawley 1979; Hantson 1981; Goldsmith 1984; Haegeman 1985; Gronemeyer 1999; Fleisher 2008; Hilpert 2008), while other causatives, such as *bring* and *force*, have received far less attention (see, however, Andersson 1985; Stefanowitsch 2001; Callies 2013; Healey 2013; Mondorf & Schneider 2016; Schneider 2021). Furthermore, few studies have investigated how these constructions have changed diachronically (notable exceptions being Hundt 2001 and Hollmann 2003). The present study attempts to (partially) fill these gaps by looking at reflexive causation expressed with the verbs *bring*, *cause*, *force* and *make*, as illustrated in (1) to (4). It aims to determine whether these vary systematically and whether the factors determining this variation have changed over time.

- (1) Yet for all this could she not **bring herself to believe** him absolutely false [...]. (ECF1: E. F. Haywood, *Jemmy and Jenny Jessamy* 1753)
- (2) But, Jack, if you **cause yourself to be** contemptible---; (NCF2: George Meredith, *Evan Harrington* 1861)
- (3) Can I **force myself** in any manner **to believe** that I shall ever cease to love you? (NCF2: George Gissing, *New Grub Street* 1891)

(4) I **made myself believe** we shared a cause. (BNC, wridom 1)

Previous variationist approaches have primarily focused on variation between structurally different causatives, such as between analytic and synthetic causatives in English, see (5) and (6) (e.g. Shibatani 1975: 53–4, 62–3; Dixon 2000; Levshina 2017). These studies indicate that a speaker's choice of causative is determined, among others, by the degree of involvement and the volitionality of the causer as well as the affectedness of the causee.

(5) The region has become more accessible recently as **global warming** has caused

CAUSER

the ice to melt. (NOW; Davies 2016–)

CAUSEE

(6) **The heat of these monster meteorites** melted **the ice**. (NOW)

CAUSER

CAUSEE

Most of the proposed predictors of variation are encompassed by Hopper & Thompson's (1980) concept of transitivity, which will therefore be applied in the present study to gauge the (potential) dividing lines between different constructions. Hopper & Thompson's (1980) view of transitivity deviates from the traditional count of objects. They define transitivity as a cline which describes 'the effectiveness or intensity with which the action is transferred from one participant to another' (Hopper & Thompson 1980: 252). This is measurable with the help of a range of properties of the verb and its arguments. When constructions lose their ability to describe effective transfer, this can be observed in a shift from high-transitivity to low-transitivity properties.

The development of the causative *bring* + *to*-infinitive construction (referred to hereafter as *bring*_{CI}) is a case in point. It has repeatedly been shown that twentieth-century uses of *bring*_{CI} are largely restricted to contexts in which the causee is a reflexive pronoun (cf. Andersson 1985; Mair 1990a, 1990b; Stefanowitsch 2001). Diachronic analyses by Mondorf & Schneider (2016) demonstrate that twentieth-century *bring*_{CI} is even more restricted: 65 per cent of tokens found in novels are modal and negated in addition to being reflexive, such as (1). Yet, in the sixteenth and seventeenth centuries, *bring*_{CI} was typically non-modal, affirmative, active and non-reflexive. Thus the construction has undergone a set of transitivity-reducing shifts. This retreat to a narrow niche is coupled with a steady decline in frequency. *bring*_{CI} plummeted from 31 uses per million words in the sixteenth and seventeenth centuries to only 10 uses per million words in the twentieth century.

Schneider (2021) takes a wider perspective, looking at all uses of *bring*, whether as a transport verb or as a causative, and provides evidence that *bring*_{CI}'s diachronic specialization to reflexives reduces overlap in usage patterns between different *bring*-constructions. My findings indicate strongly that the sequence *bring* + reflexive pronoun cues the listener to recognise the comparatively rare *bring*_{CI} construction. The emerging additional propensity of *bring*_{CI} to co-occur with modals and negation

renders the construction even more strongly marked – both morphosyntactically and semantically – and thus strengthens the cue. Such mechanisms to reduce the amount of functional or formal overlap between constructions have been argued to facilitate cognitive access to the construction most appropriate for a given situation, which, in turn, reduces processing cost and have therefore been termed ‘support strategies’ (cf. Mondorf & Pérez-Guerra 2016).

The present article offers a third perspective on the phenomenon, focusing on variation between *bring*_{CI} and other analytic causatives. It explores whether the retreat of *bring*_{CI} to lower-transitivity contexts results from a similar reduction in functional overlap between causative constructions. This raises the more general question whether each reflexive causative has a distinct transitivity profile and, if so, whether these profiles have changed or shifted over time. To this purpose, I investigate reflexive uses of analytic causatives over the course of the Early Modern and Late Modern English periods (EModE and LModE respectively).

The third research question addressed by this article concerns variation between bare and *to*-infinitives, which is assumed to be iconic. Less formal distance (i.e. the absence of *to*) is thought to stand for ‘a higher degree of integration of the causing and caused events’ (Levshina 2017: 323; see Haiman’s 1983 ‘distance principle’). This raises the question whether *make* – the only causative in the set which takes a bare infinitive as a complement – expresses more direct causation and consequently more effective transfer of action, i.e. whether it displays higher transitivity than the constructions with *bring*, *cause* and *force*.

The analysis is restricted to reflexive uses of the causatives. In the case of these verbs, reflexivity is semantically marked in the sense that the action denoted by the verbs is not generally self-directed (cf. Peitsara 1997: 281) and reflexiveness therefore needs to be explicitly expressed with the help of a reflexive pronoun which fills the object slot (cf. Lyons 1968: 363; Quirk *et al.* 1985: 358). These types of reflexives are also known as ‘argument reflexives’ (cf. Steinbach 2002: 177–8).

The reflexive restriction was opted for, firstly, because of the leading role reflexives play in the diachronic development of *bring*_{CI}; secondly, because of the added benefit of keeping several transitivity parameters stable: causer and causee are the same entity and thus equally agentive; they are animate (mostly human) and causation typically happens volitionally. This means that the reflexive controls for a variety of factors (for further invariant factors, see section 3), which permits a clearer focus on the influence of others, such as modality, negation, person and number. Thirdly, the reflexive limits the number of verbs which need to be considered. Causative *have* and *get* – which are commonly contrasted with *make* – are (nearly) incompatible with the reflexive.¹

¹ They were nevertheless searched for in the data. In 76 million words, no instances of *have* + reflexive pronoun + infinitive were found and only ten tokens of *get* + reflexive pronoun + *to*-infinitive. For more information on these causatives, see Hantson (1981: 151), Gilquin (2003; 2010: 106–7, 226), Goldsmith (1984: 119, 122), Wierzbicka (1998: 121) as well as Stefanowitsch (2001: 139).

I take a usage-based construction grammar approach to the analysis of reflexive causatives. In this view, linguistic knowledge comes in the form of a network of form–meaning pairs, i.e. constructions, which range from schematic to specific (see e.g. Hilpert 2014, 2021). Reflexive causatives are not merely instantiations of causative constructions, but also of separate, albeit connected, reflexive (sub-)constructions, which are more specific than their non-reflexive ‘parents’, but have ‘inherited’ properties from them.

The network is shaped through usage. Repeated use of a construction in a specific context strengthens associations between the context and the construction (see e.g. Beckner *et al.* 2009: 6–7 and sources therein; Bybee 2010: 30–1). In this way, the reflexive constructions may develop specific properties of their own (see e.g. Goldberg 1995: 72–4; Hilpert 2014: 57–8).

This approach brings several benefits. Not only can it model both the similarities and the differences between reflexive and non-reflexive uses of a causative, but also the competition between different causatives – which arises because the same meaning is connected to at least two different forms in the network. A final benefit it adds to the analysis is its ability to model diachronic change. The same feedback mechanisms which strengthen the association between a meaning and the form used to express it, also weaken the association between that meaning and competing forms which could have been selected to express it. Over time, this can lead to semantic differentiation (see e.g. Hilpert 2021: 175). A distinct transitivity profile would thus be a context which has characteristic high or low transitivity properties and which is more strongly linked to one causative which, in turn, is preferred over the others.

The rest of the article is structured as follows. Section 2 introduces the parameters which Hopper & Thompson (1980) propose as measures of transitivity and discusses how these have been linked to causative variation. It then summarises what we know so far about the potential transitivity profiles of the causatives *bring*_{CI}, *make*_{CI}, *force*_{CI} and *cause*_{CI}. Section 3 provides a brief introduction to the Chadwyck-Healey corpora of British fiction covering the EModE and LModE periods and explains how the corpora were searched for reflexive causatives. The section furthermore provides information about data coding as well as the method of analysis. It is followed by a three-step analysis of the data in section 4, which consists of an account of diachronic changes in the frequency of the constructions as well as a multivariate analysis of variation based on CART trees and random forests and finally a comparative analysis of transitivity profiles. Section 5 summarises the results and discusses the function of transitivity in constructional networks as well as the role of reflexive causation in narrative storytelling.

2 Transitivity and analytic causatives

The following section introduces Hopper & Thompson’s (1980) parameters of transitivity before briefly showing how they have been linked to causative variation. This is followed by summaries of the analytic causatives’ transitivity profiles.

Table 1. *Parameters of transitivity (based on Hopper & Thompson 1980: 251–3)*

Parameters	High transitivity	Low transitivity
Participants	2 or more participants	1 participant
Kinesis	action	non-action
Aspect	telic	atelic
Punctuality	punctual	non-punctual
Volitionality	volitional	non-volitional
Affirmation	affirmative	negative
Mode	realis	irrealis
Agency	agent high in potency	agent low in potency
Affectedness of the object	object totally affected	object not affected
Individuation of the object	proper human, animate concrete singular count referential, definite	common inanimate abstract plural mass non-referential

2.1 *Scalar transitivity*

As mentioned above, Hopper & Thompson (1980: 252) define transitivity as ‘the effectiveness or intensity with which the action is transferred from one participant to another’. This intensity is determined with the help of the ten parameters listed in table 1.

The highest degree of transitivity, i.e. ‘cardinal transitivity’ (Hopper & Thompson 1980: 253), is given in cases where we have two participants: a volitional, human agent who is performing a telic, punctual action upon a single, concrete, human patient, the latter being physically affected, such as in (7).

(7) I punched Felix.

Cardinal transitivity has come to be equated with prototypical transitivity (cf. e.g. Taylor 1995: 206; Givón 2001: 93; Næss 2007: 15; Gilquin 2010: 146–7). It is closely paralleled by the top rung in Cole’s (1983: 131) ‘Hierarchy of Agency’, by Givón’s (1984: 96–7) definition of ‘prototypical transitive verbs’, by Lakoff’s (1987: 54–5) description of ‘prototypical causation’ as well as by a ‘Proto-Agent’ acting upon a ‘Proto-Patient’ in Dowty’s (1991: 572) terminology. The low-transitivity end of the scale, in turn, is linked to Givón’s (2001: 93–4) ‘de-transitive voice’.

The present study tests Hopper & Thompson’s (1980: 279) claim that ‘diachronic processes may be understood more clearly in terms of Transitivity’. More specifically, it explores the question whether, over time, the semantically (near-)equivalent analytic causatives have developed distinct transitivity profiles.

A similar claim has been made concerning the variation between structurally different causatives. Dixon (2000: 61–2, 74), for instance, argues that if a language has several causatives which differ in their degree of compactness, as illustrated by (8a–d) (ordered

Table 2. *Semantic parameters determining the choice of causative (based on Dixon 2000: 62)*

	Parameter
Verb-related	State/action Transitivity (syntactic)
Causee related	Control (lacking vs having control) Volition (unwillingly vs willingly) Affectedness (partially vs completely affected)
Causer-related	Directness (indirect vs direct) Intention (accidental vs intentional) Naturalness (natural process vs with effort) Involvement (uninvolved vs involved)

from least to most compact), a speaker's choice in a given context is predictable from at least one of the parameters listed in [table 2](#).

- (8) (a) periphrastic/analytic, e.g. *make s.o. walk*
 (b) complex predicate, e.g. French *faire fondre* 'melt_{trans}'
 (c) morphological, e.g. productive processes of the kind in *fall > fell*
 (d) lexical, e.g. *walk (the dog); melt*

The majority of these are, at least indirectly, included in Hopper & Thompson's (1980) list. Thus, Dixon's (2000) findings can be interpreted as evidence that the choice between causatives is transitivity-based. However, he links each split to only one parameter and, in some languages, it is the low-transitivity context which takes a more compact causative and in other languages it is the high-transitivity context.

More recently, Levshina (2017) has shown that the choice between lexical and analytic causatives in English (see (8a, d)) is iconic and depends on the degree of involvement of the causer and affectedness of the object. If the effect of the causative is mental, as in (9), or another source of energy, such as the physical process in (10), is involved, i.e. if there is no transfer of energy or only a part of the required energy is supplied by the causer, speakers are more likely to select the longer analytic causative constructions compared to situations where the '[c]auser is the main energy source' (Levshina 2017: 330), in which they prefer the shorter lexical constructions.

- (9) (a) I **convinced** myself we shared a cause. LEXICAL
 (b) I **made** myself **believe** we shared a cause. ANALYTIC
 (10) (a) [...] global warming has **melted** the ice. LEXICAL
 (b) [...] global warming has **caused** the ice **to melt**. ANALYTIC

In summary, we have some evidence that transitivity parameters, such as agency and affectedness, can explain variation between structurally different causatives (cf. also

arguments in Shibatani 1975: 53–4, 1976: 38; Degand 2001: 176–7; Givón 2001: 75; Halliday & Matthiessen 2004: 509). The picture is a lot more complex where variation between structurally similar analytic causatives is concerned, partially due to a lack of quantitative variationist analyses. The following sections provide short summaries of the causatives' 'transitivity profiles' as they can be deduced from the literature.

2.2 *Bring*

As discussed in section 1, causative *bring* + *to*-infinitive (*bring*_{CI}) has come to be largely restricted to self-causation (cf. Andersson 1985; Mair 1990a, 1990b; Stefanowitsch 2001; Mondorf & Schneider 2016; Schneider 2021). In these reflexive contexts, there are two syntactic participants, but only one referent (cf. Kemmer 1993: 65–6, 133; Stefanowitsch 2001: 246; Gilquin 2010: 85). This means that the criterion of 'two or more participants' is not fully met, which lowers transitivity (see also Givón 2001: 94–6).

Furthermore, 89 per cent of Present-Day English (PDE) tokens of the construction contain a modal and 72 per cent are negated (cf. Mondorf & Schneider 2016: 452–4). This means that in the case of modern-day uses of *bring*_{CI}, mostly no effective transfer takes place as the verb phrase is either unrealis or negated. In fact, 65 per cent of twentieth-century tokens combine the three transitivity-lowering features modal, negation and a reflexive. *bring*_{CI} has thus retreated to a narrow niche characterised by low-transitivity properties.

2.3 *Make*

As we saw earlier, the bare infinitive is said to indicate situations where causation and effect happen in close succession (cf. Haiman 1983: 781; Givón 2001: 44; Fischer *et al.* 2017: 169–70) or where the patient has little control (cf. Givón 2001: 48; for links between these properties and causative *make* see Kemmer & Verhagen 1994: 122; DeLancey 1984: 183; Levshina 2017: 330; and critical discussion in Callies 2013: 242). And indeed, causative *make*_{CI} has been associated with coercive causation, where the causee's will is overruled (cf. Shibatani 1975: 46; Hantson 1981: 151; Goldsmith 1984: 122).

However, coercion is only one of several types of causation which can be expressed with *make*_{CI}. The most common properties of PDE uses of *make*_{CI} (inanimate causer, animate causee and non-volitional effect; Gilquin 2010: 113, 128–30) are present in uses such as (11).

(11) The thought **made her smile** wryly. (BNC, wridom1)

In fact, the most distinctive feature of the construction seems to be its association with non-volitional effects, or, more specifically, its 'strong bias towards verbs of emotion and psycho-physiological reaction' (Hilpert 2008: 491), such as *laugh*, *feel*, *look* and *think* (see also Gilquin 2010: 103, 205; 2015: 262–4).

Thus, the transitivity profile of PDE *make*_{CI} is diverse. The dominant emotional and psycho-physiological effects do not require volitional causers who are high in potency

and do not leave the causee totally physically affected. The causee, on the other hand, has been found to be predominantly definite and/or human and more frequently first or second person than in other causative constructions (cf. Hollmann 2003: 156; Gilquin 2010: 116–18), all of which are transitivity-raising factors. Additionally, effects can rarely be negated (?*She made it not fall over*; Mittwoch 1990: 114). Gilquin (2010: 134) concludes that *make*_{CI} is ‘the most flexible construction, as it attracts the largest number of distinctive features’ (see also Dixon 2000: 36–7 and Hollmann 2003: 156).²

Diachronic analyses show that until the middle of the twentieth century, the construction also permitted *to*-infinitives and, until the eighteenth century, an even longer *for to* variant (cf. Visser 1973: 2261–2; Mittwoch 1990: 125; Hollmann 2003: 166).

2.4 Force

Force + to-infinitive (*force*_{CI}) is typically described as being used for situations in which a human, volitionally acting agent causes a human unwilling patient to perform an action (cf. Givón 2001: 48; Stefanowitsch 2001: 151; Hollmann 2003: 156). Each of these properties is associated with high transitivity. Yet not all uses of *force*_{CI} are characterised by such highly transitive properties. Andersson (1985: 85), for instance, finds that in PDE almost half the tokens of *force*_{CI} are passives, which have a lowered transitivity as the causer is backgrounded or not expressed at all (cf. Givón 2001: 94). Furthermore, Stefanowitsch (2001: 153) argues that there is a subtype of the construction, which he terms the ‘*force*-causative of decision’, where the causer is merely an initial event and the causee performs the effect because they see no other option, as in (12).

- (12) The Macintosh is about the only one that’s going right, **forcing IBM and the rest of the DOS world to follow** along. (Stefanowitsch 2001: 153, my emphasis)

Overall, inanimate causers are common in the *force*_{CI} construction (cf. Hollmann 2003: 156). Due to their lower agency and lack of volitionality, these inanimate causers yield more control to the causee (see also syntactic arguments by Givón 2001: 48) and consequently lower the transitivity.

While historically, *force*_{CI} permitted both bare and *to*-infinitives (cf. Visser 1973: 2279), the variant with *to* seems to have been dominant since EModE (cf. Hollmann 2003: 167). Today, the variant with the bare infinitive has all but disappeared (cf. Callies 2013: 245).

2.5 Cause

Cause + to-infinitive (*cause*_{CI}) has been termed ‘most dissimilar to the others’ (Gilquin 2010: 136; see also Shibatani 1976: 38) and ‘the most abstract causative’ (Shibatani 1975: 51; Stefanowitsch 2001: 162). It is formal and associated with academic writing

² See Wierzbicka (1998) for a fine-grained classification of senses of *make*_{CI}.

(Hantson 1981: 152) and technical contexts (Gilquin 2010: 173, 231). Therefore, it is no surprise that it takes almost exclusively transitivity-lowering inanimate causers, most of them generic and/or abstract entities, like states and events (cf. Hollmann 2003: 156; Gilquin 2010: 110–14). Causation is mostly physical but non-punctual and non-volitional (cf. Givón 1975: 62–70; Stefanowitsch 2001: 160; Gilquin 2010: 120) and causees are commonly inanimate (cf. Givón 1974: 71; Gilquin 2010: 118). Example (13) illustrates these properties.

- (13) The infant's eye is elastic and so a raised intra-ocular pressure **causes the eyeball to enlarge**.
(BNC; Gilquin 2010: 117)

Furthermore, *cause*_{CI} can encode very indirect causation with long causal chains. In fact, it is flexible and able to 'encode any kind of causal link' (Stefanowitsch 2001: 160, 175).

Historically, the bare infinitive was possible besides the (*for*) *to* variant (cf. Jespersen 1927: 291; Visser 1973: 2256), but even as early as ME it seems to have been rare or restricted to specific genres (cf. Hollmann 2003: 166).

Thus we have seen that English analytic causatives have partially overlapping profiles, but each has several characteristic core functions. The following analysis will test whether the same is true for the subgroup of reflexive causatives.

3 Data and coding

3.1 Corpora and data retrieval

The present study is based on three of the Chadwyck-Healey collections of prose published in Great Britain between 1500 and 1899 (*Early English Prose Fiction* [EPPF; Klein, Margolies & Todd 1997–2015]; *Eighteenth-Century Fiction* [ECF; Hawley, Keymer & Mullan 1996–2015]; *Nineteenth-Century Fiction* [NCF; Karlin & Keymer 1999–2000]). Data for the twentieth century is supplied by the fiction subcorpus (wridom1) of the *British National Corpus* (BNC; BNC Consortium/Oxford University Computing Services).³ While works in the Chadwyck-Healey corpora are grouped by publication date, it has become customary to regroup works by authors' birth dates as it can be assumed that a speaker's idiolect changes less over their lifetime than language itself changes in the same time (cf. e.g. Bailey *et al.* 1991). The resultant grouping is shown in table 3.

I used non-tagged plain-text versions of the corpora, as even taggers trained on historical data provide insufficient results, particularly when applied to EPPF (cf. Scherl 2019). Causative verbs were searched with *WordSmith Tools* version 5 (Scott 2008). To account for historical variation, spelling variants listed in the *Oxford English Dictionary* (*OED*) online were taken into consideration. Searches specified that

³ Restricting the analysis to a single genre reduces noise in the data but bears the risk that some effects may be genre-specific. I address the potential influence of genre in the conclusion.

Table 3. *Historical corpora*

Period	Corpus	Size	Total size
^b 1460–1699	<i>Early English Prose Fiction</i> (EEPF)	10.0 million words	} 15.6 million words
	<i>Eighteenth-Century Fiction 1</i> (ECF1)	5.6 million words	
^b 1700–99	<i>Eighteenth-Century Fiction 2</i> (ECF2)	4.8 million words	} 16.6 million words
	<i>Nineteenth-Century Fiction 1</i> (NCF1)	11.8 million words	
^b 1800–69	<i>Nineteenth-Century Fiction 2</i> (NCF2)	24.3 million words ⁴	
^p 1960–93	<i>British National Corpus</i> (wridom1)	19.4 million words	

^b period based on birth dates.

^p period based on publication dates.

Table 4. Tokens per period

	reflexive <i>bring</i> _{CI}	reflexive <i>cause</i> _{CI}	reflexive <i>force</i> _{CI}	reflexive <i>make</i> _{CI}	Total
1460–1699	45	23	41	49	158
1700–99	121	6	65	29	221
1800–69	196	10	84	46	336
1960–93	188	0	359	172	719
Total	550	39	549	296	1,434

the verb had to be followed by **sel** at a maximum distance of three words to the right.⁵ The distance was permitted in order to ensure that tokens with intervening adverbs (e.g. *only myself*) and those where the reflexive is spelled in two words (e.g. *thy self*) would not be missed. The former, however, never occurred.

⁴ This figure differs by about 3.5 million from the actual size of the corpus, the reason being that all works by Anthony Trollope had to be excluded from analysis. While his works constitute 13 per cent of NCF2, Trollope being an avid over-user of reflexive causatives, tokens from his works make up 63 per cent (*bring*) and 33 per cent (*make*) of the data from this period. This means that results for the nineteenth century would have been strongly influenced by a single idiolect.

⁵ English historically also permitted so-called simple reflexives where the pronoun lacked the *self* and thus resembled an object or possessive pronoun (e.g. *he washed him*; Rohdenburg 2009). Peitsara (1997) shows that in verb + reflexive + infinitive constructions, the old form had died out by 1570 (Peitsara 1997: 281). Consequently, the simple infinitive was expected to be at most a marginal phenomenon in the present data. As a measure of caution, however, two works published before 1570 were searched for all analytic causatives without any further restrictions. Amongst these, no instances of a simple pronoun with a reflexive reading were found, which was taken as confirmation that by EModE it was no longer possible to use simple pronouns as reflexives in these constructions.

All tokens were then manually sifted to make sure that the verb had a causative reading and that causation was self-directed. Additionally, the caused effect had to be expressed by an infinitive, such as in (1) to (4) in section 1. Any duplicates were deleted. After this step 1,434 tokens remained. Table 4 shows the distribution of the data by period and construction.

3.2 Coding

The restriction to reflexives keeps several transitivity parameters stable, for instance, only nine causer–causees are inanimate or abstract entities. Half of these (e.g. *the heart*, *the Byzantine Empire*) stand metonymically for human agents. Thus, there is no need to code for animacy. Overall, the following transitivity parameters are invariant in the data: number of participants, kinesis, aspect (telicity), agency (except for person; see below) and individuation of the object (except for number; see below). We can mostly assume that causation was volitionally initiated. The data was manually coded for the following further transitivity factors. Four of these pertain to what I will refer to as the CAUSATIVE CLAUSE (given in bold in (14)) while three relate to the second clause, i.e. the EFFECT CLAUSE (underlined in (14)).

(14) **He forced himself** not to interrupt [...]. (NCF2: Charlotte M. Yonge, *The Heir of Redclyffe* 1853)

Person, i.e. the grammatical person encoded by the reflexive pronoun. This factor was included as a measure of agency. Hopper & Thompson (1980: 273) draw on a ranking by Silverstein (1986 [1976]) and argue that from first to second and third person, agency decreases. The pronoun use in the data reflects the general distribution of pronouns in novels, where third-person pronouns are the most common, followed by first-person pronouns and then second-person pronouns (cf. Biber *et al.* 1999: 334).

Number, i.e. singular or plural. This factor was included as a measure of individuation. Singular patients are more individuated than plural patients (Hopper & Thompson 1980: 253). Plurals turned out to be rare (71 out of 1,434 tokens; 5 per cent).

Modal. Hopper & Thompson's (1980: 273) parameter of mode (realis vs irrealis) is operationalised as the presence or absence of a modal verb in the causative clause. Any element on Quirk *et al.*'s (1985: 137) modal gradient, except the main verbs themselves, was coded as 'modal'. This means that the modal category contains central modals, marginal modals (e.g. *ought to*), modal idioms (e.g. *be to*), semi-auxiliaries (e.g. *be able to*) and catenatives (e.g. *seem to*). The category is much less diverse than it may appear. The central modals dominate (530 out of 581 modal tokens are central modals); *could* (n=378) and *can* (n=97) are the most common, followed at quite some distance by the semi-auxiliaries *have to* (n=21) and *be (un)able to* (n=20).

Negation. This includes the following forms of negation in the causative clause:

Negation in the verb phrase – *not*, *never*, *nor*, *without*

Negation of the subject noun phrase – e.g. *neither X nor Y, nobody*

Negation by means of adverbials – e.g. *by no effort*

Negation of marginal modals, modal idioms, semi-auxiliaries and catenatives – e.g. *not able to* etc. This exception to the general principle of only counting negation in the causative clause had to be made in order to treat all modals equally even though some appear in a superordinate clause.

Negation of the Effect Clause, such as in (14) above. Due to the effect clause being non-finite, only verb phrase negation with *not* or *never* occurred.

Voice of the Effect Clause. While the reflexive rules out the passive in the causative clause, both active and passive are possible in the effect clause. In the case of a passive effect, the agent causes an unnamed third participant to perform an action on them, as in (15). This means the agent of the causative clause only indirectly causes an effect on themselves; the causation chain is longer and transitivity is therefore reduced.

- (15) One night I caused my self **to be brought** home by a Porter as dead drunk [...] (EFPF: Richard Head, *The English Rogue* 1665)

Process Type of the Effect Clause. This factor gauges how strongly the agent/patient of the causative clause affects the patient of the effect clause. The classification scheme which was adopted for this purpose is Halliday & Matthiessen's (2004: 170–1) distinction between material (e.g. *follow, curtsy*), mental (e.g. *hear, concentrate*), relational (e.g. *be, appear* 'seem'), behavioural (e.g. *wake, stand, swallow*), verbal (e.g. *tell, whisper*) and existential processes (not possible in these constructions). Fourteen tokens received no coding as the context provided insufficient information to assess the process type.

4 A comparison of causatives in British English fiction

4.1 Frequency changes

As frequency changes can be an indicator of semantic shifts, we will first compare the usage frequency of the four reflexive constructions over time. The left panel in [figure 1](#) shows that three of the reflexive constructions have increased in frequency over the past 500 years. Yet the frequency changes happened at different points in time: uses of reflexive *bring*_{CI} already rose steeply in the transition from EModE to LModE. Yet the even steeper increase in reflexive *make*_{CI} and *force*_{CI} only followed some 200 years later. Reflexive *cause*_{CI}, in turn, was in decline, leading to its disappearance from novels by the twentieth century.

Overall, these changes lead to far more reflexive causatives being used in the twentieth century than in the centuries before (see cumulative relative frequencies at the top of the graph). This raises the question whether the increase in reflexive causatives is a reflection of a general increase in the use of analytic causatives. The right panel in [figure 1](#) provides a tentative answer to this question. It shows the combined frequency of reflexive as well as non-reflexive uses of the four constructions under investigation. For *force*_{CI} and *bring*_{CI},

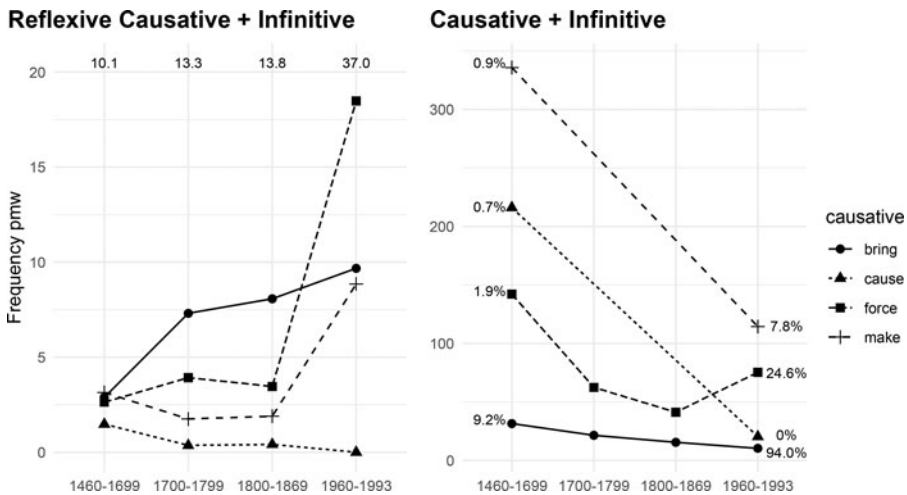


Figure 1. Relative frequency of the reflexive causatives as well as the relative frequency of reflexive and non-reflexive uses combined⁶

comparable non-reflexive data was retrieved with a string which specified that the verb had to be followed by *to* up to five words to the right (see also Mondorf & Schneider 2016: 447). Due to the multitude of other constructions that *make* and *cause* (as a noun) may appear in, such comparison sets could not easily be generated for these verbs. Therefore, frequencies of *cause*_{CI} and *make*_{CI} were obtained from Hollmann (2003: 171; sixteenth- and seventeenth-century data) and Gilquin (2010: 87; twentieth-century data). While Hollmann also uses prose corpora, Gilquin's (2010: 33) results are based on spoken language and academic texts and thus need to be compared with caution. The numbers in the margins indicate the share of reflexives.

A comparison of the two panels of figure 1 reveals that the rise in reflexive causatives runs counter to the general development. All four causatives have considerably declined in frequency since EModE. Only *force*_{CI} is on the rise again. Yet the increase in reflexive uses of *force*_{CI} is more pronounced than its overall increase in use, so that a quarter of present-day uses of *force*_{CI} is reflexive, while in EModE only about 2 per cent of uses were reflexive.

In summary, reflexivity is an increasingly more common feature of the analytic causatives *bring*_{CI}, *force*_{CI} and *make*_{CI}. *Bring*_{CI} leads this change and at 94 per cent reflexive tokens is currently the causative most likely to be used reflexively. In absolute terms, however, by the twentieth century, it is outperformed by reflexive *force*_{CI}, which by then is almost three times as frequent.

⁶ Graphs were generated in R, version 4.1.1 (R Development Core Team 2009) using the package *ggplot2*, version 3.3.5 (Wickham 2016).

4.2 Reflexive causative variation

This leg of the analysis provides a more in-depth look at variation between reflexive analytic causatives. It determines whether specific (clusters of) factors determine authors' choices. The results will help to determine whether each causative has a distinct transitivity profile.

The analysis poses two big challenges for statistics in that (a) we are dealing with a choice between more than two causatives and (b), as we will see below, some of the predictors are correlated. Therefore, I use a Classification and Regression Tree (CART tree; *ctree* from the *party* package in R, Hothorn *et al.* 2006) and later supplement it with random forests (cf. *cforest*, Hothorn *et al.* 2006; Strobl *et al.* 2008). These algorithms 'grow' trees through recursive binary partitioning of the data, with the aim to create statistically purer 'branches', i.e. subgroups of the data (cf. Baayen 2008: 148–9; Strobl *et al.* 2009). In contrast to other regression approaches, they can handle multinomial outcomes and complex interactions as well as collinear predictors (cf. Tagliamonte & Baayen 2012: 161, 171; Levshina 2015: 292). While CART trees rely on a single tree per dataset, random forests grow hundreds of trees using only a random selection of data points and predictors in each tree (cf. Strobl *et al.* 2009: 15–16; Tagliamonte & Baayen 2012: 159).

Figure 2 shows the CART tree. All splits and the resulting terminal nodes (or 'leaves') are numbered and the predictor and splitting point are listed for each split. The bar graphs in the terminal nodes show the distribution of outcomes. The highest bar indicates the model's prediction for the leaf. To reduce the complexity of the model, the tree has been 'pruned', i.e. it has been prohibited from growing terminal leaves which contain fewer than fifty data points. This simplified the model but did not significantly decrease the number of correct predictions (based on a chi-square test comparing the numbers of correct and false predictions of the standard and pruned models).

The model's overall prediction accuracy is 72.3 per cent. However, models fitted to datasets in which outcomes are very unequally distributed are best assessed by referring to 'balanced accuracy' instead (cf. Weihs & Buschfeld 2021: 5). This is the non-weighted average rate of correct predictions across outcomes. As the four constructions are not equally frequent, this method will be applied to assess the performance of the model in figure 2. Prediction accuracies are 92.4 per cent, 92.3 per cent, 81.4 per cent and 15.5 per cent for *bring*_{CI}, *cause*_{CI}, *force*_{CI} and *make*_{CI} respectively. This leads to a balanced accuracy of 70.4 per cent, which highly significantly exceeds a 50/50 chance distribution of correct and false predictions ($\chi^2=239.47$, $df=1$, $p < 0.001$; rates were converted to absolute numbers of correct and false predictions to fulfil chi-square requirements).

A great benefit of CART trees compared to other types of models is the graphical representation of the data. Figure 2 visualises under which conditions a construction is selected, thereby indicating the most influential predictors and interactions.

The first split in the tree basically separates reflexive *cause*_{CI} from the other constructions. It creates terminal Node 2 in which *cause*_{CI} is the predominant

causative. The fact that all but three tokens of *cause*_{CI} are confined to this node indicates that *cause*_{CI} was restricted to passive effects, such as the one in (16).

(16) I did therefore cause my self **to be carried** hither; [...]. (EPPF: Roger Boyle, *Parthenissa* 1669)

As noted in section 3.2 above, these kinds of effects are transitivity lowering as the agent of the causative clause does not directly bring about the effect. They constitute 22.2 per cent of the EModE data, but rapidly died out in LModE.

Besides *cause*_{CI}, Node 2 contains 15 tokens of *make*_{CI}. There seems to be a division of labour between the two verbs in that reflexive *make*_{CI} is used with mental verbs in the passive, e.g. *be heard*, *be known*, *be loved*, while reflexive *cause*_{CI} mostly combines with material verbs, particularly transport verbs, e.g. *be carried*, *be conveyed*, *be lowered*. Thus, patients of *cause*_{CI} are more physically affected than those of *make*_{CI} in this context. The tree does not indicate this division as the node is too small to split further.

The next split – at Node 3 – separates modal from non-modal uses of the causatives. It reveals that modal contexts are heavily associated with reflexive *bring*_{CI}. The four modal Nodes, 16, 17, 18 and 19, are all predominantly filled with tokens of *bring*_{CI}. Successive splits by clause type and negation mean that from right to left these nodes are ever more severely restricted, i.e. they show more complex interactions. At the same time, the level of noise decreases from 42 per cent in Node 19 to 0 per cent in Node 16. The latter represents the threefold interaction of modal–negation–verbal effect and it indicates that in these specific circumstances, authors invariably choose *bring*_{CI} and that they have done so for the entire LModE period (Node 16 contains only a single EModE token). Examples (17) and (18) are exemplary tokens from this node.

(17) For he was **not able to bring himself to utter** those few plain words, “Indeed, madam, I cannot tell.” (ECF2: Sarah Fielding, *The Cry* 1754)

(18) There are things I **can’t bring myself to confess** just yet. (BNC, wridom1)

The final major branch of the tree is the non-modal one which branches to the left after Node 3. Its terminal nodes represent conditions under which speakers prefer to use reflexive *make*_{CI} or *force*_{CI}. Note that negation does not appear as a splitting criterion in this branch of the tree. This is due to negation being strongly attracted to modals and therefore mostly confined to the other branch (347 out of 362 tokens with negation occur in combination with a modal, i.e. 95.9 per cent).

Node 6 is the only terminal node in which *make*_{CI} dominates. It contains non-modal pre-twentieth-century tokens with a relational effect. The most frequent relational verbs with *make*_{CI} are *appear* and *look*, such as in *appear foolish*, *look such a fright* or *look presentable*. In the twentieth century, this context becomes one where newly frequent reflexive *force*_{CI} takes over, which is evident when Node 6 and Node 7 are compared.⁷ *Force*_{CI} does not oust *make*_{CI}, however, and hardly occurs with *appear* and *look*.

⁷ The label ‘Period 3’ in the tree refers to the nineteenth century.

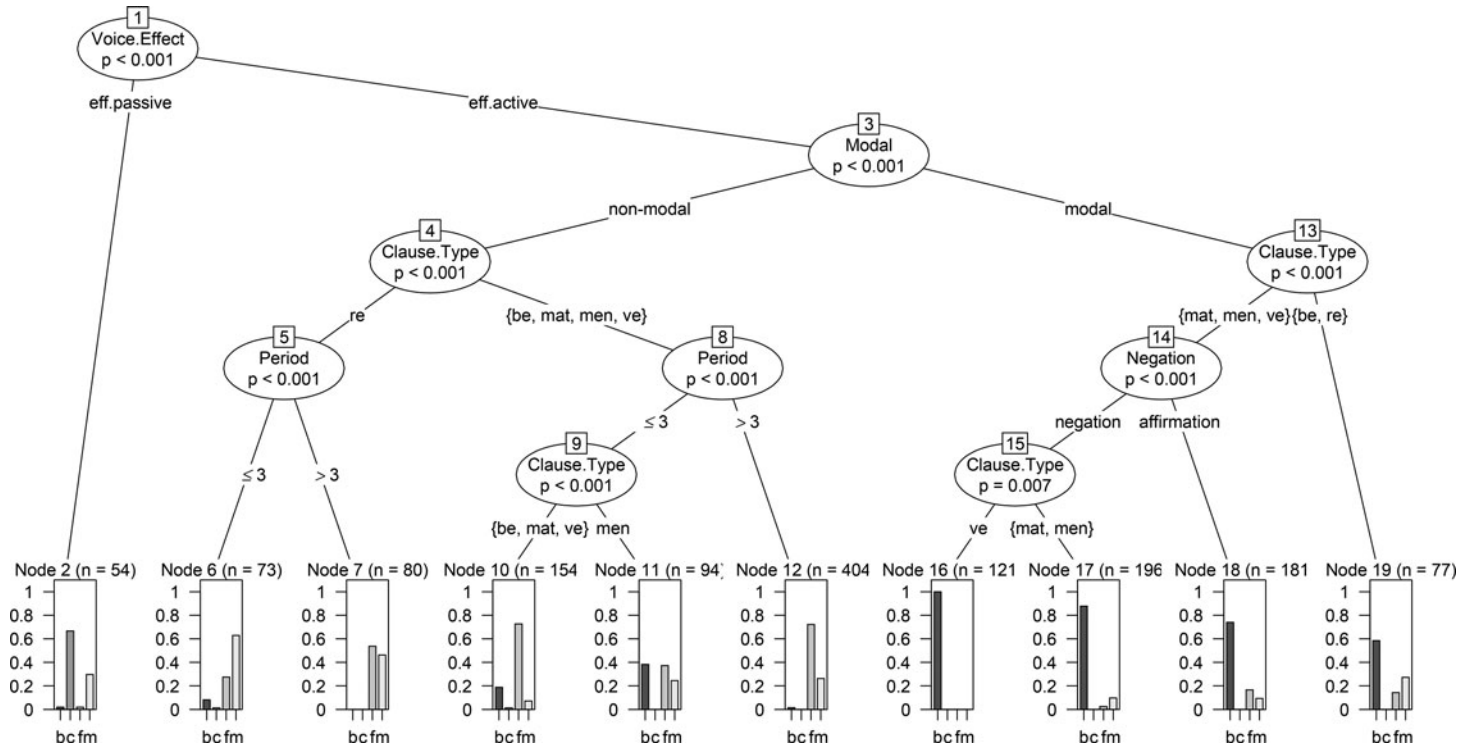


Figure 2. CART tree predicting the choice between reflexive analytic causatives. Abbreviations of the dependent variable: b = reflexive *bring*_{CI}; c = reflexive *cause*_{CI}; f = reflexive *force*_{CI}; m = reflexive *make*_{CI}. Abbreviations of the factor clause type (of the effect clause): be = behavioural; mat = material; men = mental; re = relational; ve = verbal.

Instead, it prefers copula *be*. In terms of their transitivity, relational effects, such as *appear foolish*, often resemble passive effects in that causation is more indirect. Many require a further unnamed participant who perceives the agent of the causative clause in a specific way, for instance as foolish (or at least they require the agent's impression of being perceived in a certain way by others); they are therefore often termed 'stimulus subject perception verbs'.

Finally, Nodes 10 and 12 show under which conditions speakers strongly prefer reflexive *force_{CI}* (73 per cent and 72.1 per cent respectively). In terms of transitivity, Node 10 ranks highest among all terminal nodes as it contains constructions which are realis, i.e. non-modal – and therefore hardly ever negated – in which the agent directly affects himself/herself and in which the performed action has at least some physical component.

Splits in a tree are only locally optimal, though, which means that the algorithm is unable to look ahead and consider effects further down the line. Consequently, a predictor which is marginally outperformed but may have ultimately helped to create less noisy terminal nodes may get overlooked. This issue is resolved in random forests, which generate an ensemble of trees, each based on random subsamples of data points and predictors. In this way, splits emerge that may not have been locally optimal had all predictors been considered (cf. Strobl *et al.* 2009: 331–3). The prediction of the forest is then determined by vote (cf. Tagliamonte & Baayen 2012: 161).

Additionally, forests offer a more conservative estimate of model performance. As each tree is based on only a subset of the data and ignores the remainder, these 'out-of-bag' observations can be used for cross-validation, by testing whether the model's predictions can be generalized to unseen data (cf. Strobl *et al.* 2009: 335, 341). Throughout this section, the random forest results given are out-of-bag observations.

For the present study, a separate forest of 1,000 trees was grown for each period to allow for a better assessment of diachronic change. The number of predictors considered per split was restricted to three. *Cause_{CI}* had to be excluded from the models for the periods 1700–99 and 1800–69. In these periods, it makes up less than 3 per cent of the outcomes, which means that many of the subsamples on which the forests are trained would have contained few or no tokens of *cause*, giving the models little chance to learn when speakers use this causative (cf. Chen *et al.* 2004: 2).⁸ Forest performance is evaluated in the same way as the performance of CART trees, i.e. by means of balanced accuracy; see table 5. Yet, in contrast to single trees, forests cannot be visualised. Instead, the variable importance they assign each predictor can be graphically assessed. These importance scores serve to rank the performance of predictors in a model (cf. Strobl *et al.* 2009: 336; Shih 2011: 2). Through these rankings, the most important predictors can be determined and compared across models (cf. Strobl *et al.* 2009: 336, 342).

⁸ Due to the small number of tokens (6 and 10 per period), solutions such as undersampling of the other outcomes (cf. Chen *et al.* 2004; Weihs & Buschfeld 2021) were not feasible.

Table 5. Forest performance

Period	Accuracy reflexive <i>bring</i> _{CI} %	Accuracy reflexive <i>cause</i> _{CI} %	Accuracy reflexive <i>force</i> _{CI} %	Accuracy reflexive <i>make</i> _{CI} %	Overall accuracy %	Balanced accuracy %	<i>p</i> _{balanced}
1460–1699	51	96	66	71	68	71	<0.01
1700–99	93	–	80	0	76	58	<0.05
1800–69	83	–	77	48	77	70	<0.001
1960–93	97	–	91	13	74	67	<0.001

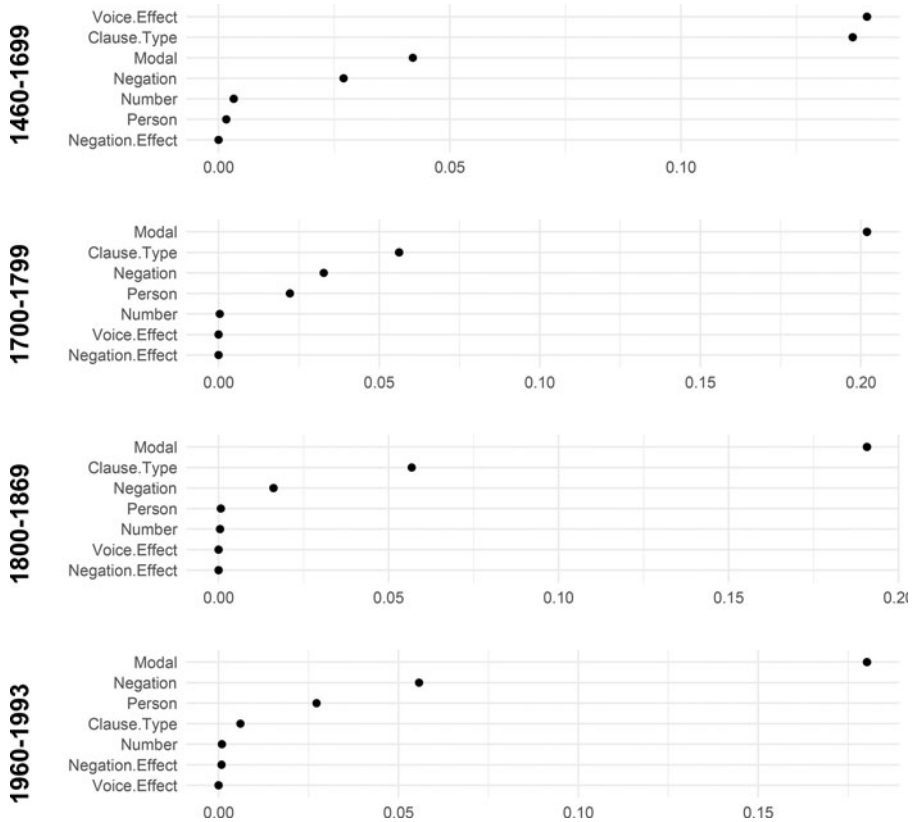


Figure 3. Variable importance scores

Table 5 shows that all forests perform significantly above chance, yet, like the individual tree, they have difficulties finding circumstances in which speakers prefer reflexive *make*_{CI}. Figure 3 shows the corresponding variable importance scores. They largely confirm the results of the CART tree but add more nuance. Voice of the effect VP – one of the most powerful predictors in EModE – becomes irrelevant in LModE,

i.e. once reflexive $cause_{CI}$ is lost or at least no longer in the models. The clause type of the caused effect stays relevant for longer but has lost importance by the twentieth century. For all three centuries of the LModE period, modal is ranked as the most powerful predictor. We now also see that negation affects causative choice (in each period, at least 84 per cent of negated tokens are ones with $bring_{CI}$) and that the grammatical person of the causer/causee is influential in some models ($bring_{CI}$ attracts first-person pronouns more strongly than the other causatives; as a result, from the eighteenth century onwards, more than half of the tokens with a first-person pronoun in each period combine with $bring_{CI}$). The final two factors, i.e. number and negation of the effect VP, have hardly any predictive power. These results will be discussed in section 5.

4.3 Correlations and configurations

As a last step, we can calculate transitivity scores in order to determine whether the constructions have distinct transitivity profiles. To do so, transitivity-raising features, such as [SINGULAR], are scored as 1; transitivity-lowering features, such as [PLURAL], as -1 . In the case of the variables person and clause type, which have three or more expressions, those between the extremes are considered neutral and scored as zero (i.e. [2ND PERSON]; [VERBAL PROCESS] and [BEHAVIOURAL PROCESS]). As each token is annotated for seven variables, total scores between -7 (very low transitivity) and 7 (very high transitivity) are possible.

In the data, negative scores are rare (only 80 out of 1,434 tokens), and scores below -3 do not occur. Even this low is only reached four times. An example of a -3 -rated token is given in (19). If we compare it to (20), which received a score of 7 , it appears complex and harder to process.

(19) I know very well [...] that **Griefs too great don't** make themselves at first to **be perceived**; and I know as well, that Violent Griefs don't continue long. (EPPF: Thomas Brown, *Amusements Serious and Comical* 1700)

[THIRD PERSON]⁻¹ [PLURAL]⁻¹ [NON-MODAL]⁺¹ [NEGATION]⁻¹ [AFFIRMED EFFECT]⁺¹ [PASSIVE EFFECT]⁻¹ [MENTAL PROCESS]⁻¹

(20) The shock delayed any panic and **I** forced myself to **walk** across to the body and look at the face. (BNC, wridom1)

[FIRST PERSON]⁺¹ [SINGULAR]⁺¹ [NON-MODAL]⁺¹ [AFFIRMATION]⁺¹ [AFFIRMED EFFECT]⁺¹ [ACTIVE EFFECT]⁺¹ [MATERIAL PROCESS]⁺¹

Figure 4 shows mean transitivity scores per causative and period as well as 95 per cent confidence intervals. Reflexive $bring_{CI}$ ranks lowest with average scores not even reaching 2. Reflexive $force_{CI}$, on the other hand, consistently receives average scores between 3.5 and 4 and is thus the most transitive construction of the set in the eighteenth and nineteenth centuries. Reflexive $make_{CI}$ initially receives similarly low scores as $bring_{CI}$, yet over time scores rise and become increasingly similar to those of $force_{CI}$. Overall, we see that reflexive $bring_{CI}$ has developed a low-transitivity profile, which begins to contrast with those of $make_{CI}$ and $force_{CI}$ by the nineteenth century.

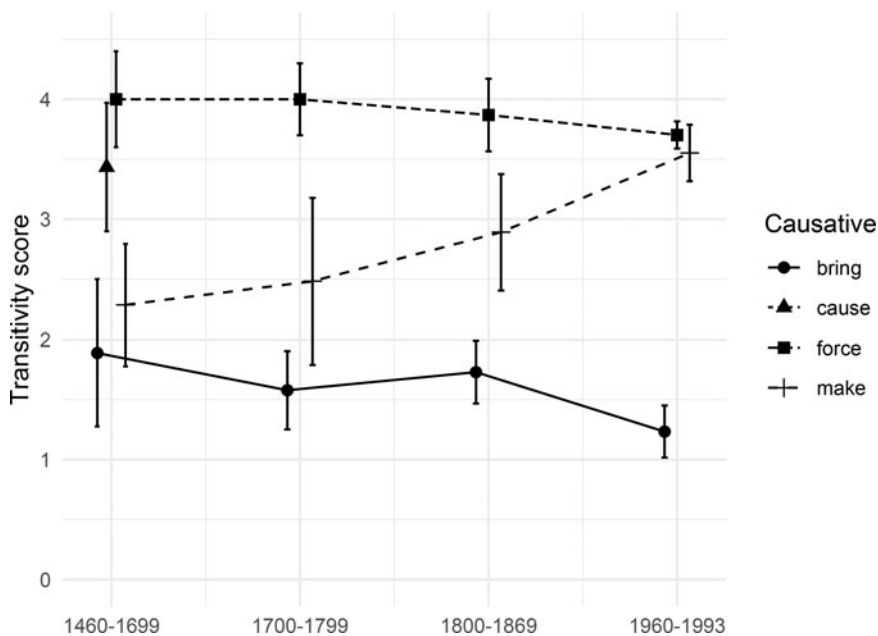


Figure 4. Mean transitivity scores and 95 per cent confidence intervals⁹

5 Discussion and conclusion

The analyses have revealed typical usage patterns of the four reflexive analytic causatives: Reflexive *cause*_{CI} was indeed ‘most dissimilar to the others’ (Gilquin 2010: 136) as it was almost exclusively restricted to passive effects. As a consequence, the loss of the reflexive construction can be directly linked to the demise of passive effects as complements of analytic causatives when such effects became increasingly expressed with *get* (e.g. *get oneself caught*) from the eighteenth century onwards.

Reflexive *force*_{CI} is characterised by its very strong focus on affirmative, non-modal uses. The analyses show that it has a comparatively high transitivity profile and, until the twentieth century, was thus the reflexive causative closest to prototypical transitivity.

*Make*_{CI} is the only construction in the set which no longer takes the *to*-infinitive. The present study explored whether this shortening of the construction is iconic in the sense of *make*_{CI} being used to express more direct causation than the other causatives. Results show that in reflexive contexts this is not the case. Firstly, like its non-reflexive parent construction, reflexive *make*_{CI} is associated with stimulus subject perception verbs (e.g. *appear foolish*), which necessitate the involvement of an additional participant, i.e. the experiencer. This means the causation chain is long, indirect and not (totally) under the

⁹ Due to the small number of data points, average transitivity scores of reflexive *cause*_{CI} were not calculated for the eighteenth and nineteenth centuries.

control of the causer. Additionally, reflexive *make*_{CI} occurs in many other contexts and lacks a characteristic transitivity profile. Its profile in EModE resembled that of reflexive *bring*_{CI}, but it has become more transitive over time and by the twentieth century resembles reflexive *force*_{CI}.

Finally, the general attraction of *bring*_{CI} to negated and modal contexts seems to have originated in reflexive contexts. From Mondorf & Schneider (2016: 452–4) we learn that, in EModE, tokens of *bring*_{CI} were typically still affirmed and non-modal. The present study shows that, in the same period, reflexive uses were already predominantly modal (compare 58 per cent and 39 per cent modal uses in reflexive and non-reflexive contexts respectively) and often at the same time negated (36 per cent versus 12 per cent). The data yields no indications of reflexive *bring*_{CI} having been pushed out of the more highly transitive contexts by competing constructions. The large numbers of non-modal and affirmed tokens of reflexive *make*_{CI} and *force*_{CI} does not appear until the twentieth century, by which time reflexive *bring*_{CI} is already firmly linked with modal and negated contexts.

The results allow for conclusions concerning the role of transitivity in constructional networks, i.e. they provide answers to the question whether competing constructions differentiate and develop distinct transitivity profiles. Variation between reflexive *bring*_{CI} and reflexive *force*_{CI} can be described as a transitivity-based split with reflexive *force*_{CI} on average covering higher transitivity contexts than reflexive *bring*_{CI}. Yet we also find splits which are not transitivity-based. Reflexive *make*_{CI} never had a distinct transitivity profile and reflexive *cause*_{CI}, while filling a unique niche, was both characterised by high transitivity (e.g. material effects) and low transitivity properties (e.g. passive effects). We would need further analyses to determine whether its retreat from reflexive causation with passive effects can be linked to more general developments of the construction. From the present data, we can conclude that some constructions have specialised transitivity profiles but not all do. Interestingly, the transitivity profiles of reflexive *force*_{CI} and *bring*_{CI} have been relatively stable over the past 500 years.

A few relations between the more abstract parents and the reflexive constructions warrant further comment. While particularly reflexive *make*_{CI} seems to have inherited many properties of its parent construction, such as its strong focus on stimulus subject perception verbs as effects, *bring*_{CI} seems to have actually influenced its parent – while it still had one. This is a possible interpretation of the early shift of reflexives towards modality and negation discussed above. And in light of the success of *force*_{CI} as a reflexive causative in the twentieth century and the resulting increased proportion of *force*_{CI} which is used reflexively (25 per cent), it will be interesting to see whether the reflexives also have an influence on the parent construction.

The results moreover permit some text-linguistic interpretations. Authors appear to avoid sentences which combine many transitivity-lowering properties, while sentences with many transitivity-raising features are being used. In the present case, however, cardinal transitivity cannot be reached as reflexives are inherently transitivity-lowering; all tokens thus fall within a moderate transitivity range. The absence of very low transitivity suggests that certain clusters of low transitivity properties may be rare and consequently

stylistically marked. In conclusion, it may not only be the upper end of the transitivity spectrum is rare (cf. Thompson & Hopper 2001: 27, 37) but also the lower one.

Furthermore, it transpired that twentieth-century novels contain far more reflexive analytic causatives than novels which predate them. The stylistic options offered by reflexive causatives may offer some explanation for this. They provide background on a character's inner struggles or their stance towards an action. This means that they give narrators the possibility to report a character's 'subjective experiences' (Verhagen 2000: 279), either in the first person as free direct thought and direct speech or in the third person as part of a free indirect style (cf. Rundquist 2014). During an analysis of Dutch causatives, Verhagen notes that 'this kind of subjectivity ... has become very prominent in literary narrative especially since the rise of the modern novel' (Verhagen 2000: 280). The increase in reflexive causation may therefore be seen as an indicator that changes in story telling are taking place, leading to reflexive causation playing a more central role in subjective narrative styles.

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