

THE EFFECT OF PROMINENCE HIERARCHIES ON MODERN ENGLISH LONG PASSIVES. PRAGMATIC VS. SYNTACTIC FACTORS¹

ELENA SEOANE

Universidad de Santiago de Compostela
elena.seoane@uvigo.es

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Introduction

Propositions involving a transitive verb, an agent and a patient (or an experiencer) can be rendered in the active (1a) or in the passive voice (1b).

- (1) a. *The local police arrested him*
b. *He was arrested by the local police*

Long passives (or passives with an overt *by*-phrase) such as (1b) serve, among other purposes, that of rearranging the order of constituents. Their choice over the active is crosslinguistically determined by several factors relative to the prominence of the patient noun phrase (*him* in (1a)) as compared to that of the agent (*the local police*), factors which are captured in a number of prominence hierarchies. The aim of this paper is to study the effect of these prominence hierarchies on long passives in order to identify the factors which condition their use in Modern English (1500-1900) as represented in the *Helsinki Corpus* (HC; cf. Kytö 1993) and *ARCHER* (*A Representative Corpus of Historical English Registers*; cf. Biber et al. 1994). Most importantly, this study intends to find out whether such factors are epiphenomenal of one another, as predicted by some authors, or whether, on the contrary, they are independent.

For this purpose, I will first comment on some general data concerning the frequency of passives in the period (cf. Section 2 below), and then I will

concentrate on the interaction of pragmatic, semantic and structural factors in determining the use of long passives as word-order rearranging devices (Section 3). Finally, Section 4 will summarise the conclusions derived from this study.

2. Passives in Modern English: frequency and textual distribution

The frequency of use of the passive voice, as well as its function are largely determined by the register in which it is used (cf. Svartvik 1966; Seoane 2006). For this reason, I examined stylistically different texts, as follows. I selected on the one hand Sermons, Science and Law for their highly formal quality, and on the other Drama, Fiction and Private Letters for being tendentially less formal and closer to the spoken varieties of English. The corpus comprises 300,000 words. The Early Modern English sample (EModE, 1500-1700) is from the *Helsinki Corpus*; the Late Modern English data (LModE, 1700-1900) are mainly drawn from *ARCHER*, except for the legal texts which are not represented in *ARCHER* and have been specially compiled for this paper. These are made up of extracts of laws and statutes written in British English from the period, and have been downloaded from the Internet (e.g. at www.british-history.ac.uk).

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Table 1 shows the ratio of passives as compared to actives in all text types. The count of active constructions was restricted to those for which a passive counterpart would be available, so that examples such as (2), an intransitive clause, and (3), a copular clause, were excluded. In other words, only active transitive clauses with an overt object eligible to become a passive subject were included in the count. This decision was informed by the fact that, in a study of syntactic variation like this, only the frequency of variants in contexts where they can actually take place is relevant. Sheer frequency of a given variant per number of words is not interesting, since low frequency of such a variant could reflect, for example, that its occurrence is constrained by linguistic factors, rather than that it is infrequently selected by the speaker. By counting the contexts where the variant can occur but does not, we can ascertain the frequency and factors determining the speaker's choice.

- (2) (Lady Fan.) "Every Circumstance of nice Breeding **must needs appear** ridiculous to one who has so natural an Antipathy to Good-Manners". (1730. Drama. Vanbrugh, John (Sir). *The Provok'd Wife*. In *Plays Written by Sir John Vanbrugh*. *ARCHER*).

- (3) “But the general results **were** as satisfactory as if the whole series of the arrangements had been compleat”. (1825. Science. Barlow, Peter. “On the temporary magnetic effect induced in iron bodies by rotation”. *Philosophical Transactions* 115: 317-327. *ARCHER*)

		<i>Passives</i> % (No.)	<i>Actives</i> % (No.)
LAW	EModE	52.9 (892)	47.0 (792)
	LModE	51.1 (543)	48.9 (520)
SCIENCE	EModE	31.5 (395)	68.4 (858)
	LModE	52.4 (496)	47.5 (449)
SERMONS	EModE	22.6 (182)	77.3 (623)
	LModE	38.7 (452)	61.2 (713)
DRAMA	EModE	10.2 (128)	89.7 (1,117)
	LModE	16.5 (171)	83.4 (862)
FICTION	EModE	6.7 (115)	93.2 (1,601)
	LModE	25.0 (293)	74.9 (878)
P.LETTERS	EModE	12.7 (350)	87.2 (2,402)
	LModE	21.9 (216)	78.0 (767)

TABLE 1. Number of passives and actives found, with indication of relative frequency

In all text types other than legal texts, where the ratio of passives is similar in both Early and Late Modern English, we observe an increase in the frequency of passives through the period, following the general trend observed from Old English, of a steady increase in the use of passives. As for text-types, Table 1 shows that, as expected, it is mainly the degree of formality or the style used that conditions the frequency of passives, since these are predominantly associated with formal texts (cf. Seoane and Williams 2006).

In addition to this stylistic function, other factors interact in the choice between active and passive. Some of these factors are more prone to occur in short (or agentless) passives while others are more apparent in long passives. Put briefly, short passives are mainly used to background the agent by eliding it, while long passives are object-foregrounding devices whereby patients come to occupy initial topical position with the resulting rearrangement of clause elements. In this paper I

concentrate on long passives and the reasons which determine their use as word order rearranging devices. The key questions this study intends to answer are, firstly, whether this rearrangement of elements is determined by pragmatic, semantic or structural factors, and, secondly, whether these factors are independent of or dependent on one another. Table 2 sets out the proportion of short to long passives per text-type and shows that, as expected, the proportion of long passives tends to be higher in formal texts, with the exception of Science (for a discussion of the textual distribution of long passives, cf. Seoane 2006: 372-373).²

		Short Passives % (No.)	Long Passives % (No.)
LAW	EModE	80.1 (715)	19.8 (177)
	LModE	84.8 (461)	15.1 (82)
SCIENCE	EModE	90.6 (358)	9.3 (37)
	LModE	93.3 (463)	6.6 (33)
SERMONS	EModE	83.5 (152)	16.4 (30)
	LModE	87.8 (397)	12.1 (55)
DRAMA	EModE	96.8 (124)	3.1 (4)
	LModE	93.5 (160)	6.4 (11)
FICTION	EModE	94.7 (109)	5.2 (6)
	LModE	90.1 (264)	9.8 (29)
P.LETTERS	EModE	95.1 (333)	4.8 (17)
	LModE	90.2 (195)	9.7 (21)

TABLE 2. Number and percentage of long and short passives per text-type and subperiod

3. The long passive as a word-order rearranging device

As already mentioned, the factors which condition word order arrangements concern the degree of semantic, pragmatic and syntactic prominence of the constituents involved. A number of prominence hierarchies capture the ordering preferences that characterise most SVO languages (Sornicola 2006), as shown in Figure 1. Noun phrases with features figuring at the left of these hierarchies are the candidates most likely to become topics and occupy initial position.³

THE FAMILIARITY HIERARCHIES		
<i>given > new</i>		(Table 3) (Prince 1992; Birner and Ward 1998)
<i>definite > indefinite</i>		(Table 4) (Kiss 1998)
THE DOMINANCE HIERARCHIES		
The personal hierarchy:	<i>human > non-human</i>	(Table 5) (Silverstein 1976; Kiss 1998)
The empathy hierarchy:	<i>1st person > 2nd person > 3rd person</i>	(Kuno and Kaburaki 1977)
The semantic role hierarchy:	<i>agent > recipient / benefactive > patient > instrumental > spatial > temporal</i>	(Siewierska 1994)
THE FORMAL HIERARCHY		
<i>Short > long</i>		(Table 6) (Hawkins 1994; Wasow 2002)

FIGURE 1. PROMINENCE HIERARCHIES

Examination of the long passives in the corpus as regards these hierarchies provided the following results. Firstly, the empathy and semantic role hierarchies, whose effects are exemplified in (4) and (5) respectively, had to be left out because they yielded figures that are too low to draw any kind of conclusion. In the case of the empathy hierarchy only 14 passives involved speech-act-participants (first and second person pronouns); as for the semantic role hierarchy, it involved too small a subgroup of passives, namely those derived from active ditransitive clauses, where there is a choice between fronting a patient or a benefactive noun phrase.

- (4) “In cutting down the peat to the bed of marl, the remains of the gigantic elk have frequently been met with; and invariably, as **I** am assured by **the concurrent testimony of the tenantry**, placed between the peat and the marl, or merely impressed in the latter”. (1825. Science. Weaver, Thomas. “On the fossil elk of Ireland”. *Philosophical Transactions* 115: 429-435. *ARCHER*).
- (5) “After supper they took a walk and when bedtime came, Liberius and Angelica retired to their chamber, where Sylvia having helped her lady to undress and wished them a good night, she also retired to her own and slept soundly, having little regard or so much as thought of **what** had been told **her** by **Liberius and Angelica**”. (1723. Fiction. Blackmore, Arthur. *Luck at Last; or the Happy Unfortunate*. In McBurney, William H. (ed.) *Four Before Richardson*. *ARCHER*).

The rest of the variables yield the results displayed in Tables 3 to 6. The first row in each table, in bold type, corresponds to the optimal ordering predicted by these hierarchies, that is, given precedes new (Table 3 and example (6)), subject is more definite than agent (Table 4, example (7)), human precedes non-human (Table 5, example (8)) and short precedes long (Table 6, example (9)).

- (6) “Hitherto **it** has not been disapproved of by **some people of judgment, who have seen parts of it**”. (1752. Private Letters. Carroll, John (ed.) *Selected Letters of Samuel Richardson* : 218.219. ARCHER).
- (7) “In one **the child** is being attacked by **a serpent**, and the dog standing over to defend it”. (1851. Private Letters. Cohen, Morton N. (ed.) *The letters of Lewis Carroll. Vol. I: 1837-1885. ARCHER*).
- (8) “I do not ask them whether **they** are made unhappy by **the fear of God’s anger**” (1824. Sermons. Hall, Robert. Marks of Love to God. In G. Kleiser (comp.) *The World’s Great Sermons. Vol. III. ARCHER*).
- (9) “**It** is fettered by **none of those conditions which confine the swiftest bodies that traverse the surface of the earth**” (1829-1890. Liddon, Henry. Influences of the Holy Spirit. In G. Kleiser (comp.) *The World’s Greatest Sermons. Vol. VII. ARCHER*).

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	% (No.)
Given / New	53.3 (247)
New / Given	7.3 (34)
Given/Given	15.1 (70)
New / New	24.1 (112)

TABLE 3. Information conveyed by the subject /agent

	% (No.)
Subject more definite than agent	46.0 (213)
Subject less definite than agent	18.7 (87)
Subject equally definite as agent	35.2 (163)

TABLE 4. Relative degree of definiteness of subject and agent

	% (No.)
+H+A / -H-A	18.5 (86)
-H-A / +H+A	32.3 (150)
+H+A / +H+A	16.4 (76)
-H-A / -H-A	32.6 (151)

TABLE 5. Human and animacy features of the subject/agent

	% (No.)
Subject shorter than agent	69.9 (324)
Subject longer than agent	16.6 (77)
Subject and agent of same length	13.3 (62)

TABLE 6. Relative length of subject and agent

These tables show that all factors play a role in determining the use of long passives except one, namely the animacy of the subject and agent. According to the results in Table 5, promoting human patients at the expense of non-human agents is not a conditioning factor in long passives. This result goes against a widely acknowledged crosslinguistic tendency to show animacy-based word order preferences; in fact, the effects of the animacy hierarchy are categorical in some languages, such as Lummi, which have person-driven passives (Bresnan et al. 2001; cf. also Comrie 1989 on Navaho and Hawkins 1994 on Sesotho). In the case of Early Modern English we could attribute such a finding to the fact that this tendency to have human subjects was only in its inception at the time (cf. Söderlind 1951-58; Strang 1970). However, since the weak influence of animacy on passives is present in the corpus as late as the eighteenth century, it cannot be justified in historical terms.⁴

All the other factors examined give positive results. Therefore, the long passives in the corpus prove to be sensitive to two types of factors; firstly, pragmatic factors, the familiarity and definiteness of the information conveyed, and secondly, structural factors, that is, the relative weight of the constituents. We are obviously moving in the terrain of interrelated factors, because given, definite information tends to be structurally short while new information needs modification and specification and therefore tends to be longer. As for the reason why given should precede new and short should precede long, several studies have proved that such ordering facilitates utterance planning, production and parsing: heavy and new

constituents are difficult to produce and comprehend, and therefore are best left till the end of the utterance (Arnold et al. 2000 for an extensive literature review; Wasow and Arnold 2003:147ff). An explicit version of this idea is Hawkins's Principle of Early Immediate Constituents (1994) later subsumed under his principle of Minimised Domains (2004).

Before I move on to study the effect of these two interacting factors and evaluate their relative importance, a few words may be in order concerning their nature and the way they have been operationalised in the corpus. As for pragmatic factors, given-before-new is a simplified representation of a more general category normally referred to as discourse status (Arnold et al. 2000) or pragmatic information status (Hawkins 2004). I am aware that it is problematic to encapsulate discourse status in a binomial category like given/new, just as it is to classify it into the three categories proposed by Prince (1992) —discourse given, inferable, discourse new— or those by Chafe (1994:72) —already active, previously semi-active, previously inactive— or even into the five categories in Lambrecht's Topic Acceptability Scale (1994:165), because *given*, *inferable* or *active* are also scalar concepts and depend on the recency of mention. Therefore, while finer-grained distinctions in discourse status might affect ordering preferences (Wasow and Arnold 2003:129-130), given/new is a straightforward coding-scheme commonly used in empirical studies which I have considered valid for the present study. *Given* in this paper is the referent that has been mentioned in the linguistic context or is present in the extralinguistic context, as is the case with deictic elements. *New* is a referent mentioned for the first time, new in context.

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As for structural factors, the traditional Principle of End Weight, in Quirk et al.'s (1972) terminology, predicts that long, heavy constituents tend to occupy the final position of the clause. Weight, or structural complexity, has been variously characterised: some scholars equate weight with length (Altenberg 1982; Rosenbach 2002, 2005), that is, the number of words in a constituent, and others take into account complexity, the number of nodes and phrasal nodes dominated (especially notable are the contributions of Hawkins 1994, 2004 on this matter). These characterisations correlate with each other since complex constituents also tend to be longer, and in fact it is still a matter of controversy whether these characterisations are distinct or not (Wasow and Arnold 2003). Wasow (1997, 2002) evaluates eight different characterisations of weight as found in the literature and proves that they yield similar results with regard to the three weight-sensitive phenomena he studies (heavy noun phrase shift, particle movement, and the dative alternation). For this reason I find it reasonable to use weight in the sense of length in this study, taking into consideration the number of words (not syllables) making up the subject and agent of the long passives.

Coming back to the corpus results, what we are basically left with is that most examples have the given-before-new and short-before-long order, as in example (10):

- (10) “**He** had been sold by **a man of honour** for twenty shekels of silver” (1750. Sermon. Sterne, Laurence. The Prodigal Son. In R. Nye (ed.), *The English Sermon, An Anthology. Vol.III: 1750-1850. ARCHER*)

He is given information and short, and *a man of honour* is new information and longer. The question that emerges here is whether the passive is chosen by virtue of the subject *He* being given or short. In other words, is it discourse status or structural complexity that induces the long passive here? And are these factors independent or is one factor entirely responsible for ordering and the other just epiphenomal, as some scholars suggest? For Niv (1992), quoted in Wasow (1997), structural complexity is just a side-effect of discourse status, while for Hawkins (1994) structural complexity is crucial in determining word order whereas the effects of discourse status are not even clear.

Following the methodology in Rosenbach (2002, 2005), I have tried to tease apart the effects of discourse status and weight in the long passives in the corpus. First, in order to determine whether discourse status and structural complexity are independent or not, I examined discourse status in contexts neutralised for an effect of weight (cf. Table 7 and examples (11)-(13)), and weight in contexts neutralised for an effect of discourse status (cf. Table 8 and examples (14)-(16)). Ideally these contexts would also have to be neutralised for an effect of animacy, but as Rosenbach points out (2002:72), isolating factors calls for an extremely large corpus; though it contains 4,233 passives, my corpus is not large enough to isolate all factors, because the necessary neutralised contexts are underrepresented. This forced me to include examples where the animacy of both constituents is not the same, which, nevertheless, should not bias the results since, as shown earlier, the effects of animacy do not seem to interfere in the active/long passive choice (cf. Table 5).

The first line in Table 7 shows that there are discourse status effects that cannot be attributed to weight because weight is neutral and even so in these examples given-before-new is preferred.

Given / New	72	[example (11)]
New / Given	36	[example (12)]
Same type of information	32	[example (13)]
Total	140	

TABLE 7. Discourse status in contexts neutralised for an effect of weight

- (11)“it is cemented by **shellac** at the upper end to a piece of glass rod a little smaller in diameter than the bore of the tube, and drawn out to a point, as shown”. (1875. Science. Crookes, William. “On repulsion resulting from radiation”. *Philosophical Transactions*. Vol. 165 +ARCHER).
- (12)“I will set downe **two conclusions** to bee wrought by **those tables**”. (1597. Science. Blundevile. “A Briefe description of the tables of the three speciall right lines belonging to a circle, called signes, lines tangent, and lines secant”. HC).
- (13)“It must be owned, the wise men of old, who followed the light of nature, saw even by that light, that **the soul of man** was debased, and borne downwards, contrary to its natural bent, by **carnal and terrene objects**” (1650-1750. Sermons. Attenbury, Francis. On the Martyrdom of King Charles I. In C. H. Sisson (ed.) *The English Sermon, an Anthology*. Vol II. ARCHER).

Similarly, the first line in Table 8 shows that there are weight effects that cannot be attributed to discourse status because the discourse status is the same in subject and agent.

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Given / New	72	[example (11)]
Subject shorter than agent	39	[example (14)]
Subject longer than agent	5	[example (15)]
Same length	32	[example (16)]
Total	76	

TABLE 8. Weight in contexts neutralised for an effect of discourse status

- (14)“and we therefore think that a **description and discussion of our own researches** may be usefully preceded by a **short account of the labours of the previous investigators of this subject and of the grounds upon which their conclusions were based**”. (1874. Science. Noble, Captain. *Research on explosives – Fired gunpowder*. *Philosophical Transactions*. Vol. 165. ARCHER).
- (15)“yet shall **the endeavours of christian men for propagating the gospel of Christ** be forestalled by **any suppositions or conjectures** whatsoever?” (1700. Sermons. *Gospel in Foreign Parts*. In C.H. Sisson (ed.), *The English Sermon*, vol. II: 1650-1750. ARCHER).
- (16)“**Moyses** was made by **god**”. (1500-1570. Sermons. In J.E.B. Mayor (ed.). *Sermons by John Fisher, Bishop of Rochester*. Part I. *Early English Text Society*, E.S. 27. HC).

These results clearly indicate that, despite the interrelation between weight and discourse status, whereby short elements tend to convey given information and long elements tend to convey new information, weight and discourse status are independent factors, neither of them being an epiphenomenon of the other. In order to evaluate their relative importance we need to examine contexts where discourse status and length do not go together, that is, contexts with short/new-before-long/given order and long/given-before-short/new order, as shown in Table 9 and illustrated in examples (17) and (18).

Subject shorter than agent, new / given information	9	[example (17)]	Weight: 3.8
Subject longer than agent, given / new information	15	[example (18)]	Weight: 3.2

TABLE 9. Contexts where givenness and heaviness do not go together

(17)“To the end that **an Accompt** may bee taken by **the said Master and Wardens or their Deputy or Deputies thereof**” (1695. Law. QE3_STA_LAW_STAT7. HC).

(18)“**The Small Comet which was see in these Parts of Europe, in the Months of October, November, and December, 1723** was first observed in England by **Dr. Halley**, on Octob. 9. between 7 and 8 of the Clock in the Evening” (1724. Science. Bradley, Rev. Observations upon the comet, ... *Philosophical Transactions* 33:41-49. ARCHER)

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Unfortunately, only 22 passives were found where discourse status and length do not go together. If we are to judge by these findings, long passives with given/new info despite the long/short structure are predominant, which would indicate that discourse status is more important than weight in determining the use of long passives.

At this point we must remember that both factors, discourse status and structural weight, are scalar concepts, even if I have been using the dichotomies given/new and short/long. As predicted by Arnold et al. (2000), the impact of each factor depends on the strength of competing factors in such a way that the effect of weight will depend on how strong givenness is, understood as the degree of the recency of mention, and the effect of discourse status will depend on the strength of weight. One of the advantages of measuring weight as length, as is the case in this study, is that we can treat weight as a graded concept. In the first case presented in Table 9, where weight is more powerful, the average measure is 3.8, that is, the agent is 3.8 words longer than the subject on average. In the second case, where discourse status is more powerful, the difference is lower, only 3.2 words. This would indicate that probably givenness is overruled by weight when the weight difference between the subject and agent reaches a certain level.

4. Conclusions

This paper has identified the crosslinguistic factors which determine the choice of long passives over actives as word-order rearranging devices in Modern English, namely discourse status, definiteness and weight. Contrary to what the animacy hierarchy predicts, passives in the corpus contravene the crosslinguistic tendency to promote human referents to initial topic position at the expense of non-human agents, an intriguing result which is analysed in depth elsewhere (cf. Seoane, 2009). Most essential is the role of weight and discourse status, two factors which are highly correlated but have proved to be independent of one another when it comes to determining word order via long passives. A preliminary test for their relevance has shown that discourse status seems to be more prominent than weight in the choice of long passives, and that the effects of discourse status depend on the strength of structural weight.

Notes

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² In Seoane (2006: 372-373) two factors are identified for the association between formal texts and long passives. Firstly, the fact that formal texts tend to be informative, and long passives help reflect a stronger rheme-focus structure in informative writing (Kennedy 2001: 41). Secondly, formal texts tend to have a prototypically written style, where given information is not elided but repeated and must, therefore, be integrated in clause structure: in contexts where the patient is given information the passive will be resorted to.

³ These hierarchies can only be applied to nominal constituents, and for this reason I had to exclude two long passives from Science and 30 from Law. I have also excluded examples where the agent precedes the subject.

⁴ Seoane (2009) shows that the allegedly universal connection between subject and animacy is mediated by the semantic role of agent, so that if the subject is not the agent, the connection ceases to apply. The theoretical import of this is twofold. Firstly, the assignment of the effects of animacy is neither the assignment of syntactic functions nor the linearization of constituents, as is widely believed, but rather the assignment of semantic roles exclusively. Secondly, the animacy hierarchy should be excluded from those prominence hierarchies which successfully predict what noun phrases occupy initial topic position, since its predictions—at least for passives—do not hold.

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