



University of
Salford
MANCHESTER

Same time, across time: simultaneity clauses from late modern to present-day english

Broccias, C and Smith, N

<http://dx.doi.org/10.1017/S1360674310000110>

Title	Same time, across time: simultaneity clauses from late modern to present-day english
Authors	Broccias, C and Smith, N
Type	Article
URL	This version is available at: http://usir.salford.ac.uk/id/eprint/16798/
Published Date	2010

USIR is a digital collection of the research output of the University of Salford. Where copyright permits, full text material held in the repository is made freely available online and can be read, downloaded and copied for non-commercial private study or research purposes. Please check the manuscript for any further copyright restrictions.

For more information, including our policy and submission procedure, please contact the Repository Team at: usir@salford.ac.uk.

1 **Same time, across time: simultaneity clauses from Late Modern**
2 **to Present-Day English***

3 CRISTIANO BROCCIAS

4 *Università di Genova*

5 and

6 NICHOLAS SMITH

7 *University of Salford*

8 (Received 15 February 2009; revised 27 January 2010)

9 In this article we offer a diachronic analysis of simultaneity subordinator *as* against the
10 background of simultaneity subordinators *while*, *whilst*, *when* from 1650 to the end of the
11 twentieth century. The present survey makes use of data extracted from the British English
12 component of ARCHER (version 3.1), focusing in particular on fiction, the register *par*
13 *excellence* for the use of simultaneity subordinators. We analyse our data according to a
14 selection of parameters (ordering, verb type, duration, tense and aspect, subject identity,
15 simultaneity type) and show that, against a background of relative stability, the major
16 change is a dramatic increase in the frequency of simultaneity *as*-clauses from the first
17 half of the nineteenth century onwards. Adapting the historical work on stylistic change
18 by Biber and Finegan (1989, 1997), as well as theoretical and experimental accounts of
19 the semantics of English simultaneity markers, we highlight an interesting parallelism
20 between the spread of *as*-clauses in oral narrative from childhood to adulthood and the
21 spread of *as*-clauses in modern fiction. In either case, the spread of *as* may be symptomatic
22 of an evolution in narrative techniques, particularly in respect of the means by which
23 complex events are typically represented.

24 1 Introduction

25 This article deals with the historical development of simultaneity clauses, in particular
26 *as*-clauses, from the so-called Late Modern English (LModE) period up to, and
27 including, Present-Day English (PDE), roughly from *c.*1650 onwards.¹ The term
28 ‘simultaneity’ is used here to refer to partial or complete overlap between two situations
29 (see Quirk et al. 1985: 1083–4; Schmiedtová 2004: 9 *inter alia*). Such a temporal

* Earlier versions of this article were presented at the *Third Late Modern English Conference* at the University of Leiden in 2007, the *Fifteenth International Conference on English Historical Linguistics* at the University of Munich in 2008 and at research seminars at the universities of Freiburg, Salford and Huddersfield in 2008. We are very grateful to the audiences for their comments. We also benefitted greatly from the comments of the two anonymous reviewers. We would also like to thank all those who replied to our query on the evolution of fiction which we posted on the Linguist List in September 2008 (no. 19.2739) as well as Sandro Jung, Anneli Meurman-Solin, Teresa Fanego and Geoffrey Leech, who provided us with very useful feedback on various occasions. Finally, special thanks go to Douglas Biber for clarifying certain aspects of his and Edward Finegan’s work and David Denison for his help and encouragement. Needless to say, all remaining errors are our own.

¹ The year 1700 is also often used as the (admittedly arbitrary) starting point of LModE; see Beal (2004). Here we will be using the year 1650 as a reference point since the corpus we used, ARCHER 3.1 (see section 2), starts from that year.

30 relation can be expressed in various ways in English. At a minimum, a simultaneity
 31 interpretation can follow via pragmatic inference from mere juxtaposition of two
 32 clauses, as in (1a). Alternatively, a simultaneity link between situations can be made
 33 explicit by the use of an adverbial such as *simultaneously* or a prepositional phrase,
 34 such as the fixed (and anaphoric) expression *in the meantime* or a phrase headed by
 35 *during*, as in (1b–d). Of course, the options presented in (1) are by no means exhaustive.

- 36 (1) (a) I was washing up. Sally was reading.
 37 (b) **Simultaneously**, he topped the JA and New York charts. (British National Corpus
 38 (BNC): CAD 1485)
 39 (c) **In the meantime**, we have to step up our efforts to find this damn ship. (BNC:
 40 CEC 2826)
 41 (d) **During** my earlier periods of unemployment I had always, on a point of pride,
 42 provided for myself out of my savings. (BNC: A0F 1005)

43 One further possibility involves the use of the subordinators *as*, *while*, *whilst* and *when*,
 44 as in (2).

- 45 (2) (a) An armed robber was mugged of his loot **as** he made his getaway. (BNC: CBF
 46 1497; also quoted in Biber et al. 1999: 846).
 47 (b) She said that the pain was a little better after the pethidine she had been given and
 48 she was able to rest quietly **while** she waited to be taken to theatre. (BNC: EV5
 49 1161; also quoted in Biber et al. 1999: 849)
 50 (c) **Whilst** he was shaving realization began to dawn that something was amiss (BNC:
 51 B20 1978).
 52 (d) **When** he was in the air force he once spent the weekend cycling uphill for 11 hours
 53 against the wind . . . (BNC: CME 465)

54 Additionally, bare participles and participles as complements of either prepositions
 55 (e.g. *upon*) or subordinators (e.g. *whilst*) can also be recruited to signal simultaneity
 56 explicitly, as in (3).²

- 57 (3) (a) **Walking home** from his job one payday, he was set upon by two young men . . .
 58 (BNC: C9W 565)
 59 (b) **Upon entering** the grand hall where Tamar sat, he gave her a quick teasing smile.
 60 (BNC: C98 144)
 61 (c) First aid for a bleeding nose is to pinch the nostrils closed **whilst tilting** the head
 62 back. (BNC: A0M 1375)

63 The present article will focus on cases like (2), where the subordinators
 64 *as/while/whilst/when* are employed. In their simultaneity function these subordinators
 65 tend to be treated as roughly equivalent variants in descriptive grammars and
 66 dictionaries (see e.g. Quirk et al. 1985: 1083–4 and e.g. entry III, 16.a for *as*, adv. (conj.,
 67 and rel. pron.), in the *Oxford English Dictionary* at www.oed.com). However, important
 68 differences between them have been observed (see e.g. Broccias 2006a, 2006b, 2008;

² We are ignoring the elliptical type where the verb *be* is omitted and the subordinator is immediately followed by a PP, as in *while on duty*, *when at work*, etc. Note incidentally that this pattern is not possible with *as* (**as at work*) because of the general ban on stative *be* with temporal *as* (see the next paragraph in the text).

69 Morris 1996; Övergaard 1987; Silva 1991). *As*-clauses, unlike *when/while/whilst*
 70 clauses, do not seem to combine with stative *be* (cf. *She called *as/while he was*
 71 *here*)³ and typically occur with verbs designating a change of position or state; see
 72 also (2a) vs (2b–d). Broccias (2006b), for example, finds that change verbs account
 73 for about 72 per cent of simultaneity *as*-clauses in the fiction section of the BNC. For
 74 this reason, he regards *as*-clauses as typically activating a ‘path-schema’: the *as*-clause
 75 event is construed as an event with a high potential for change. Silva (1991: 649),
 76 more generally, observes that ‘[*W*]hen [is] the least specific as to the exact temporal
 77 relationship among events and the least constrained as to the nature of the predicates it
 78 can connect, and *as* [is] the most specific and constrained, leaving *while* to occupy the
 79 middle ground’; see also Broccias (2006a).

80 It therefore seems worthwhile to investigate the extent to which use of the
 81 subordinators *as/while/whilst/when* has altered over time, and if it has, how we can
 82 account for the changes. Such questions, to the best of our knowledge, have never
 83 been addressed before⁴ – indeed simultaneity clauses, in particular *as*-clauses, have
 84 been somewhat neglected as a research topic. This article seeks to fill this gap by
 85 offering the first ever diachronic analysis of simultaneity subordinators in the Modern
 86 English period from the latter half of the seventeenth century to the end of the twentieth
 87 century, with special attention to the ‘Cinderella’ of the simultaneity subordinators, i.e.
 88 *as*.⁵ For this we take a corpus-based approach focusing on British English fiction, where
 89 examples are most numerous. Such a study is of course important not only descriptively
 90 but also theoretically, since any observable changes need to be accounted for. Indeed,
 91 our corpus evidence shows that the traditionally most neglected of the four simultaneity
 92 subordinators, *as*, is in fact the most interesting diachronically. Against a background
 93 of relative stability, we observe a fivefold increase in the number of temporal *as*-clauses
 94 from the beginning of the nineteenth century in fiction. We assess this change in relation
 95 to Biber and Finegan’s pioneering work on stylistic change, and although we show that
 96 the increase in *as*-clauses may converge with Biber and Finegan’s idea that fiction has
 97 become more ‘situated’ over the last couple of centuries, we argue that this trend cannot
 98 necessarily be taken as evidence of an increasing degree of orality in fiction, as Biber
 99 and Finegan (1989: 504) seem to argue. Rather, using psycholinguistic evidence from
 100 Silva (1991), we contend that the spread of *as*-clauses reflects a more ‘sophisticated’
 101 approach to narration since a similar trend is also observed as children mature into
 102 adulthood. Moreover, we observe that this conclusion seems compatible with Biber’s
 103 (2008) most recent work on emergent grammar in different genres or registers.

³ *As he was here* can of course be used with a causal interpretation. Notice also that posture verbs, which could be classified as stative, are possible (cf. *She called as he lay there*); see Broccias (2006a) for detailed discussion.

⁴ In fact, temporal adverbials have been studied diachronically by Pasicki (1983, 1987). However, his main concern was a ‘structural’ one, i.e. to provide structural descriptions of the various patterns in a generative grammar format. He does not discuss what factors may have influenced the choice of a particular subordinator over the others. Further, his investigation does not extend to the Late Modern English period but ends with the Middle English period.

⁵ Note, however, that there is a precedent for corpus-based investigation of the *non*-simultaneity uses of the subordinator *while*, across a broadly similar historical period; see González-Cruz (2007).

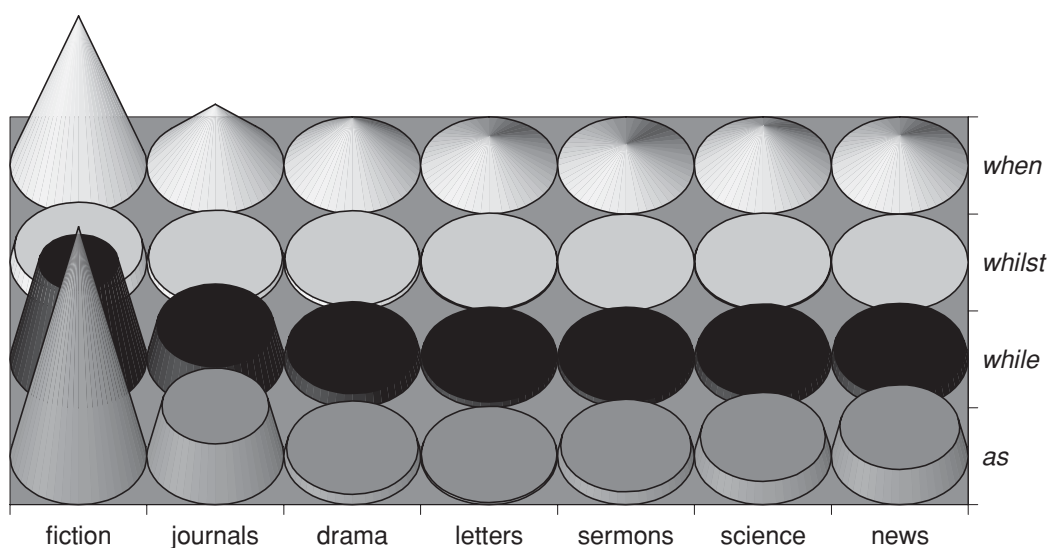


Figure 1. Subordinators across all registers

104 The article is structured as follows. It first describes how the corpus instances of
 105 simultaneity were extracted, selected and annotated (section 2). Section 3 details our
 106 findings for the subordinator *as* against *while*, *whilst* and *when*. Finally, section 4
 107 attempts to offer an explanation for the main finding of our article (i.e. the growth of
 108 simultaneity *as*-clauses) and points to topics for future research.

109 2 Data extraction, selection and annotation

110 Our investigation was carried out using the British section of the 1.7 million word
 111 ARCHER corpus (*A Representative Corpus of Historical English Registers*, see Biber
 112 et al. 1994), version 3.1. We used the British English data because previous corpus-
 113 based studies (e.g. Broccias 2006b, 2008) concentrated on this variety, and because
 114 of the greater size and date coverage of the British English subcorpus. This material
 115 is divided chronologically into seven periods and includes eight registers; see figure 1
 116 below and table 2 in section 3 for details.

117 In order to facilitate data extraction, i.e. to retrieve corpus examples of simultaneity
 118 introduced by the subordinators *as/while/whilst/when*, we first tagged ARCHER for
 119 parts-of-speech using the CLAWS (Garside & Smith 1997) and Template Tagger
 120 (Smith 1997) software. Next, we extracted potential candidate cases of simultaneity
 121 clause using CQP (see Christ 1994). The core elements of the query were (a) the
 122 relevant subordinator (*as*, *while*, *whilst* or *when*), followed by (b) up to eleven optional
 123 words (excluding certain categories such as hard punctuation), followed by (c) a finite
 124 verb.

125 Since some of the texts included in ARCHER contain non-modernized variant
 126 spellings, while others have been modernized, our queries in CQP allowed for different
 127 spellings of the subordinators and verb forms. (For example, as well as *while*, we

128 searched for *vvhile*, *whileas*, *whiles*, *whlie*, *whyle*, *wyle*; this returned just two uses of
 129 *whiles*, both of them nouns.) Although the subordinators themselves turned out to be
 130 nearly always in their present-day orthography, this was not the case with other word
 131 classes, notably past tense verbs and past participles ending in *-’d*, such as *call’d*. We
 132 are aware that some valid cases of simultaneity clause in the earliest ARCHER texts
 133 will have been missed, as a result of mistagging of either the finite verb at the end of
 134 the clause, or other material within the purported subordinate clause, especially in the
 135 context of spelling variants. Even so, manual inspections of the retrieved data suggest
 136 that the accuracy (‘recall’) of the query is acceptably high, and that the method used is
 137 much more efficient than searching for simultaneity constructions on the basis of their
 138 form alone.

139 From this initial data extraction, we identified cases fulfilling a temporal – as opposed
 140 to, for example, causal, comparative or concessive – function (see further, section 3.1.1).
 141 We decided to restrict our research to past-time contexts because instances of present
 142 and future simultaneity use were not nearly as frequent (amounting to fewer than one-
 143 fifth of all cases in ARCHER), and certainly insufficient to support a detailed analysis.
 144 For instance, across all registers, 93 examples of *as*-present (i.e. simultaneity *as* clauses
 145 in the present tense) were found as opposed to 376 instances of *as*-past (i.e. simultaneity
 146 *as* clauses in the past tense). In the case of fiction, which is arguably the most important
 147 register for the study of simultaneity clauses (see below), the difference between *as*-
 148 present clauses and *as*-past clauses is even more dramatic, the former amounting to
 149 21 and the latter to 237 instances over the whole period 1650–1990. We also opted to
 150 disregard non-finite instances of the type shown in (3c) above because of the paucity
 151 of such examples (they amounted to less than ten per subordinator across all periods
 152 in fiction, for example).

153 Figure 1 shows the distribution of the simultaneity markers across all registers.

154 Perhaps unsurprisingly, figure 1 shows that most simultaneity examples occur in
 155 narrative registers, and especially in fiction; this is presumably because a central concern
 156 in fiction texts (at least for works in the realism tradition, which are in the majority
 157 in the Modern period) is the establishing and depicting of temporal relations between
 158 events and situations within an overall plot or storyline. The privileged role of fiction
 159 explains why our article discusses the behaviour of the various subordinators in this
 160 register in particular.

161 After data extraction and selection, we annotated relevant examples such as (4)
 162 below by using the parameters shown in table 1. Previous studies have identified these
 163 parameters as being particularly important in differentiating simultaneity constructions
 164 in PDE; see e.g. Broccias (2006a, 2006b and 2008) and Silva (1991).

165 (4) **As** my Sister and I were sitting one day in a Grotto at the End of a Parterre, we saw
 166 the Marquis de Stainville and another Gentleman coming towards us. (ARCHER
 167 1744fldg.f3b)⁶

⁶ Henceforth, unless stated otherwise, all corpus examples come from ARCHER 3.1. The code identifying each ARCHER example gives first the year and then the text file in which the example occurs. In (4), the ‘f’ after

Table 1. *An example of simultaneity as-clause coding*

Parameter	Simul clause	Main clause
Clause order	1st	2nd
Verb type	be: posture	perception
Punctual?	no	yes
Tense & aspect	past prog	past non-prog
Identical subjects?		Yes
Prototypical simultaneity?		Yes

168 Most of the labels for the various parameters should be self-explanatory. Clause order
 169 refers to the relative order of the simul (i.e. simultaneity) clause and the main clause.⁷
 170 In (4), the *as*-clause precedes the main clause. Both verbs in the main clause and in
 171 the temporal clause were classified using a system inspired by Halliday's classification
 172 of processes (see Halliday 2004).⁸ Among the classes used are 'material', which we
 173 subdivided into 'change of place/of state' predicates (e.g. *pass*, *grow*) and predicates
 174 which are not of the 'change' type (e.g. *rub*); 'verbal', which has to do with verbs of
 175 saying; 'attention', which involves verbs of perception (either intentional or not) such
 176 as *see* in (4); 'behavioural', which groups verbs describing human behaviour (e.g. *sigh*,
 177 *smile*); 'mental', which refers to cognitive processes; 'be', which not only includes the
 178 verb *be* but also stative verbs of posture (such as *sit* in (4)), and a handful of minor
 179 types. (We have refrained from offering a detailed breakdown of all the classes because,
 180 for example, the percentages for non-change verbs in *as*-clauses are relatively low; see
 181 also Broccias 2006a.) Punctuality is meant to specify whether the main clause or the
 182 temporal clause (or both) depicts events of relatively short or relatively long duration. Of
 183 course, the coding of this dimension is somewhat subjective and our results here should
 184 be regarded as more provisional than for the other categories analysed. In the example at
 185 hand, most readers would probably agree that the main clause event depicts a relatively
 186 short/punctual situation while the temporal clause depicts a non-punctual situation.

187 All instances were also coded for tense and aspect marking (e.g. simple past, or past
 188 progressive). Further, since previous synchronic studies including Broccias (2006a)
 189 and Silva (1991) have shown that *as*-clauses more than *while*-clauses favour subject

the dot identifies the example as belonging to the fiction register; '3' identifies the period, i.e. 1700–49 (the first period, 1650–99, corresponds to '2', i.e. the second half-century counting from 1600), and finally 'b' specifies that the example is from the British English subcorpus.

⁷ Our use of 'main clause' is a relative one – it is the superordinate clause on which the simultaneity clause depends. This clause can itself be subordinate to another clause in the sentence. Hence, a more appropriate term would perhaps be 'superordinate' but for the sake of brevity we have used the shorter, albeit less strictly accurate, term 'main clause'.

⁸ Halliday identifies six major process types (existential, relational, verbal, mental, behavioural, and material), which are related to three different 'world-types', the world of abstract relations, the physical world and the world of consciousness. The process types are best viewed as forming a continuum rather than well-differentiated categories.



Figure 2. Prototypical simultaneity

190 identity in the main clause and the temporal clause, as in (4), it seemed appropriate
 191 to investigate whether this characteristic obtained diachronically as well.⁹ The last
 192 parameter mentioned in table 1, prototypical simultaneity, involves the classification
 193 of simultaneity into three major types, namely ‘prototypical simultaneity’, ‘inverted
 194 simultaneity’ and ‘potential simultaneity’. We now explain each type in turn, followed
 195 by the notion of ‘sequential interpretation’, which is also important for our analysis.

196 Prototypical simultaneity is represented schematically in figure 2. It obtains when
 197 the subordinate clause situation (the rectangle in figure 2) ‘contains’ the main clause
 198 situation (represented as the hatching in figure 2),¹⁰ as is the case in (4).

199 The relation of containment can, albeit rarely (see e.g. section 3.1.2), be reversed
 200 so that the main clause depicts a situation containing, rather than contained by, the
 201 situation described by the subordinate clause (see also Broccias 2006a on this type and
 202 Declerck 1997: ch. 10 and 2006: 637 on ‘narrative’ *when*-clauses, which correspond to
 203 the type under discussion here). A representative example with *as* is given in (5), where
 204 the event of meeting Rody occurred within the temporally longer situation, depicted
 205 by the main clause, of Dick standing at some distance.

206 (5) ... and **as** he met Rody, Dick was still standing within about a hundred yards of them
 207 ... (1847carl.f5b)

208 By the term ‘potential simultaneity’ (which should not be confused with Declerck’s
 209 ‘sloppy simultaneity’; see below) we refer to a type that is similar to what Kortmann
 210 (1997: 181–93) identifies as ‘simultaneity overlap’ and which he exemplifies by way
 211 of the sentence *When she fell, she caught her*. The event of someone’s falling overlaps
 212 with the event of someone else catching that person, but the two events do not exhibit
 213 containment in the sense of figure 2.¹¹ This scenario is represented diagrammatically

⁹ Subject identity has been operationalized so as to also include cases where the relation between the two subjects is a metonymic one, e.g. the subject of either the main or subordinate clause stands in a part–whole relation with the subject of either the subordinate or main clause. An example is (i), where the pronoun *she* refers to just one of the entities evoked by the pronoun *we* in the *as*-clause.

(i) ... and **as** we went, this young lady told me, she did not well understand me ... (1756amor.f4b)

¹⁰ We would also count as prototypical simultaneity cases where the temporal frame of the main clause can be conceptualized as having roughly the same extension as that of the subordinate clause, as is possibly the case in (i):

(i) We were whispering **as** we passed down the passage to the infirmary. (1977fras.f8b)

The hatching would spread across the whole rectangle in the visual analogy of figure 2.

¹¹ Kortmann (1997) identifies two other types of simultaneity, namely ‘simultaneity duration’ (which he refers to as ‘while’), as in *My parents arrived when I was watching the cup final*, and ‘simultaneity co-Extensiveness’

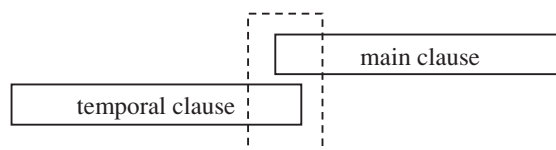


Figure 3. Potential simultaneity

214 in figure 3, where the subordinate clause situation (the lower rectangle) partly overlaps
 215 with the main clause situation (the upper rectangle).

216 We would like to stress that our notion of ‘potential simultaneity’ is wider in scope
 217 than Kortmann’s ‘simultaneity overlap’. We use ‘potential simultaneity’ to refer to
 218 cases where it is *possible*, rather than *necessary*, to construe some degree of temporal
 219 overlap between the main clause and the subordinate clause situations. Example (6)
 220 below illustrates this point.

221 (6) He bowed, however, to the ground **as** he recognised the ensign of the queen-mother.
 222 (1837ains.f5b)

223 It is difficult, for the reader at least, to decide whether the act of bowing overlapped to
 224 some extent with the act of recognising the ensign or immediately followed it (under the
 225 latter interpretation, which would probably not be categorized as ‘simultaneity overlap’
 226 by Kortmann 1997, *as* is equivalent to *as soon as*). Such indeterminacy of construal
 227 between an overlap interpretation and a *sequential* interpretation – one event following
 228 the other – is precisely what we mean by ‘potential simultaneity’.

229 There thus seems to exist a continuum between prototypical simultaneity and
 230 sequential interpretations. For this reason, we have not discarded from our analysis
 231 cases where a subordinator is more probably interpreted as sequential rather than
 232 simultaneous.

233 As will be shown in section 3.2.3, the sequential usage is particularly common
 234 with *when*. An illustrative example is (7), where the subordinate event of the Prince’s
 235 arriving temporally precedes the main clause situation and, thus, *when* is paraphrasable
 236 with ‘after’.

237 (7) **When** [i.e. after] the Prince came, the Lady and Bileront retir’d to the farther end of
 238 the Closet. (1696pix-.f2b)

239 Thus, the difference between (6), an instance of potential simultaneity, and (7),
 240 an instantiation of the sequential interpretation, is the possibility of a sequential
 241 interpretation in the former versus the necessity of a sequential interpretation in the
 242 latter (although, of course, the classification of other examples may sometimes differ
 243 from person to person). Examples like (7) have also been recognized by, for example,
 244 Declerck (2006: 648–9) under the rubric of ‘(pseudo-)sloppy simultaneity’, but, for the
 245 reasons given above, were not classified as simultaneity examples here.

(which he refers to as ‘as long as’), as in *When we lived in France, everybody was really friendly to us*. In our investigation, both types are subsumed under the label ‘prototypical simultaneity’; see also note 10.

246 3 The simultaneity subordinators

247 . This section summarizes our findings concerning the subordinator *as* and, to a lesser
 248 extent, *while/whilst/when* used in past tense contexts, with special reference to the
 249 fiction register of the British English component of ARCHER.

250 3.1 *The subordinator as*251 3.1.1 *General trends*

252 Table 2 provides a breakdown of the distribution of simultaneity *as*-clauses per register
 253 and period. It gives both the number of simultaneity *as*-clauses found ('raw' for 'raw
 254 frequency' in the table) and the corresponding frequency per million words ('pmw' in
 255 the table). The last column, which refers to the period as a whole, shows how much
 256 each register, in percentage terms, contributes to the overall number of *as*-clauses. It
 257 thus emerges very clearly that *as*-clauses are most common in fiction, which alone
 258 accounts for 63 per cent of all *as*-examples across the entire period. However, it is
 259 important to observe that there is a dramatic increase in the frequency of *as*-examples
 260 in fiction over time. Until the end of the eighteenth century, their frequency (pmw)
 261 ranges from 145 to 295, but in the first half of the nineteenth century their frequency
 262 peaks at 1,290, which is roughly a fivefold increase over the immediately preceding
 263 period. This peak is followed by a (slight) decrease in the following periods, the lowest
 264 dip being that of the latter half of the nineteenth century (1,086 pmw). Still, from the
 265 nineteenth century onwards, the normalized frequency is consistently above the 1,000
 266 pmw mark. Before the nineteenth century, fiction is not yet the clearly preferred register
 267 for the use of *as*-clauses since relatively high frequencies, at least in the eighteenth
 268 century, can be found in other registers such as science (see in particular the cell for
 269 the first half of the eighteenth century in table 4) and journals (especially in the cell
 270 for the second half of the nineteenth century). Nevertheless, observe that, first, the
 271 raw numbers for science and journals before the nineteenth century are probably too
 272 small to warrant any statistically valid conclusions and, second, the relatively similar
 273 frequencies for fiction, science and journals over the whole pre-1800 period apparently
 274 result from clustering effects or 'burstiness', i.e. the occurrence of most examples in
 275 few texts (see Evert 2006). For instance, eight of the thirteen examples for science in
 276 the first half of the eighteenth century come from two texts alone (1721lang.s3b and
 277 1722cay-.s3b contribute four examples each). As for the post-1800 period, it is notable
 278 that *as*-clauses seem to have become more common in news writing in the latter half
 279 of the twentieth century.

280 It is instructive to evaluate the spread of simultaneity *as*-clauses in fiction against
 281 their other, non-simultaneity, uses. Such uses include, for example, correlatives or
 282 comparatives (8a), parentheticals (8b) and causal instances (8c).

283 (8) (a) . . . till she found his love was as reall [*sic*] and honest, **as** it appeared violent . . .
 284 (1664bult.f2b)

285 (b) But **as** I told you, having heard myself mentioned, it raised a curiosity in me to
 286 hearken to them. (1702anon.f3b)

Table 2. *As-past by register and period*

	1650–99		1700–49		1750–99		1800–49		1850–99		1900–49		1950–90		all periods		
	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	%
Drama	2	75	1	40	1	42	3	114	1	38	1	43	0	0	9	51	2
Fiction	6	145	13	295	11	244	58	1,290	47	1,086	53	1,171	49	1,087	237	767	63
Sermons	0	0	1	94	1	90	0	0	2	183	5	473	2	196	11	145	3
Journals	3	140	4	187	9	412	4	184	15	661	9	408	8	360	52	339	14
Medicine	4	173	2	91	2	95	5	247	1	45	1	49	0	0	15	100	4
News	1	45	1	46	4	173	2	87	0	0	3	137	19	829	30	190	8
Science	0	0	13	626	3	146	1	48	2	92	0	0	1	47	20	135	5
Letters	0	0	0	0	1	83	0	0	0	0	0	0	1	89	2	24	1
Overall	16	89	35	197	32	179	73	404	68	376	72	407	80	449	376	300	100

Table 3. *The distribution of non-simultaneity as-clauses in fiction*

Period	Raw frequency (<i>soon, just, long</i>)	pmw	Non-simul/ simul ratio
1650–99	60 (6, 0, 2)	1, 445	10.0
1700–49	93 (12, 2, 0)	2, 240	7.2
1750–99	87 (12, 0, 0)	2, 096	7.9
1800–49	67 (4, 3, 3)	1, 614	1.2
1850–99	40 (3, 1, 1)	964	0.9
1900–49	26 (0, 1, 1)	626	0.5
1950–90	44 (3, 1, 1)	1, 060	0.9
Overall	417 (40, 8, 8)	1, 435	1.8

287 (c) **As** I had no friend to whom I could so well commit the care of this infant as herself,
 288 I let her take her own way . . . (1702anon.f3b)
 289 There are, however, some temporal uses which we have ignored in our survey. Consider
 290 the examples in (9):

- 291 (9) (a) . . . she gladly gave him all her attention **as long as** attention was possible . . .
 292 (1818aust.f5b)
 293 (b) **As soon as** they approach'd him, they venerated and esteem'd him. (1688behn.f2b)
 294 (c) . . . and **just as** they were going to unmoor ship, came a man off shore with a
 295 message to the captain . . . (1720pitt.f3b)

296 None of these expressions, which are somewhat idiomatic, conveys prototypical
 297 simultaneity to the extent that *as* on its own can. *As long as*, for example, can be
 298 paraphrased as ‘until’. The interpretation of *as soon as* is not one of simultaneity but
 299 one of sequentiality (see also section 2). *Just as* is usually treated differently from
 300 simple *as*; see, for example, Quirk et al. (1985: 1083) and Broccias (2006a), who notes
 301 that *just as* is, for example, much more likely to trigger the use of the progressive.
 302 For the sake of simplicity, we will refer to the types instantiated in (8) and (9) as
 303 non-simultaneity *as* uses.

304 The spread of *as*-clauses (in fiction) against the background of the non-simultaneity
 305 uses has been summarized in table 3. Observe that the raw frequency column also
 306 gives, in parentheses, the number of *as soon as*, *just as* and *as long as* tokens, in that
 307 order. Table 3 shows that, in general, non-simultaneity *as* cases have been declining
 308 both in terms of frequency pmw and in relation to simultaneity *as* cases, as the ratio
 309 column on the right shows. This is a very important point: simultaneity *as*-clauses have
 310 not simply increased in frequency in their own right across the last three and a half
 311 centuries, but have also done so at the expense of the other uses *as*-clauses can be put to.
 312 Further, our finding (detailed in the next subsection) that over the same period the other
 313 major simultaneity subordinators *while* and *when* have remained relatively constant
 314 in frequency terms (*whilst* being negligible) underlines the fact that simultaneity *as*

315 has increased not simply in absolute terms, but also proportionally within its field of
 316 competition. We return to this issue later, in section 4, where we try to account for the
 317 trends observed. First, though, we analyse *as*-past examples in more detail, using the
 318 parameters introduced in section 2, and focusing on fiction.

319 3.1.2 Parameters

320 Contrary to the change observed in terms of frequency, the behaviour of *as* in fiction
 321 vis-à-vis the parameters detailed in section 2 turns out to be relatively constant and
 322 similar to PDE. Since this is also the case with the other subordinators examined
 323 here, we will refrain, mainly for reasons of space, from offering detailed statistics, and
 324 instead concentrate on the major underlying tendencies.

325 All three simultaneity types (prototypical simultaneity, inverted simultaneity,
 326 potential simultaneity) are discernable with *as*. The bulk of examples instantiate
 327 prototypical simultaneity. Of all 376 *as*-examples (i.e. across all registers and periods),
 328 350 exhibit this construal and out of 237 fiction examples, 220 of them are of this type.
 329 (This also shows, incidentally, that the majority of non-‘prototypical simultaneity’
 330 examples, 17 out of 26, are to be found in fiction.) Only four examples of inverted
 331 simultaneity (three in fiction and one in news) have been detected in ARCHER. Finally,
 332 a few examples instantiate ‘potential simultaneity’: we identified 22 in our *as* data, 13
 333 of which occur in fiction. Since the figures for non-prototypical uses are very low, we
 334 have not specified the simultaneity types in table 2, where the majority (per period) are
 335 of the ‘prototypical simultaneity’ type.

336 As for tense and aspect, no changes can be observed. The simple past is the preferred
 337 option in both past *as* and main clauses. The progressive is used rarely in both *as* and
 338 main clauses. Only 15 progressive examples from 1650 to 1990 occur in ARCHER
 339 fiction. Similarly, only 7 progressive main clauses, corresponding to 3 per cent of all
 340 cases, have been found.

341 The ‘clause order’ parameter also points to stability. *As*-clauses overall occur more
 342 often after than before main clauses (60 vs 35 per cent)¹². In this case too, the trend is
 343 rather stable and on average corresponds to analyses of PDE which make use of larger
 344 data sets. For example, Broccias (2008) gives 60 per cent for the post-position option
 345 and about 30 per cent for the pre-position option in PDE fiction.

346 Next we consider the degree to which main and *as*-clauses can be construed as
 347 depicting relatively punctual vs extended (or durative) situations. The most likely
 348 scenario (55 per cent of all cases on average across all periods) involves both a durative

¹² The remaining 5 per cent includes cases either where it was difficult to determine, because of punctuation, the position of the *as*-clause, or where an *as*-clause was inserted within the main clause, as in (i) and (ii) respectively:

- (i) Beefy with a great grunt and heave lifted her and their hands parted to drop her back down again into the arms of Balthazar. **As** Beefy lowered himself into Trinity and grinned through the fence bars. ‘Come now.’ (1968donl.f8b)
- (ii) The latter **as** he went out gazed at him with a good deal of surprise. (1847carl.f5b)

349 main clause and a durative *as*-clause. Another common option (30 per cent of all cases)
 350 obtains when the main clause depicts a punctual event vis-à-vis an extended *as*-event.
 351 Both cases are clearly examples of what we call ‘prototypical simultaneity’ (and thus
 352 justify this label since, in combination, they account for 85 per cent of all examples).
 353 The pattern where both main clause and *as*-clause are (relatively) punctual is also found,
 354 although rarely (11 per cent of all cases); see, for example, (6) above. Finally, the pattern
 355 where the *as*-clause portrays a punctual situation contained within an extended main
 356 clause is very rare. We have come across only eight instances (corresponding to 3 per
 357 cent of all cases), which we have termed ‘inversions’, see example (5) in section 2.
 358 Once again, we observed that the preferences for the four patterns seem to be relatively
 359 stable diachronically.

360 Previous investigations (see e.g. Broccias 2006a, 2008; Övergaard 1987) have shown
 361 that *as*-clauses in PDE favour change (of place/state) verbs. Broccias (2008), for
 362 example, gives 72 per cent as the percentage of change verbs found in past *as*-clauses
 363 in the imaginative written subcorpus of the BNC. Underlining this tendency, we find
 364 that 67 per cent of the verbs in the 1950–90 period of ARCHER (i.e. the closest
 365 comparable period to the BNC) are verbs of change. The preference for change verbs
 366 is undisputable throughout the period examined here since the proportion never drops
 367 below 50 per cent in each subperiod and, importantly, no other single class accounts for
 368 such large chunks of data. For example, stative examples with *be* are virtually absent
 369 (we counted only two examples),¹³ and verbs of posture and verbs such as *wait* (which
 370 also evoke rather stative situations) are much less frequent (21 examples or 9 per cent
 371 in total) than change verbs.

372 The last parameter investigated has to do with whether the subject of the main clause
 373 and the subject of the *as*-clause are identical (see section 2 and fn. 9 in particular).
 374 The data from ARCHER suggests that subject identity is favoured in *as*-clauses across
 375 time (averaging 59 per cent), although a dip from 60 to 49 per cent can be observed
 376 from the first to the second half of the nineteenth century. Still, as will be pointed out
 377 below (see section 3.2.1), even a figure of about 50 per cent can be interpreted as a
 378 preference for subject identity (rather than free variation) if it is compared to sentences
 379 introduced by other subordinators, e.g. *while*-clauses, which overwhelmingly prefer a
 380 different subject to that of the main clause.

381 3.1.3 Conclusion on *as*

382 The most important finding concerning the development of *as*-clauses over the last three
 383 and a half centuries, in the specific case of fiction, is the rather steep increase in their
 384 frequency from the nineteenth century onwards. Compared to the earlier 1650–1799
 385 period, the later data from ARCHER point to a fivefold increase. We have also observed,

¹³ The ‘stative’ *be* examples we found referred, in reality, to impending motion, see (i) and actual motion, see (ii), rather than ‘pure’ states, see also Broccias (2006a) on PDE.

- (i) Stay a minute, ‘said he, **as** she was on the point of departure . . . (1847gask.f5b)
- (ii) It was by a gate in Antiger Lane, **as** they were on their way, . . . (1925powy.f7b)

386 however, that the frequency of non-simultaneity *as*-cases as well as (necessarily) their
 387 ratio to simultaneity *as*-examples declines over time. This means that simultaneity *as*-
 388 clauses not only increased in frequency from the nineteenth century but also that they
 389 have been eroding, at least in fiction, the other, non-simultaneity, uses. By contrast,
 390 when we look more closely at a range of parameters relevant to simultaneity, we find
 391 that the overall picture is one of relative stability and consistent with the behaviour of
 392 *as* in PDE. The progressive is rare in both *as* and main clauses; *as*-clauses are usually
 393 placed after, not before, main clauses; *as*-clauses overwhelmingly tend to portray
 394 situations which subsume or at least co-extend with the situations of main clauses
 395 (i.e. ‘prototypical simultaneity’); *as*-clauses are usually found with change verbs; and,
 396 finally, subject identity between an *as*-clause and a main clause is the norm.

397 3.2 *The other subordinators*

398 3.2.1 *While*

399 As was the case with *as*-clauses, the most representative register for simultaneity *while*-
 400 clauses is fiction; see table 4. The other registers are too underrepresented to warrant
 401 any firm conclusions. But even in the case of fiction, the number of tokens per period
 402 (raw frequencies) is unfortunately not high. In general, it seems that the percentage of
 403 *while*-clauses has changed little over the last three and a half centuries.¹⁴ Moreover, this
 404 also seems to be the case if we consider the distribution of simultaneity *while*-clauses
 405 with respect to non-simultaneity *while*-clauses; see table 5 (which should be contrasted
 406 with table 3 for *as*-clauses).

407 Because of both the low number of tokens per period and potential clustering effects,
 408 our comments regarding the distribution of *while* across parameters are necessarily
 409 limited to a few, fairly clear general tendencies but will draw comparison, where
 410 appropriate, with the findings made above on *as*.

411 All occurrences in fiction instantiate the ‘prototypical simultaneity’ type. In other
 412 words, the inverted simultaneity and potential simultaneity types that are sometimes
 413 found with *as* are not evidenced with *while*. Regarding tense and aspect, past simple
 414 forms are consistently more common than complex forms in both *while* and main
 415 clauses (82 per cent and 80 per cent on average, respectively). Contrary to *as*-clauses,
 416 however, progressive *while*-clauses seem to be used more frequently (19 per cent on
 417 average across all periods) than progressive *as*-clauses (6 per cent on average across all
 418 periods). This may be because, as in PDE (see Broccias 2008), the progressive tends
 419 to be used more frequently as a marker of susceptibility to change in *while*-clauses
 420 than in *as*-clauses, where it tends to function as an imperfectivity marker. However,
 421 in terms of positioning, *while*-clauses resemble *as*-clauses in favouring a post-main
 422 clause position in general, on average 61 per cent of the time.

¹⁴ The two peaks in the 1700–49 and 1900–49 periods can be accounted for as ‘burstiness’ effects: 7 of the 16 tokens for 1700–49 come from one text (1723blac.f3b) and likewise 11 examples out of 27 for 1900–49 (1925garn.f7b).

Table 4. *While-past by register and period*

	1650-99		1700-49		1750-99		1800-49		1850-99		1900-49		1950-90		all periods		
	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	%
Drama	1	38	2	79	1	42	2	76	2	76	2	87	2	82	12	68	6
Fiction	10	241	16	363	6	133	11	245	12	277	27	596	18	399	100	323	51
Sermons	0	0	2	188	1	90	1	90	0	0	0	0	1	98	5	66	3
Journals	1	47	4	187	3	137	7	322	8	353	3	136	9	405	35	228	18
Medicine	4	173	6	274	5	238	3	148	2	90	0	0	0	0	20	134	10
News	0	0	1	46	5	217	0	0	2	87	1	46	1	44	10	63	5
Science	0	0	4	192	3	146	1	48	0	0	1	47	0	0	9	61	5
Letters	0	0	0	0	2	165	2	159	0	0	0	0	1	89	5	60	3
Overall	16	89	35	197	26	146	27	149	26	144	34	192	32	180	196	156	100

Table 5. *The distribution of non-temporal while-clauses in fiction*

Period	Raw frequency	pmw	Non-simul/ simul ratio
1650–99	2	48	0.2
1700–49	4	96	0.3
1750–99	3	72	0.5
1800–49	5	120	0.5
1850–99	4	96	0.3
1900–49	1	24	0.0
1950–90	0	0	0.0
Overall	19	65	0.2

423 *While*-clauses in fiction consistently portray relatively durative events. Punctual
 424 *while*-clauses, either in combination with a durative main clause or a punctual main
 425 clause, are very rare (4 per cent on average). Further, as was observed for *as*-clauses,
 426 the preferred pattern involves both a durative *while*-clause and a durative main clause
 427 (64 per cent on average).

428 An important difference with respect to *as* is the fact that change verbs are never as
 429 common with *while*-clauses as with *as*-clauses throughout the period. This testifies to
 430 the relatively stable temporal nature of *while*-clauses as opposed to the dynamic nature
 431 of *as*-clauses (see section 1). With the proviso that *while*-figures should be approached
 432 carefully, the highest proportion we have for change verbs used in *while*-clauses is 36
 433 per cent (in the 1800–49 period) while the lowest proportion for *as*-clauses is 50 per
 434 cent (in the 1650–99 period). The respective averages are 21 and 60 per cent. All in
 435 all, it seems that the preference for change verbs is specific to *as*-clauses throughout
 436 the period.

437 Finally, *while*-clauses consistently exhibit a stronger preference for different subjects
 438 (74 per cent on average) than *as*-clauses, where the two options are distributed more
 439 evenly. As was pointed out above (see section 3.1.2), this can be interpreted as a
 440 preference for subject identity in *as*-clauses vis-à-vis the behaviour of *while*-clauses.

441 In sum, *while*-clauses differ from *as*-clauses in having generally stable frequencies
 442 and in showing a different behaviour with respect to some of the parameters examined.
 443 These differences probably derive from the higher compatibility of *as* with situations
 444 that are susceptible to change (see Broccias 2008). What these subordinators do have
 445 in common is somewhat stable parametric variability across the period of investigation.

446 3.2.2 *The subordinator whilst*

447 The number of simultaneity *whilst*-clauses in ARCHER is even less than that of
 448 simultaneity *while*-clauses, totalling a meagre 31 tokens across all registers, across
 449 the whole period. If we group the data into centuries rather than half-centuries (with
 450 the obvious exception of the latter half of the twentieth century; see table 6) so as to

Table 6. *Simultaneity whilst-clauses (of all types)*

Period	Raw frequency	pmw frequency
1650–1749	13	36
1750–1849	10	28
1850–1949	7	20
1950–90	1	6
Overall	31	25

451 ensure a non-negligible amount of data in each period, it is clear that *whilst*, which
 452 was never very common, has declined almost into non-existence. As was the case with
 453 simultaneity *as* and *while*-clauses, most tokens come from fiction, but the dearth of
 454 data makes a parameter-based analysis inappropriate.

455 3.2.3 *The subordinator when*

456 The last simultaneity subordinator that we have analysed is *when*, which is relatively
 457 common; see Declerck (1997) for a comprehensive synchronic, non-corpus based,
 458 analysis.

459 In ARCHER, frequencies pmw in fiction over the whole period (see table 7)
 460 show that *when* (past) is intermediate between simultaneity *while* and simultaneity
 461 *as* (fiction *while* has a pmw frequency of 323, *when* 498 and *as* 767). If, however, we
 462 consider all registers together, *when* (348 pmw) outstrips both *while* (156 pmw) and *as*
 463 (300 pmw).

464 Analysing *when*-clauses in more detail, we find that – just as with *as* and *while*-
 465 clauses – their overall diachronic behaviour within the domain of fiction is rather
 466 constant. Across all periods, the prototypical use (see figure 2 in section 2) is the
 467 most common subtype of simultaneity *when* (91 of the 154 examples in fiction).
 468 However, 154 *when*-clauses in fiction instantiate the ‘sequential’ interpretation of
 469 *when* in the sense that the *when*-clause depicts an event which temporally precedes
 470 the main clause situation (see (7) in section 2). In terms of frequency, therefore, the
 471 use of sequential *when*-clauses (154 cases in fiction) is even more important than
 472 ‘prototypical simultaneity’ *when* (91 cases in fiction).

473 As with the other subordinators, the use of the progressive is marginal with *when*.
 474 *When*-clauses with the progressive account for only 5 per cent of fiction cases overall,
 475 and in this respect *when* is closer to *as* (6 per cent) than *while* (19 per cent).

476 As for positioning, post-position is favoured across all periods, which is a feature
 477 common to the other subordinators as well (see also Diessel 2008 on the positioning
 478 of *when*-clauses).

479 Considering durativity, we find that the combination of a durative *when*-clause with
 480 a durative main clause is the favoured option (46 per cent on average).

481 Like *while*, but unlike *as*, *when* combines with a variety of different verb types.
 482 In particular, both *be* and change verbs are relatively common, each category fairly

Table 7. *When-past by register and period*

	1650–99		1700–49		1750–99		1800–49		1850–99		1900–49		1950–99		all periods		
	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	raw	pmw	%
Drama	5	188	6	238	0	0	7	266	15	567	12	521	4	164	49	278	11
Fiction	17	410	24	545	20	444	19	423	20	462	20	442	34	754	154	498	35
Sermons	2	179	2	188	8	723	5	451	0	0	2	189	3	294	22	291	5
Journals	6	281	10	466	12	549	5	230	10	441	7	317	13	585	63	411	14
Medicine	11	476	3	137	12	571	7	345	12	542	1	49	0	0	46	308	11
News	4	179	4	185	5	217	2	87	6	260	6	273	4	175	31	196	7
Science	7	326	7	337	7	340	11	524	4	184	4	187	1	47	41	277	9
Letters	3	237	1	83	3	248	7	557	4	374	7	563	5	444	30	358	7
Overall	55	305	57	321	67	375	63	348	71	392	59	334	64	359	436	348	100

483 consistently accounting for around 30 per cent of all *when* cases through time.
 484 Importantly, the percentage of *be* tokens is even higher than with *while* (which averaged
 485 37 per cent). This may account for the intuition that *when* is often used as a framing
 486 device to refer to a relatively extended and stable temporal frame, as in *When he was*
 487 *seventeen . . . he told his father that he must go to London* (1886giss.f6b). (Notice
 488 that examples such as this are difficult with *as*.) Finally, *when* behaves similarly to
 489 *while* in that both favour different subjects almost throughout their history (57 per
 490 cent on average). Again, this represents a consistent difference with the behaviour of
 491 simultaneity *as*.

492 4 Discussion

493 Given that simultaneity clauses in general and *as*-clauses in particular have seldom been
 494 the focus of research, it comes as no surprise that there are no systematic references to
 495 them in diachronic stylistic analyses. Furthermore, to date, there have been very few
 496 quantitative (as opposed to qualitative) investigations into stylistic changes in prose
 497 fiction in LModE (see e.g. Fludernik 1996, Adamson 1998 and 1999 for a qualitative
 498 approach). The work of Biber & Finegan (1989 and 1997, in particular) stands out as
 499 an exception. They study the development of various registers over the LModE/PDE
 500 period using grammatical and functional features grouped into five dimensions, which
 501 are interpreted functionally, namely (see e.g. Biber & Finegan 1997) ‘informational vs
 502 involved production’ (Dimension 1), ‘narrative vs non-narrative discourse’ (Dimension
 503 2), ‘situation-dependent vs. elaborated reference’ (Dimension 3), ‘overt expression of
 504 argumentation’ (Dimension 4) and ‘non-impersonal vs impersonal style’ (Dimension
 505 5). (This last was glossed as ‘abstract vs nonabstract style’ in their 1989 paper.) They
 506 claim, analysing data from ARCHER in terms of Dimensions 1, 3 and 5, that popular
 507 registers such as letters, diaries, fiction and news reportage exhibit a drift towards orality,
 508 i.e. towards involved production, situation-dependent reference and non-abstract style,
 509 starting from the nineteenth century. This shift is claimed to reflect (a) a shift in aesthetic
 510 preferences, towards plainer, more colloquial styles, and (b) the spread of mass literacy
 511 in the United States and England, which brought about a need to make texts accessible
 512 and appealing to a wider audience (1989: 515). By contrast, informational registers,
 513 such as science, medicine and legal prose, are said to have become more specialized –
 514 designed for a ‘progressively narrower audience and requiring extensive specialist
 515 background knowledge for comprehension’ (1997: 269) – and more literate. That is,
 516 informational registers have shown a trend towards a less, rather than more, speech-like
 517 style. These opposing tendencies, Biber & Finegan argue, have resulted in a widening
 518 divergence of prose styles in the last three and a half centuries.

519 Analogously, our findings indicate that across the same period, the distribution
 520 of the simultaneity subordinators has been in a state of flux. Temporal *as*-clauses
 521 have expanded since the early nineteenth century and have been eroding other non-
 522 simultaneity *as*-uses. *Whilst*-clauses have been rapidly falling out of use. On the
 523 other hand, the behaviour of *while* and *when*-clauses seems to be rather constant.

524 Also (relatively) constant are the general preference for postpositioning with all the
 525 subordinators (which, as mentioned above, is consistent with Diessel 2008, although
 526 he does not distinguish between spoken and written language), the preference for
 527 different subjects in *while* and *when*-clauses as opposed to *as*-clauses, the preference
 528 for ‘prototypical simultaneity’ and the paucity of progressive forms especially in *as*-
 529 clauses (*when* and *while* fare better in this respect – see Broccias 2008 for an explanation
 530 of the difference between progressive *while* and progressive *as*).¹⁵

531 All in all, our data are thus partially consistent with Biber and Finegan’s conclusion
 532 that important changes can be observed from the first half of the nineteenth century. It
 533 is certainly so in the case of *as*-clauses and *whilst*-clauses (and see also fn. 15 on bare
 534 participles). *As*-clauses were consistently much less frequent in the 1650–1799 period
 535 so that their expansion in the nineteenth century is a major development.

536 The obvious question is: can we take the spread of *as*-clauses and the demise of
 537 *whilst*-clauses as evidence of the drift towards orality in fiction observed by Biber
 538 and Finegan? The decline of *whilst*-clauses can undoubtedly be seen as a result of
 539 a drift towards a more oral style because *whilst* is regarded nowadays as a formal
 540 subordinator. (The formal nature of *whilst* is specified in dictionaries such as the
 541 *Longman Dictionary of Contemporary English*, for example.) But what about *as*-
 542 clauses? It is unclear where to place *as*-clauses (as well as the other subordinator-
 543 introduced simultaneity clauses in general) in Biber and Finegan’s classificatory system
 544 since they are not explicitly mentioned. Two potential features under which they could
 545 be subsumed are ‘time adverbials’ (included under Dimension 3 as contributing to
 546 situation-dependent reference and, hence, orality) and ‘other adverbial subordinators’
 547 (included under Dimension 5 as contributing to an abstract style and, hence, a non-
 548 oral style).¹⁶ Let’s begin with the latter. Biber and Finegan claim that the features
 549 clustering into Dimension 5 are ‘used to present propositions with reduced emphasis
 550 on the agent, giving prominence to the patient . . . This promoted entity is typically an
 551 inanimate referent and is often an abstract rather than a concrete entity’ (1989: 492).
 552 This characterization applies mainly to passive constructions and it is therefore difficult
 553 to see how it could be relevant to *as*-clauses, which, incidentally, usually contain animate
 554 subjects.¹⁷ Alternatively, *as*-clauses could be seen as instances of ‘time adverbials’
 555 (under Dimension 3). But it is not clear what exactly this label subsumes. Still, it is

¹⁵ As part of our ongoing research into simultaneity from 1650 onwards, we additionally investigated simultaneity bare participles (e.g. *‘No, no,’ said he, laughing* [1839mart.f5b]). Early indications based on a random sampling of retrieved cases suggest that (a) these constructions are very common, in fact, more common than each of the subordinators individually; (b) after a decline in the eighteenth century, they have apparently increased in overall frequency; (c) they are increasingly carving out constructional niches (e.g. they are frequently found after the main clause in general and following verbs of saying in particular). Clearly it will be useful to investigate these constructions further, and the impact they have on *as*.

¹⁶ Biber and Finegan include ‘subordination’ also under Dimension 1 but restrict it to ‘causative subordination’, which they regard as contributing to ‘involved production’ and, hence, an oral style. Causal *as*-clauses would therefore be included there.

¹⁷ Just sampling, when possible, the first ten fiction examples per subperiod (remember that there are only six fiction examples in the 1650–99 subperiod), we find 100 per cent of subjects are animate for all subperiods with the exception of 1850–99, where one example contains an inanimate subject.

556 undeniable that *as*-clauses provide information about ‘the actual physical context of
557 discourse’ (1989: 492) since they orientate events with respect to each other in terms of
558 temporal containment or overlap. Recall also that *as*-clauses often make use of motion
559 verbs – a subclass of change verbs – and that spatiality in general is taken by Biber and
560 Finegan to be a marker of situation-dependent style.¹⁸ Further, temporal subordinators
561 are usually treated differently from ‘logical’ ones in that the latter are on the whole
562 viewed, e.g. by Adamson (1998, 1999), as symptomatic of a more elaborated style. (But
563 note that Biber and Finegan class causative (sc. causal) subordination, manifestly an
564 instance of logical subordination, as an example of involved rather than informational
565 production; see fn. 16.)

566 This line of reasoning would lead us to conclude that the growth of *as*-clauses also
567 supports Biber and Finegan’s finding of a transition towards more oral styles. The
568 fact that *as*-clauses often contain change events may motivate why they, rather than
569 the other subordinators, have increased the most. By being temporal adverbials and by
570 often containing reference to spatiality (e.g. motion along a path) as do place adverbials,
571 they have a privileged status as markers of situation-dependent reference.

572 In order to substantiate this conclusion, we would need studies which analyse how
573 simultaneity is expressed in oral language. Luckily, there is just one study that addresses
574 this issue, namely Silva (1991). Silva compares the production of simultaneity clauses
575 in children’s and adults’ narratives and finds that children (even up to ten years of
576 age) use simultaneity markers *as*, *while* and *when* differently from adults in narrative
577 discourse. Her study shows that ‘children in all age groups virtually never used *as*
578 to signal the particular class of simultaneous relations adults mark with this particle,
579 preferring – if they used subordinate strategies at all – *when* or *while* in these contexts’
580 (1991: 658). (This finding is also related, incidentally, to Silva’s other finding about
581 *when* usually having a sequential interpretation only in adults’ language, which is also
582 what the corpus evidence from ARCHER suggested for written language throughout
583 the period examined.)

584 Silva justifies the late acquisition of *as* as a simultaneity subordinator by claiming that
585 *as*, like the Turkish simultaneity particle *erek* studied by Slobin (1988), ‘is essentially
586 a narrative form, and its proper use requires an ability to manage attention flow in
587 narrative’ (Slobin 1988: 16, cited in Silva 1991: 660). Further, Silva speculates that
588 the increase in the preposing of *when* she observed as children grow up may also
589 be indicative of children’s beginning to master the management of attention flow in
590 narrative. That is, children learn to use *when* (and *as*) as narrative ‘signposts’, which
591 are understandably more common in initial position. The end of this developmental
592 path is the mastery of *as*-clauses for narrative purposes, which Silva finds are also
593 typically preposed.

594 The last observation is highly significant for the present study. We have found that
595 *as*-clauses in fiction are typically found in post-position rather than pre-position. Hence,

¹⁸ Biber and Finegan take spatial particles (e.g. *out*, *away*, *down*), for example, as evidence of a more situation-dependent style (1989: 503).

596 just this simple observation casts doubt on viewing the spread of *as*-clauses as a trend
597 towards oral style because oral narrative style and written narrative style clearly diverge
598 in this respect.

599 However, it is worth comparing the increase in *as*-clauses observed in children as they
600 mature into adulthood with the spread of *as*-clauses observed in fiction as it matures
601 into ‘modern’ nineteenth-century narration. That is, if Silva is correct in claiming that
602 the use of simultaneity *as*-clauses requires greater sophistication, i.e. greater mastery
603 of information flow, then the growth of *as*-clauses in fiction may be taken to reflect a
604 more ‘mature’ approach to narration. In particular, the use of *as*-clauses, as is argued in
605 Silva (1991) and Broccias (2006a), ‘requires that the actions specified in the predicates
606 of the two clauses be seen as an essentially unitary event’ (Silva 1991: 648). This
607 explains why, for example, subject identity is favoured in *as*-clauses as opposed to
608 *while*-clauses: different subjects enhance the potential for a contrastive construal of
609 the main and subordinate clause events; hence, the concessive interpretation often
610 associated with *while*.

611 In sum, we contend that the spread of simultaneity *as*-clauses, as opposed to the other
612 simultaneity subordinators, provides further empirical support for Biber and Finegan’s
613 claim about the changing nature of fiction over the LModE period. Nevertheless, we do
614 not interpret such an increase as symptomatic of a trend towards orality. As the data from
615 Silva (1991) show, *as*-clauses tend, for example, to be preposed in oral narrative, while
616 the opposite is the case in fiction. Rather, we view the increase in simultaneity *as*-clauses
617 as indicative of an evolution in narrative techniques (in the same way as the spread
618 of *as*-clauses in oral narrative from childhood to adulthood implies maturation of oral
619 narrative techniques). Narration (in fiction) becomes more ‘mature’ in that writers are
620 increasingly proficient at ‘building global or composite event representations’ (Slobin
621 1988: 16). In other words, the conceptual schema associated with *as*-clauses (a path
622 event along which another event takes place so that the two are intimately connected;
623 see e.g. Broccias 2006a), becomes progressively more entrenched in the recent history
624 of the English language.

625 A word of caution is needed, however. It should not be assumed that the use of
626 simultaneity *as*-clauses is indicative of a ‘high’ style. As was pointed out above, it is
627 found, for example, in the ordinary, everyday language of adults.¹⁹ Rather, the increase

¹⁹ Similarly, it is commonly found in summaries of television series episodes. The following summary of a single episode of the British soap opera *Emmerdale* is truly replete with *as*-clauses (from www.digitalspy.co.uk/soaps/a174426/chas-begs-paddy-for-a-chance-to-explain.html):

Fuming, Paddy reels **as** he takes in the news that Chas has betrayed him with Carl . . .

Desperate, Chas is in tears **as** she begs him to give her a chance to explain. Paddy, however, is adamant – he’s disgusted by her actions and he wants her out. Chas collapses to her knees in a sobbing state **as** Paddy walks away . . .

Cain enters the house **as** a flustered Debbie wonders how to sneak Michael out. She’s frantic **as** she makes excuses in the hope of convincing Cain to leave. He finally relents, much to Debbie’s relief.

However, **as** Debbie waves goodbye to Michael, she’s worried when Ryan spots them and he quickly realises that something’s been going on . . .

628 in simultaneity *as*-clauses mirrors the emergence of more sophisticated conceptual
 629 packaging techniques, by which events are viewed as components of an integrated
 630 whole. Such integration manifests itself formally, for example, via the use of identical
 631 subjects in the main and *as* clauses and semantically by virtue of the fact that a path
 632 event is often construable as a cause for the main event. Importantly, the ‘composite
 633 event representation’ underlying the use of *as* is so useful that it is not restricted to
 634 narrative style only but can also be observed in headlines, where *as* is probably used
 635 because of its semantic flexibility in depicting the existence of some relation (either
 636 temporal or causal or both) between two events, as the following examples show:.

- 637 (10) (a) Reformed party girl Meg Mathews embarks on health kick **as** she prepares to
 638 wed again (*Daily Mail*, 11 Aug. 2009)
 639 (b) Shoppers turn to winter foods **as** washout summer makes us axe the barbecues
 640 (*Daily Mail*, 11 Aug. 2009)
 641 (c) Fixed rate mortgage costs rocket **as** lenders increase margins to record highs
 642 (*Daily Mail*, 11 Aug. 2009)
 643 (d) Piracy fears **as** cargo ship disappears off UK coast (*The Times*, 11 Aug. 2009)
 644 (e) Hundreds feared dead **as** typhoon hits Asia (*The Times*, 11 Aug. 2009)

645 (10a) does not simply code simultaneity between Meg Mathews’s getting in shape and
 646 the preparations for her wedding, but invites the latter event to be interpreted as a cause
 647 of the former one. Similarly, in (10b), as the text of the article explains, ‘the nation
 648 turns to comfort food *as a result of* [our emphasis] the washout summer weather’. A
 649 causal interpretation is also intended in (10c), alongside the temporal one, and probably
 650 predominates in the remaining examples (10d–e).

651 At a more general level, our conclusions appear to be in accord with new research by
 652 Douglas Biber on the emergence of grammar within different genres or registers. Biber
 653 (2008) identifies a number of new uses of grammatical constructions, as well as possible
 654 new constructions, that – contrary to conventional wisdom on language change –
 655 have emerged within the domain of academic writing. The communicative demands of
 656 this register – for example, the requirement to convey increasingly specialized kinds
 657 of information – are claimed to lend themselves to such elaborations in noun phrase
 658 structure as the use of abstract nouns as premodifiers, e.g. *phase velocity* and *strength*
 659 *characteristics*. Extending this line of argument, Biber suggests that grammar can
 660 emerge in any register, ‘reflecting the communicative priorities of that register’ (Biber
 661 2009, personal communication). The emergence of simultaneity *as*, along the lines we
 662 have described, in fiction (and possibly newspaper headlines, which should be the
 663 object of future investigation) does not involve a new construction *per se*. However,
 664 it does seem to represent a plausible further candidate of register-specific evolution in
 665 grammar.

Elsewhere, Ashley’s team is losing the cricket match and Vincent has been taunting him throughout. **As** he starts praying to win, his fast bowl knocks Vincent to the ground and he’s taken to hospital . . .

Just as Ashley and Laurel are hopeful that it’s the last they’ll be seeing of Vincent and Sally, Douglas leads them into the house . . .

666 We would like to conclude by stressing that much remains to be done in the diachronic
 667 study of simultaneity constructions. Here we have only addressed the ‘recent’ history
 668 of simultaneity subordinators. Further, we would like to stress that larger corpora are
 669 needed both to investigate registers other than fiction in detail and, even in the case of
 670 fiction, to corroborate the tendencies observed in the ARCHER corpus. To be sure, our
 671 major finding concerning the spread of simultaneity *as*-constructions in fiction calls
 672 for an integrated approach, where quantitative, i.e. corpus-based, and qualitative, e.g.
 673 stylistic, analyses are both needed, simultaneously.

674 *Authors' addresses:*
 675 *Facoltà di Lingue e Letterature Straniere*
 676 *Università di Genova*
 677 *Piazza S. Sabina 2*
 678 *16124 Genova*
 679 *Italy*
 680 *c.broccias@unige.it*
 681 *School of English, Sociology, Politics & Contemporary History*
 682 *University of Salford*
 683 *Manchester M5 4WT*
 684 *UK*
 685 *n.smith@salford.ac.uk*

686 References

- 687 Adamson, Sylvia. 1998. Literary language. In Suzanne Romaine (ed.), *The Cambridge history*
 688 *of the English language*, vol. 4, 589–692. Cambridge: Cambridge University Press.
 689 Adamson, Sylvia. 1999. Literary language. In Roger Lass (ed.), *The Cambridge history of the*
 690 *English language*, vol. 3, 539–653. Cambridge: Cambridge University Press.
 691 Beal, Joan. 2004. *English in modern times. 1700–1945*. London: Arnold.
 692 Biber, Douglas, Edward Finegan & Dwight Atkinson. 1994. ARCHER and its challenges:
 693 compiling and exploring A Representative Corpus of Historical English Registers. In Udo
 694 Fries, Gunnel Tottie & Peter Schneider (eds.), 1–14. *Creating and using English language*
 695 *corpora*. Amsterdam: Rodopi.
 696 Biber, Douglas. 2008. Corpora and the history of English: ARCHER 3 and beyond. Paper
 697 presented at the ARCHER symposium, Freiburg, 12 December 2008.
 698 Biber, Douglas & Edward Finegan. 1989. Drift and the evolution of English style: A history of
 699 three genres. *Language* 65, 487–517.
 700 Biber, Douglas & Edward Finegan. 1997. Diachronic relations among speech-based and
 701 written registers in English. In Terttu Nevalainen & Leena Kahlas-Tarkka (eds.), *To explain*
 702 *the present: Studies in the changing English language in honour of Matti Rissanen*, 253–75.
 703 Helsinki: Mémoires de la Société Néophilologique de Helsinki.
 704 Biber, Douglas, Stig Johansson, Geoffrey Leech, Susan Conrad & Edward Finegan. 1999.
 705 *Longman grammar of spoken and written English*. Harlow: Longman.
 706 Broccias, Cristiano. 2006a. The construal of simultaneity in English with special reference to
 707 *as*-clauses. *Annual Review of Cognitive Linguistics* 4, 97–133.
 708 Broccias, Cristiano. 2006b. The English simultaneity network: The case of *as* and
 709 *while*-clauses. *LACUS Forum* 32, 33–41.

- 710 Broccias, Cristiano. 2008. Imperfectivity and transience: The two sides of the progressive
711 aspect in simultaneity clauses. *Journal of English Linguistics* 36, 155–78.
- 712 Christ, Oliver. 1994. A modular and flexible architecture for an integrated corpus query
713 system. *Proceedings of COMPLEX '94. Third Conference on Computational Lexicography
714 and Text Research (Budapest, 7–10 July 1994)*, 23–32. Budapest.
- 715 Declerck, Renaat. 1997. *When-clauses and temporal structure*. London: Routledge.
- 716 Declerck, Renaat (in collaboration with Susan Reed & Bert Cappelle). 2006. *The grammar of
717 the English tense system*. Berlin: Mouton de Gruyter.
- 718 Diessel, Holger. 2008. Iconicity of sequence. A corpus-based analysis of the positioning of
719 temporal adverbial clauses in English. *Cognitive Linguistics* 19, 457–82.
- 720 Evert, Stefan. 2006. How random is a corpus? The library metaphor. *Zeitschrift für Anglistik
721 und Amerikanistik* 54, 177–90.
- 722 Fludernik, Monika. 1996. *Towards a 'natural' narratology*. London: Routledge.
- 723 Garside, Roger & Nicholas Smith. 1997. A hybrid grammatical tagger: CLAWS 4. In Roger
724 Garside, Geoffrey Leech & Anthony McEnery (eds.), *Corpus annotation: Linguistic
725 information from computer text corpora*, 102–21. Harlow: Addison Wesley Longman.
- 726 González-Cruz, Ana I. 2007. On the subjectification of adverbial clause connectives: Semantic
727 and pragmatic considerations on the development of *while*-clauses. In Ursula Lenker &
728 Anneli Meurman-Solin (eds.), *Connectives in the history of English*, 145–66. Amsterdam:
729 John Benjamins.
- 730 Halliday, M. A. K. 2004. *An introduction to Functional Grammar*, 2nd edition. London:
731 Hodder Arnold.
- 732 Kortmann, Bernd. 1997. *Adverbial subordination: A typology and history of adverbial
733 subordinators based on European languages*. Berlin and New York: Mouton de Gruyter.
- 734 Morris, Lori. 1996. Time and cause in the English connector *as*. *LACUS Forum* 23, 417–28.
- 735 Övergaard, Gerd. 1987. Duration, progression, and the progressive form in *as*-clauses. In Ishrat
736 Lindblad & Magnus Ljung (eds.), *Proceedings from the Third Nordic Conference for
737 English Studies*, vol. 1, 265–80. Stockholm: Almqvist & Wiksell International.
- 738 Pasicki, Adam. 1983. *While-clauses in Old and Early Middle English*. *Folia Linguistica
739 Historica* 4, 287–303.
- 740 Pasicki, Adam. 1987. *Temporal adverbials in Old and Middle English*. Lublin: Radakcja
741 Wydawnictw Katolickiego Uniwersytetu Lubelskiego.
- 742 Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1995. *A comprehensive
743 grammar of the English language*. Harlow: Longman.
- 744 Schmiedtová, Barbara. 2004. *At the same time . . . : The expression of simultaneity in learner
745 varieties*. Berlin: Mouton de Gruyter.
- 746 Silva, Marilyn. 1991. Simultaneity in children's narratives: The case of *when*, *while* and *as*.
747 *Journal of Child Language* 18, 641–62.
- 748 Slobin, Dan. 1988. The development of clause chaining in Turkish child language. Paper
749 presented at the Fourth Conference on Turkish Linguistics, Middle East Technical
750 University.
- 751 Smith, Nicholas. 1997. *Improving a tagger*. In Roger Garside, Geoffrey Leech & Anthony
752 McEnery (eds.), *Corpus annotation: Linguistic information from computer text corpora*,
753 137–50. Harlow: Addison Wesley Longman.