

Be surprised at or by?

The choice of preposition in Present-day English

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1. Introduction

Traditional school grammars have taught that the *be surprised* construction, when used psychologically, generally takes *at*, not *by*, as the preposition of an agent in spite of its apparent passive structure. My previous research (forthcoming) using the computer corpora of Modern English,¹ however, shows that *by* occurred in over twenty percent of such constructions in the English of a century ago and the rate has risen to nearly fifty percent in Present-day English (PE). Furthermore, the research into the *OED* on CD-ROM reveals that the use of the *be surprised by* construction has gradually been increasing and looks as if it were coming close to, or overtaking, the occurrence rate of the *be surprised at* construction. These results lead to the conclusion that in PE *at* and *by* are being used side by side at an approximately equal rate and *by* seems to be on the increase at such a rate as to surpass *at*. How, then, has the choice of *at* or *by* been made in PE if the two prepositions occur at approximately the same rate? Are there any crucial factors involved in the choice of preposition?

Grammar and usage books have not been particularly eloquent

about the choice of preposition. Traditionally, whether the construction is to be treated as an adjective or a passive seems to determine the choice of preposition. A more recent and detailed explanation about the choice is given in Kenkyusha's *College Lighthouse English-Japanese Dictionary* (1995) by dictionary advisors Bolinger (an American linguist) and Ilson (a British lexicographer). It is as follows: “*by* is a colorless preposition used to mention a fact, whereas when *at* is used, a strong shock or an emotional response or reaction can be felt” (s.v. *surprise* v.1). Although this is a useful description as the first of this kind and explains very well the difference in the limited space of a dictionary, it does not seem to do full justice to the examples found in the corpora. This paper will attempt to explore the determining factors that govern the choice of *at* or *by* introduced by the *be surprised* construction in PE, by using data obtained from current corpora (i.e. the BNC and the Cobuild).

2. Adjectives with *at* and passives with *by*?

2.1 Is the *be surprised* construction adjectival?

Some grammarians have presented claims to the effect that the *be surprised* construction, if it is stative and occurs with *at*, is adjectival, whereas the construction is a passive if it is followed by *by* and has a dynamic meaning (e.g. Close 1975; Leech & Svartvik 1975; Konishi 1980). The following examples from Close exemplify this.

- (1) a. I am very surprised at you.
- b. I was surprised by a knock at the door. (Close § 11.3)

Others like Quirk *et al.* (1985: § 3.76) call the constructions ‘semi-passives’, which have both verbal and adjectival properties and occur with prepositions other than *by*. In another section (§ 9.63), however, they present two sentences that are exactly the same except for the prepositions in (2) and call the first a passive and the second a participial adjective, obscuring the reasons for the choice of preposition.

- (2) a. I was surprised by their rejection of the offer.
b. I was surprised at their rejection of the offer.

(Quirk *et al.* § 9.63)

Palmer (1988: § 5.2.2) also calls constructions of this type ‘semi-passives’, which “appear to have corresponding actives, yet exhibit adjectival features.” Palmer further says that these “can occur not only with *by* but also with other prepositions.” Palmer rather seems to treat the construction as a passive construction, but does not provide reasons for the prepositional choice.

Declerck (1991: § 6.1) calls the construction taking *by* a ‘true passive’ and one taking other than *by* a ‘pseudo-passive’.

- (3) a. I was surprised by what she said.
b. She seemed surprised at your behaviour. (Declerck § 6.1)

Declerck’s pseudo-passives are those which other grammarians treat as adjectival constructions. Although Declerck uses different terms, his treatment of the construction seems to be similar to that of the grammarians who argue for the adjectival theory.

Before examining the choice of preposition, let us note two problems involved in this issue. First, discussions so far have been based on

more or less outdated data, especially those presented by adjectival theorists.² Fortunately, for modern researchers, computer technology has enabled us to obtain an enormous amount of data in an instant which otherwise might take a lifetime to collect and with almost flawless accuracy. Moreover, it has enabled us to examine English usage from a far more advantageous position than our predecessors, who were obliged to analyze language with a comparatively meager amount of data and may have been led to inadequate conclusions.

Second, the choice of preposition itself has not been much of an issue when the preposition *at* has been considered to be the norm and no clear-cut criterion for the factors governing the choice has been discussed except for such explanation as was provided by Bolinger/Illson mentioned above.

Let us now show how adjectival theory seems to become more or less inappropriate in PE, where *at* and *by* show an almost equal rate of occurrence and there are a number of counter-examples to the claim. The adjectival theory can be contradicted by the examples (4) to (7) below. (See Quirk *et al.* (§ 3.76), for instance, for adjectival properties.)

In (4), *very* modifies *surprised*, which means that the predicate is used as an adjective according to adjectival theory. However, because its occurrence with *by* means that the predicate is also used as a passive,³ these examples run counter to the adjectival argument. In fact, the data are teeming with samples in which *be surprised* is modified by *very*:

- (4) a. The group were very surprised by Mr. Clinton's knowledge of their early work. (BNC)

b. I was very surprised by what we've learnt here. (Cobuild)

In (5), the coordination of *surprised* and the adjective *glad* means that *surprised* is used adjectivally. In (6) *surprised* is used adjectivally as it follows linking verbs (*seem, appear, feel, etc.*), and in (7) the occurrence of *surprised* with the *as . . . as* and the comparative *more* constructions means that *surprised* functions as an adjective. However, the use of *by* in each sentence means that it is used as a passive, contradicting adjectival theory.

(5) Louisa was surprised by the arrival and glad of it. (BNC)

(6) a. Carla seemed surprised by my sudden interest in her personal well-being. (BNC)

b. He felt surprised by his own honesty. (BNC)

(7) a. Mikhail Gorbachev appeared to be as surprised by the decision as the delegates. (Cobuild)

b. He must have been even more surprised by her message.

(BNC)

The claim that the *be surprised* construction is adjectival and takes *at* can be refuted.

2.2 Does 'agentiveness' have to do with the choice of *by*?

The claim that *by* is chosen if the construction is treated as a passive can be reduced to a discussion that there is correlation between an agent noun signifying 'agentiveness'⁴ and the choice of *by*. Declerck and Swan, for instance, suggest that there is high agentiveness of the agent nouns in the following examples:

- (8) a. They were surprised by the guard suddenly entering the room.
(Declerck § 6.1)
b. The burglar was surprised by the family coming home unexpectedly.
(Swan § 405)

Their claim, however, seems to be irrelevant for two reasons. One reason is that these sentences in (8) are ambiguous, in that they can be interpreted to entail physical meanings (which naturally require *by* as an agentive preposition), as in the following sentence:

- (9) [They] were surprised by police who'd been tipped off. (Cobuild)

The second is that investigation into the corpora has revealed that sentences of this type, which are occasionally met with in the modern corpora (i.e. the Virginia and the Michigan Corpora), seldom occur in the current corpora. It follows that the claim for the correlation between agentiveness and the choice of *by* has become irrelevant.

Furthermore, the investigation into the current corpora also shows that the majority of agent nouns are abstract nouns, which are supposedly low in agentiveness. The following examples, in which abstract nouns are used as agents, illustrate the co-occurrence of nouns with a static meaning (i.e. low in agentiveness) with *by*.

- (10) a. He was surprised by his impatience for the party to end. (BNC)
b. I have been surprised by the depth of the divergence. (Cobuild)

In addition to these, samples with abstract nouns as agents are abundant in the corpora. As the agents of these examples do not show high agentiveness, the claim that the characteristic co-occurrence of *by*

with an agentive phrase conveying a sense of activity (or a dynamic meaning) does not seem very convincing. What, then, are the determining factors in choosing *at* or *by*?

3. The choice of preposition

3.1 Nominal phrases with *by* and *how*-clauses with *at*

The *be surprised at/by* constructions are followed by not only noun phrases but also clauses. Table 1 shows that each preposition is accompanied by various types of complements:⁵ abstract nouns and other nouns,⁶ pronouns, gerunds, clauses such as *how* (including the synonymous *the way* construction) and *what*.

It is apparent from the table that *at* occurs not only with nominal and pronominal phrases, but also with gerunds and clauses, especially *how*-clauses, while *by* occurs chiefly with nominal and pronominal phrases, and with fewer clauses and very few gerunds. Although both *at* and *by* can occur with the same types of complements, what is particularly characteristic of the two prepositions is the stronger tendency of *how*-clauses to occur with *at*,⁷ and the closer relationship of the nominal phrases, especially abstract noun phrases with *by* (bold face in Table 1). This characterization⁸ may be exemplified by the following sentences:

- (1) a. You would be surprised at how quickly the time passes.
(Cobuild)
- b. She was pleasantly surprised by his vigour and manhood.
(Cobuild)

Let us now go back to examine Bolinger/Ilson's view presented in

Table 1 Types of complements and their frequency in the current corpora

		BNC	Cobuild
<i>at</i>	abstract n.	241 (59%)	88 (50%)
	other n.	16 (4%)	9 (5%)
	pronoun	38 (9%)	19 (11%)
	gerund	16 (4%)	5 (3%)
	<i>how</i>	79 (19%)	45 (26%)
	<i>what</i>	19 (5%)	9 (5%)
	total	409 (100%)	175 (100%)
<i>by</i>	abstract n.	299 (74%)	162 (79%)
	other n.	29 (7%)	13 (6%)
	pronoun	36 (9%)	17 (8%)
	gerund	0 (0%)	1 (0.5%)
	<i>how</i>	22 (5.5%)	6 (3%)
	<i>what</i>	17 (4.5%)	7 (3.5%)
	total	403 (100%)	206 (100%)

section 1 by considering the characteristic occurrences of *by* with abstract nouns, and *at* with *how*-clauses. Abstract nouns are meant to convey nothing but cognitive meanings or concepts with little emotional nuances, while most *how*-clauses in the corpora are exclamatory sentences, which naturally express highly emotional conditions. If we interpret Bolinger/Ilson's view in terms of 'emotion', it may be possible to say that *by* occurs with complements carrying little emotional meaning, while *at* occurs with complements highly charged with emotions. If our interpretation were correct, then Bolinger/Ilson's view would be very apt and to the point.

3.2 *At in I'm surprised at you*

In a sentence like *I'm surprised at you*, *at* is the choice and *by* never

occurs simply because it is idiomatic.

- (12) a. Really, I'm surprised at you, my dear. (BNC)
b. I'm surprised at you, Marianne. (Cobuild)

The following table, which includes the data from the Virginia Corpus for the sake of comparison, shows the frequency of occurrence of *I'm surprised at you* and its variations (e.g. *I'm quite surprised at you*, *I am surprised at thee*):

Table 2 Frequency of occurrence of *I'm surprised at you*

	<i>at</i>	<i>by</i>
Virginia	10	0
BNC	11	0
Cobuild	2	0

The occasional occurrence of this idiomatic sentence, which conveys a strong emotional, exclamatory or even accusatory nuance, may also have contributed to Bolinger/Ilson's observation.

3.3 Reflexive pronouns and *at*

When an agentive phrase is a reflexive pronoun, *at* is invariably chosen.

- (13) a. Gaily was surprised at himself, at his own reactions. (BNC)
b. She was thoroughly surprised at herself. (Cobuild)

The frequency of occurrence of reflexive pronouns and *at* in the three

corpora is in the following table:

Table 3 Frequency of occurrence of reflexive pronouns and *at*

	<i>at</i>	<i>by</i>
Virginia	2	0
BNC	7	0
Cobuild	5	0

This is presumably because the complement is not felt to be a genuine agent, which tend to require *by*, but a “semi-agent” that denotes ‘stimulus’. *At*, one of whose functions is to signal ‘stimulus’ (Quirk *et al.* § 9.51, § 9.63), may therefore be chosen.

3.4 Double psychological passives and *by*

When *surprised* is coordinated with another psychological verb in the passive, *by* is more likely to be chosen. This is probably because the other predicate requires *by* as in (14a), or because the mutual preposition is not *at*, *by* may have been chosen as a concession as in (14b).

- (14) a. Adults will be spellbound and surprised by the wickedly clever use of puppets. (BNC)
 b. He was pleased and surprised by the flowers and cards.
 (Cobuild)

When *surprised* and another psychological passive occur in succession, if not in exact coordination, the other predicate, if it requires *by* as its agentive preposition, may trigger *surprised* to take *by* as well, as in the following:

- (15) I'd been impressed by the Spirit R/T, surprised by the agility of its handling. (BNC)

3.5 'Suddenness' and *by*

I have already noted that *be surprised* used in the original physical sense of *surprise* (i.e. 'to attack suddenly or unawares') takes *by* as its agentive preposition. *Be surprised* used in a psychological sense, if accompanied by an agent with a modifier conveying 'suddenness', 'unexpectedness' or 'abruptness', seems to have a tendency to take *by* as its preposition, presumably because it is affected by its original physical meaning.

- (16) a. She was surprised by the sudden change of subject. (BNC)
b. [R]elatives are all pleasantly surprised by unexpected windfall.
(Cobuild)

This is a general tendency, not a rule. Although there is the occasional occurrence of sentences in which *at* is employed with a 'suddenness' modifier, *by* with a 'suddenness' modifier occurs with far more frequency. The occurrences of a 'suddenness' modifier with the preposition in the three corpora were counted and ratios of occurrence between *at* and *by* in Table 4 were obtained.⁹

Table 4 'Suddenness' and the ratio between *at* and *by*

	<i>at</i>	:	<i>by</i>
Virginia	1	:	4
BNC	1	:	2.5
Cobuild	0	:	4

Evidently the *be surprised* constructions with a 'suddenness' agent phrase are more likely to occur with *by*, approximately three or four times more frequently than *at*.

3.6 *By* in journalism English

The choice of the agentive preposition may have to do with stylistics. The Cobuild Corpus is most convenient to use for research into the correlation between style and genre. The search of *surprised at* and *surprised by* in the corpus yielded data from the following genres: Australian news (OZ news), UK ephemera, UK magazines, UK spoken, US ephemera, BBC world services (BBC), National Public Radio (NPR), UK books, US books, The Times newspaper and Today newspaper. Table 5 shows the frequency of occurrence of *at* and *by* in different genres.

It is evident from the table that *by* occurs with higher frequency than *at* in every field of journalism English: newspapers (OZ news, The Times, Today), magazines (UK magazine) and broadcast news (NPR, BBC), printed in bold letters in the table. It may be said that *by* has become more common than *at* in journalism English, especially in newspaper English. It is hasty to draw a conclusion, however, from the research into a single corpus. Furthermore, it is difficult to define what journalism English is in the first place, as Crystal and Davy (1969: 173) point out, "everything that happens to be printed in a newspaper or magazine or written by a journalist is not going to be linguistically homogeneous." Nevertheless, the results obtained seem to be in agreement with our intuitions or empirical observations that *by* seems to be favored and occur more frequently than *at* in newspapers and magazines. This inclination may be associated with the nature of journalism

Table 5 Frequency of *at* and *by* in different genres in the Cobuild Corpus

	<i>at</i>	<i>by</i>	total
OZ news	24	38	62
UK books	36	24	60
US books	30	26	56
The Times	14	38	52
Today	16	25	41
UK spoken	24	9	33
UK magazine	12	18	30
NPR	8	20	28
UK ephemera	8	2	10
BBC	2	5	7
US ephemera	1	1	2

English, especially newspaper English.

Newspaper reporters and editors may favor using new and novel expressions. At least they may not be inhibited from accepting them, as “the aim is to make a sudden impression on the reader. . .” (Foster 1968: 199). In addition, because newspaper reporters always face realities of society and are likely to meet people of all classes who speak varieties of English, they must be perceptive of the actual, if not acceptable, usages of English and may even be susceptible to the changes in English that have been taking place in society and their writing may reflect this. The new usages or constructions may find their way into journalism English as a “grammatical flexibility” (Hughes 1988: 152), and the *be surprised by* construction may be an example of this.

4. Summary

Determining factors have been examined for the choice of the preposition *at* or *by* introduced by the *be surprised* construction. Although there have been claims that the construction is adjectival and takes *at* as its agentive preposition and that it takes *by* if it is treated as a passive, a number of counter-examples have been found to refute the claim. Also the choice of the preposition seems to have little to do with the 'agentiveness' of agent noun phrases contrary to the propositions of some grammarians. What determines the choice of preposition seems to have to do with the type of prepositional complement.

Although both *at* and *by* take the same types of complements, *by* is most likely to be followed by noun phrases, especially abstract noun phrases, whereas *at* is characterized by being accompanied with a considerable number of *how*-clauses. This characterization seems to be reflected in Bolinger/Ilson's view of the choice of preposition.

In an idiomatic expression like *I'm surprised at you*, *at* is chosen and *by* never occurs. When the preposition is followed by a reflexive pronoun, *at* is the choice. When two psychological predicates occur in coordination or in succession, *by* is more likely to be chosen. When an agent noun is modified by a word meaning 'suddenness' or 'unexpectedness', *by* seems to be favored, presumably because of its association with the original physical meaning of the verb.

In journalism English, there seems to be a tendency to prefer *by* to *at*. This may have to do with the nature of journalism English, in which new and novel expressions are favored to make sudden impressions on readers. Furthermore, newspaper reporters may be susceptible to the changes of English and new constructions may find their way into their writings.

Notes

1 The following are the corpora I used and the occurrence rate of *by* indicating an agentive preposition: The Modern English Collection (henceforth the Virginia Corpus as it is produced at the University of Virginia) 21%; the Public Domain Modern English Search (the Michigan Corpus) 23%; the British National Corpus (the BNC) 48%; the Cobuild Direct Corpus (the Cobuild Corpus) 51%.

2 Already mentioned in the Introduction, the occurrence rate of *by* has changed from around 25 percent in the English of roughly a century ago to nearly 50 percent in PE. Furthermore, there has been a shift of types of complements characterized by the increase of *how*- and *what*-clauses and the decline of the gerund from the earlier English to current English. Some grammarians' judgments seem to be based on the data of earlier English.

3 Konishi (1980: 1551), however, says that sometimes *surprised* modified by *very* occurs with *by* as in the following: *I was very surprised by the great amount of work done by many students in America.* Swan (§ 405) also says, "With some words referring to emotional states and reactions, usage is divided" and gives the following examples: *I was very amused/ much amused/ very much amused by Miranda's performance.* These examples, however, contradict their adjectival claim.

4 I refer to Quirk *et al.* for the terms of semantic roles. They use the term 'agentive' and define it as "animate being instigating or causing the happening denoted by the verb" (Quirk *et al.* § 10.19). (An agent is a grammatical concept, while agentive is a semantic one (ibid: § 3.15)). By 'agentiveness' I mean such a set of semantic properties in agentive noun phrases as <animacy>, <action> and <volition>. Agentiveness will be considered high if an agent is an animate being, especially a human, rather than an inanimate object, and the agent does something to affect another entity with an intention.

5 There are several examples which contain two heterogeneous complements after *be surprised at*. They are counted as two samples. The following is an example in which an abstract noun and a *how*-clause constitute two different types of complement: *I'm surprised at my abilities and how easily it has come to me.* (BNC)

6 The classification of nouns into abstract nouns and other nouns is due to the fact that the former is static in sense, while the latter may involve a dynamic sense, which may affect the choice of preposition. For the classification, I refer to Otsuka & Nakajima (1982: 6-7) and Leech (1989: 9-12). Several nouns are difficult to determine as to whether they are abstract or concrete. Although the exact figures are given in Table 1, they should be regarded as approximate for the reason that some are ambiguous. Ambiguous cases, however, are so marginal that they are unlikely to influence the general ratio between abstract and other nouns in Table 1.

7 Konishi (1980: 1551) says that the preposition is dropped as in the following example, where the predicate is followed by a clause: *You'd be surprised how many times a girl has to lie in this world* — E.S. Gardner. Some dictionaries cite this type of example and no dictionary cites examples with a preposition. ([*Royal*] *You'd be surprised how many people aren't interested in sex*; [*Genius*] *You'll be surprised how kind he is*). The data taken from the Cobuild, for instance, shows, however, that there are as many as 45 examples, in which *at* occurs with a *how*-clause or its equivalent *the way*-clause out of 175 samples (See Table 1).

8 It may be interesting to note here that Ken Follet, a British novelist, seems to distinguish the two constructions according to the type of complement in one of his novels, *A Place Called Freedom* (1995). Follet uses *surprised by* with a noun phrase on one page and a dozen pages later uses *surprised at* with a *how*-clause, as in the following: [*H*]e was surprised by the withering scorn in his own voice (p. 21); Jay was surprised at how riled his father was (p. 31). This may be an example of the distinction of the two constructions being made by an individual writer. Further research will be necessary to substantiate this speculation.

9 In the Virginia Corpus *by* with a 'suddenness' modifier occurs 11 times out of all 95 examples, while *at* occurs 5 times out of 345; in the Cobuild Corpus, *by* occurs 4 times out of 206 examples, while there is no example of *at* in 175 examples; in the BNC, *by* occurs 12 times out of 403, while *at* occurs 5 times out of 409. These figures lead to the ratios in Table 4.

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(In addition to the dictionaries which I refer to in the present paper, I am indebted to many others.)