

Research Article

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Modification as a linguistic ‘relationship’: A *just so* problem in Functional Discourse Grammar

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Abstract: This study traces the relationship between two erstwhile separate linguistic elements, *just* and *so*, within the framework of Functional Discourse Grammar (FDG). In keeping with FDG’s form-oriented function-to-form approach, the study proceeds semasiologically by, first, examining the uses of relatively independent forms (*i.e.* the focus particle *just* modifying *so* as a degree word and a manner proform), then turning to more tightly-knit structures (*i.e.* *just so* as a subordinator of purpose and condition), and finally, looking at the fixed expression *just so* used as a part of a pragmatic marker. Using data from the *Corpus of Contemporary American English* and the *Corpus of Historical American English*, we argue that the different meanings of *just so* raise a number of issues related to the analysis of modification in FDG, namely the status and function of the modifier *just* in the constructions under discussion and the concomitant representation of *so*. Furthermore, the analysis shows that FDG can model very precisely the interplay of semantic and pragmatic information in the stages when *just so* is still compositional, with *just* providing interpersonal (*i.e.* pragmatic) and *so* representational (*i.e.* semantic) information, as well as its development into the non-compositional and purely pragmatic discourse marker *just so you know*.

Keywords: manner proform, purpose, condition, subordinator, focus particle, pragmatic marker, grammaticalization, *so*, *just*, Functional Discourse Grammar

1 Introduction

This article discusses the ‘courtship’ and eventual ‘marriage’ of the two separate linguistic elements *just* and *so*.¹ Although they ‘meet’ in Early Modern English (1500–1800), both elements existed in English for quite some time before. The word *so* has been a feature of the language since the Old English period (OE; 450–1100) in the form of *swa* (Kortmann 1997, 315, König and Vezzosi 2022), whereas *just* stems from the French adverb *juste* meaning ‘exactly, precisely, directly’ and entered English only around 1400 (Beeching 2017, 459). According to the data from the *Old Bailey* (Huber, Nissel, and Puga 2016) and *Early English Books Online* (EEBO; Davies 2017) corpora and the *Oxford English Dictionary* (OED), *just* joins with *so* sometime between the end of the sixteenth and the start of the seventeenth century, primarily as an intensifier of the

¹ The combination *just so* used as a subordinator was first identified as a topic of linguistic and theoretical interest by Gunther Kaltenböck, to whom we are very grateful for his input and for allowing us to collaborate with him on this project.

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manner *so*. In Present Day English (PDE), the combination of *just* and *so* has a range of different functions: it can serve as a complex intensifier in (1a)² and a manner proform in (1b), or as a subordinator of purpose (1c) or condition (1d). Finally, it is found to be part of larger pragmatic markers such as *just so you know*, as in example (1e), which marks a shift in topic.

- (1) a) *Well, I think that is **just so** funny.* (COHA 1980)
- b) *The Lady remarked that the use of carpets, like other luxuries, was gaining ground too rapidly among those who were often deficient in real comfort. “Silks and satins put out the kitchen-fire, as a wise man has said.” “Ay, Ma’am, he answered, **just so** I tell my young gals, when they get when they get a teasin’ their mammy, for somethin’ fine and gay...”* (COHA 1824)
- c) *Could Robin come to visit, **just so** the old woman could see someone from the reservation again?* (COCA 2017)
- d) *I don’t care a damn why, **just so** you’re not going.* (COHA 1919)
- e) *I doubled my bet with myself and made the fateful decision to leave the safety of my girlfriend’s cliff-hugging house for a closer look-see. Actually, “girl” is a mild stretch of the facts in Sally Solana’s case. And, I don’t suppose you could call her my friend anymore, either. **Just so you know**, I don’t normally go poking my nose into crime scenes I’m not paid to poke my nose into. But this one was different.* (COCA 2001)

This article investigates English *just so* constructions within the framework of Functional Discourse Grammar (FDG; Hengeveld and Mackenzie 2008, Keizer 2015). In keeping with FDG’s “form-oriented ‘function-to-form’ approach” (Hengeveld and Mackenzie 2008, 39; original emphasis), the study proceeds semasiologically by, first, examining the uses of relatively independent forms (*i.e.* the focus marker *just* modifying *so* as a manner proform), then turning to more tightly knit structures (*i.e.* *just so* as a subordinator of purpose and condition) and, finally, looking at the relatively fixed expression *just so* used as part of a pragmatic marker.

Using corpus data, this article examines *just* and *so* as they enter into various kinds of combinations in the history of English, evincing a steady increase of mutual dependence along the way. While *just* and *so* start out as independent units on FDG’s Interpersonal Level (IL, *i.e.* pragmatic) and Representational Level (RL, *i.e.* semantic), respectively, their frequent combination then leads from a still compositional use of purpose subordination to, on the one hand, a non-compositional condition subordinator construction at the RL and, on the other hand, an equally non-compositional pragmatic marker at the IL. The following analysis tries to capture the details of the changes in meaning and compositionality involved, as well as to make sense of the diachronic developments that are implied in terms of relevant predictions which follow from the architecture and workings of the FDG model.

Section 2 sketches a brief history of the individual elements *so* in 2.1 and *just* in 2.2, before they are examined in combination. Section 3 briefly discusses the data used, and Section 4 provides a short introduction to the pertinent concepts of FDG. Section 5 presents the heart of the investigation, including our FDG representations, beginning with the manner *just so* in 5.1, and continuing with the two subordinator functions of purpose and condition in 5.2, before treating the different pragmatic uses in 5.3. Finally, Section 6 brings together some of the key points and discusses potential reasons for the changes found.

2 *Just* and *so*

Before beginning the analysis of *just* and *so* together, it is important to look at what is known about these elements independently from one another. This then provides the basis on which their functions as a unit can be compared.

² Since a possible link between the intensifier use of *just so*, exemplified in (1a), and later developments like (1b)–(1e) at the moment is not clear, we leave intensification out of the present analysis. But see Portero-Muñoz (2022) for a treatment of several newly emerging intensifiers in English and Spanish.

2.1 The functions of *so*

In the arguably earliest uses of *so*, it functions either as a deictic proform (König 2015) or a degree intensifier (OED), although König (2015) and König and Vezzosi (2022, 318) argue that the former is the source of the latter. The proform *so*, like its German cognate (see Wiese (2011, 995) for a description), is indexical in that it may exophorically point to extralinguistic elements in the communicative situation or the common ground, as well as endophorically to other linguistic elements. According to König (2015, 41, 48; see also Huddleston and Pullum 2002, 1535), the component of exophoric deixis could originally be coupled with the semantic dimensions of manner (e.g. *Fold the paper in two, so*), quality (e.g. *so so* for average ‘just o.k.’), and degree (e.g. *The fish was so big*); however, the first two of these are falling out of use, while the third is preserved, as is the non-deictic degree-intensifying meaning, e.g. *It was so big that it didn’t fit into the bowl* (Quirk et al. 1985, 591). Subsequently, *so* developed an endophoric function, allowing for multifold anaphoric reference to, for example, sentences (e.g. A: *Are you happy?* B: *Yes, I believe so.*), clauses (e.g. *She was totally opposed to the idea and told the premier so*), adjectives (e.g. *Freedom of the press is sacrosanct and should remain so*), and, with *do* support, individual verbs (e.g. *John works in the library and Fred does so at home*) or verbs together with their complements (e.g. A: *Did he clean his room?* B: *He will do so tomorrow.*) (Cornish 1986, 94, 97, Huddleston and Pullum 2002, 1529–30, König 2015, 43, Biber et al. 2021, 74).

It has been argued by König (2015, 45–6) that the later subordinator use stems from the earlier manner function, whereby *so* meaning ‘in this way’ or ‘in this manner’ as an anaphor in clause-initial position adopts a range of different connective marker meanings such as condition, cause, inference, concession, result, and purpose. Moreover, König (2015, 46) explains this transition in the following way: “Given the semantic versatility of the manner deictic *so* in English, ... we could assume that what we have here is a vague meaning, still expressing the notion ‘manner,’ i.e. anaphorically relating to the kind of situation spelt out by the context.” The anaphoric manner proform referring back to the preceding clause is then reanalysed as a subordinating conjunction integrated into a now complex sentence (König 2015, 47–8), *inter alia* through “the semantic phenomenon of metonymic change, i.e. the incorporation of aspects of contextual meaning into the meaning of the connective” (König 2015, 47). Since the Middle English period (ME; ca. 1150–1500), *so* is generally considered a subordinator of result and purpose; it is less known that already in OE it also had a now obsolete condition use (Kortmann 1997, 316–7). Although the focus of this article is on the subordinating purpose and condition uses, the result function will be briefly discussed here in order to highlight the difference between the simple *so* and complex *just so* subordinator (Section 5.2).

In English, clauses of result are first and foremost introduced by the subordinator *so* or the variant *so that*, whereby the latter tends to be considered more formal (Quirk et al. 1985, 1108–10). Kortmann (1997, 86) defines the result clause as “*q*, so that *p*,” whereby “*p* expresses a (mostly factual and typically non-intended) result or consequence of *q*” (e.g. *She is a good lecturer, so (that) all her courses are full*). The two defining semantic criteria of result clauses are absence of intentionality or agentivity and/or event completion or factivity; see example (2). Therefore, the propositional content of the subordinate clause is presupposed and thus cannot be cancelled, as demonstrated in (3b) with respect to (3a) (Schmidtke-Bode 2009, 45–7; see also Huddleston and Pullum 2002, 733); cancelling the proposition in the subordinate clause makes the whole sentence questionable, if not non-sensical. Furthermore, Verstraete (2007, 202) argues that a strong sequentiality of the events denoted by the main clause and the result clause explains the subordinate clause’s syntactic immobility, as demonstrated in (3c)–(3d) (see also Palmer 1987, 99). In (3c), fronting would seem to construe a purpose meaning, as does clefting in (3d). Furthermore, the subordinate clause cannot be the focus of interrogation in the main clause without bringing in some aspect of intention, as demonstrated in (3e).

- (2) *The dust clogged their throats, so that the women were always making ice water.* (Huddleston and Pullum 2002, 1321)

- (3) a) *He had to work late **so that** he couldn't have any time with his son.* (Huddleston and Pullum 2002, 733)
 b) ? *He had to work late **so that** he couldn't have any time with his son, but in fact he did have time with his son.*
 c) #***So that** he couldn't have any time with his son, he had to work late.*
 d) #*It is **so that** he couldn't have any time with his son that he had to work late.*
 e) #*Did he have to work late **so that** he couldn't have any time for his son?*

So (that) as a purpose subordinator encodes a situation in which the main clause action is performed intentionally to bring about the situation in the subordinate clause (Schmidtke-Bode 2009, 20). Kortmann (1997, 86) provides the formula “in order to *p*, *q*,” whereby “*p* is an intended result or consequence of *q* that is yet to be achieved,” as in example (4). Some of the central semantic elements that constitute purpose clauses are intentionality, target-directedness, future orientation, and a hypothetical result state (Schmidtke-Bode 2009, 18–9).

- (4) *He worked hard **so that** he might become rich.* (Palmer 1987, 99)

Of all the semantic classification criteria proposed in the recent work on purpose clauses, intention is one of the defining features (and distinguishes them from the very similar result clauses; Kortmann 1997, 86, Huddleston and Pullum 2002, 733, Verstraete 2008, Schmidtke-Bode 2009, 47). This means that the purpose subordinate clause “describes what the agent of the main clause intends as the outcome of the activity described in that main clause” (Verstraete 2007, 200). Intention also plays a role in the second defining feature of purpose clauses, hypothetical result state, *i.e.* the activity in the subordinate clause is intended but not necessarily completed (Palmer 1987, 99, Schmidtke-Bode 2009, 178). Palmer (1987, 99) talks about potential result, and it has often been noted that this is marked by modality, such as *might* in (4), and the proposition of the subordinate clause can still be cancelled, as demonstrated in (5a). Syntactically, purpose clauses are adjuncts (Quirk et al. 1985, 1107–8, 1070). They can be questioned through an interrogative in the main clause as in (5b), taken as the focus of a cleft sentence as in (5c), and be preposed as in (6) (Quirk et al. 1985, 922, Palmer 1987, 99, Verstraete 2007, 201–2).

- (5) a) *He worked hard **so that** he might become rich, but he died in poverty.*
 b) *Did he work hard **so that** he might become rich?*
 c) *It is **so that** he might become rich that he worked hard.*
 (6) ***So that** we might have more room for looms, the school allowed us to use the lower porch of old Ridgeway, its academic building, which was 101 feet long and roomy enough.* (COHA 1958)

Historically, *so* as a subordinator by itself was also used to signal condition, either meaning ‘if’ or ‘as long as,’ as in example (7), but this function is said to no longer exist in PDE (Kortmann 1997, 315). As with many stages in the study of *so*, it is unclear when exactly the condition use disappears. According to Kortmann (1997, 315–6), this happens in Early Modern English (sixteenth and seventeenth centuries), although occasional examples can also be found as late as the nineteenth and even twentieth centuries, see (8) and (9), respectively.³

- (7) *It is no matter how dirty a bag it is conveyed to him in, ...**so** the money is good.* (OED 1750)
 (8) *I'll swiftly go...Nor care what land thou bear'st me to, **So** not again to mine.* (OED 1812 LD. BYRON *Childe Harold: Cantos I & II* I. xiii. 14)

³ Note, however, that for both of these examples, it is possible that the respective author is trying to emulate an earlier stage of the English language.

- (9) *Yet the Black God still reigned, thought Kane dizzily, brooding back in the shadows of this dark country, bestial, blood-lusting, caring naught who lived or died, **so that** he drank.* (Robert E. Howard “Red Shadows” 1928)

Finally, *so* has developed a number of discourse functions, such as introducing an explanation (explanatory *so*) as in (10), making a summary (11a), indicating a shift to a previously discussed topic (11b) or introducing a new sequence (11c), to name just a few (Schiffrin 1987, Bolden 2006, 2008, 2009, Buysse 2012, Denison 2020).

- (10) A: *And you’re getting these things up to what sort of height?*
 B: ***So**, we’re interested at the height of about 10 km, but they continue up to about 25–30 km.*
 (Denison 2020, 218)
- (11) a) ***so** they are not free [...]* (Denison 2020, 212)
 b) ***so** what time is the flight tomorrow?* [discussed earlier] (Denison 2020, 212)
 c) *...she obviously wants to look a bit more glamorous... **er so** he repaints the picture and she hangs it up very impressed...* (Buysse 2012, 1773)

In sum, both historically and in PDE, *so* can fulfil a number of different functions, e.g. as an adverb, conjunction, or pragmatic marker.

2.2 The functions of *just*

Primarily, *just* functions as a so-called focus marker. Focus markers are employed by a speaker to draw a hearer’s attention to a certain element of a message (Quirk et al. 1985, 604). They are typically viewed as particles or adverb(ial)s (e.g. Nevalainen 1991, 4–8) and can sometimes be scalar, like degree modifiers. However, unlike degree modifiers, focus markers do not intensify the element they modify (the focus), but activate some sort of scale or set that is related to that element (Traugott 2006, 341), as demonstrated by *also* in (12). Unlike intensifiers, which are usually part of an adjective or adverb phrase, focus markers are more flexible (Traugott 2006, 337–8). Furthermore, focus markers do not necessarily need to be placed right next to the element they modify (König 1991, 10, Nevalainen 1991, 39–43). This is shown in the examples below, where *also* in one and the same position can put focus on the verb plus direct object (12a), the verb alone (12b), or solely the direct object (12c):

- (12) a) *They **also** <feed the cats>.* (‘They do not only water the plants.’)
 b) *They **also** <feed> the cats.* (‘They do not only stroke them.’)
 c) *They **also** feed <the cats>.* (‘They do not feed only the dogs.’)
 (Nevalainen 1991, 42)

Moreover, scalar focus markers “not only invoke alternatives on a scale but also rank the focus on that scale, usually with other elements of the same type (qualities, events, persons, etc.)” (Traugott 2006, 342). They may signal some sort of discourse evaluation like, for example, expectation (Traugott 2006, 342) or select a referent or proposition in relation to alternative values (Ghesquière 2017, 34). This is demonstrated in (13) by *just*, where the implication would appear to be that being friends is a lower value on the relationship scale than being someone’s girlfriend.

- (13) *So if Walter thinks you’re his girlfriend, tell him you guys are **just friends**.* (COHA 1989)

A number of terminologies, categories, and subcategories have been suggested for focus markers, such as non-conjunctive vs conjunctive, restrictive vs additive, exclusive vs inclusive, and particularization (see Quirk et al. 1985, 604, König 1991, Nevalainen 1991, 55, Ghesquière 2017, 35 for different

classifications). Nevalainen (1991, 151–4) classifies *just* both as a particularizer and as an exclusive focus marker (these for her being two subtypes of the so-called restrictive focus markers). Since these are the functions of *just* found to be used with *so*, only these two focus categories will be discussed in more detail.

As already briefly mentioned in Section 1, *just* stems from the French adverb *juste*, it enters English at around 1400, and in the ensuing Late Middle English period (*ca.* 1400–1500) it began to be used as a so-called particularizer with the meaning ‘exactly,’ ‘precisely,’ and ‘particularly’ (Nevalainen 1991, 151). Particularizers are in essence non-contrastive and non-scalar, although alternative values may be implied and the element in focus is emphasized as the paradigm example or value in the implied set (Ghesquière 2017, 35). This non-contrastive behaviour is a feature distinguishing them from exclusive focus particles (see below). In general, particularizers are considered to be non-truth-conditional (Nevalainen 1991, 58). Example (14) illustrates the particularizer *just*, used to identify precisely the right person to organize the games and implying that there are potentially other candidates for this position as well.

(14) *Leo will be **just** the one to get games organized.* (Ghesquière 2017, 35)

Just developed its exclusive function after the particularizer function, in the middle or at the end of the seventeenth century (Nevalainen 1991, 58, 151–2). *Only* is the paragon of the exclusive focus marker category, but other exponents, next to *just*, include *simply*, *barely*, and *merely* (Nevalainen 1991, 123–62). Similar to particularizers, exclusive focus markers restrict the focused element, but in a somewhat different way in that they contrastively evoke a focus value, exclude any values higher than this value or any alternative values (Ghesquière 2017, 35; see also Nevalainen 1991, 59) and are truth-conditional (König 2017, 26). In (15), *just* excludes anyone else from taking the stage that evening, in this case the expected opening act.

(15) *There was no opening act, **just** Bruce listed at 7:30 pm.* (COCA 2012)

There are two exclusive focus marker subtypes: scalar and non-scalar (or categorical) (König 1991, 95–6, Nevalainen 1991, 59–64). The scalar exclusive locates the focused referent on a scale, as in (16), where being a plumber is located toward the bottom of a social scale. Similarly, in (13) above, the status of being just friends marks the bottom of an implied relationship scale which potentially includes friends with privileges, a relationship, or marriage. In the non-scalar or categorical use, a focus value is singled out and all other alternatives are excluded (Ghesquière 2017, 35). This has already been demonstrated in (15), where expectations are negated.

(16) *He is **just a plumber**.* (König 1991, 96)

König (1991, 116, 118) makes another distinction within the exclusive class between the ‘only’ use in (17a) and the ‘simply/emphasis’ use of *just* in (17b) (see also Nevalainen 1991, 153). The ‘only’ reading is only possible when “the value denoted by the context can be identified as a medium or low value on some scale,” *i.e.* the scalar exclusive; in contrast, the ‘simply’ use has “an emphatic effect” and is only possible when “the focus of *just* denotes an extreme value on some scale” (König 1991, 118). Both of these exclusive uses as well as the particularizer function of *just* play a role in the analysis below.⁴

⁴ It should be noted that Nevalainen (1991), Traugott (2006), and Ghesquière (2017) assume that *just* is polysemous, whereas König (1991, 116–9) argues that *just* has one metalinguistic meaning that manifests itself differently in different linguistic contexts. We do not take an explicit stance concerning this issue, since that is not the main focus of this article. However, since we argue in Section 5 that *just* shifts from being a lexical operator at the Subact of Ascription layer to the Communicated Content layer on the IL to being a lexical operator of the State-of-Affairs on the RL, we would appear to follow a polysemy approach.

- (17) a) *I **just** want two apples.*
 b) *That's **just** marvellous.*
 (König 1991, 116)

In sum, previous literature has classified the adverb *just* as a focus particle with a number of functions: as a particularizer meaning ‘exactly,’ and later as an exclusive focus particle meaning, first, ‘only’ and then ‘simply.’

3 Methods

The study presented in this article is a qualitative analysis based on the data from a more extensive quantitative analysis of the subordinator *just so*, using the *Corpus of Historical American English* 1810–2010⁵ (COHA; Davies 2010) and the *Corpus of Contemporary American English* 1990–2014⁶ (COCA; Davies 2008) (Kaltenböck and ten Wolde 2020a,b, 2022). To some extent, the present study must discuss the historical development of *just so*, and for this purpose, we primarily draw examples from the COHA dataset. However, for the more recent pragmatic marker development, the COCA data are used as well.

The initial problem in the data collection was separating *just so* in relation to a clause (*I visited grandma just so she had some company*) from intensifier instances (*just so good*). This was accomplished by conducting four different searches, namely *just so* plus the following word classes: noun, pronoun, article, and determiner, i.e. *just so* + NOUN, *just so* + PRONOUN, etc. The subsequent results were then manually weeded, and examples where *just so* functioned as a complex adverb phrase (with *so* as a degree modifier) were set aside; this resulted in a dataset of 655 tokens of *just so* introducing a clause in COHA.⁷ Each token was double coded for the function of *just so*: primarily manner, purpose, condition, and unclear. These data were the basis for the analysis of *just so* of manner (Section 5.1) and its use as a subordinator (Section 5.2). The pragmatic marker data analysed in Section 5.3 were extracted by searching for *just so you know* in COHA and COCA. *Just so you know* has 29 tokens in COHA and 1,050 in COCA. The tokens were coded for syntactic position (initial, medial, and final) and function.

Before turning to the actual analysis, we should address two caveats. First, COHA and COCA were used, not because the combination under scrutiny is felt to be a particular phenomenon in American English, but because COHA is the largest historical corpus with data from the nineteenth century, the critical period when the subordinator *just so* arose, and COCA is one of the largest modern-day English corpora, and unlike the NOW corpus, which is larger, COCA contains a number of different genres. Second, the language data from the significant nineteenth century are predominantly from written texts (although some of these mirror spoken language, such as dialogue in fiction); real spoken data from TV shows (e.g. talk shows) and movie data first enter the corpus in the 1930s. However, both *just* and *so* have been attributed predominantly to speech: *so* was and still is considered to be an informal feature of spoken discourse (Tagliamonte and Roberts 2005), and *just*, unlike the vast majority of focus markers, is likewise preferred in speech (Chafe 1985, 119, Nevalainen 1991, 76). Therefore, we are hesitant in interpreting first attestations in our dataset as being representative of the exact date when this phenomenon actually appeared in English and, as a consequence, tend to be imprecise in our temporal estimates. With these cautionary notes in mind, we now turn first to a short introduction to FDG and some key concepts that we use in the analysis, and then to the story of *just so* and its analysis within FDG.

⁵ This is also an earlier version of COHA pre-2021.

⁶ This is before the March 2020 update.

⁷ This does not include cases of *just so* with an explicit subordinator, i.e., *just so that*.

4 A short introduction to FDG

As discussed in Keizer, Schwaiger, and ten Wolde (2022), FDG's Grammatical Component consists of four levels of analysis which are vertically related in a top-down fashion. In the Formulation of an utterance, this comprises the topmost IL, which contains the pragmatic information included in the message, and the following RL, which deals with the semantic aspects of the utterance. The operation of Encoding then takes the information from both the IL and the RL and transforms it, first, into morphosyntactic and, second, into phonological representations on the Morphosyntactic Level (ML) and the Phonological Level (PL), respectively.⁸

Furthermore, each of the FDG levels is internally structured into a hierarchy of horizontally related layers, whereby an inner (or lower) layer may restrict an outer (or higher) layer in that the former acts as the head of the latter. The outermost layer of the pragmatic IL is the Move (M), which consists of one or more Discourse Acts. A Discourse Act (A), constituting the central linguistic unit of analysis in the theory, is itself made up of an Illocution (F), the Speech Act Participants of Speaker (P_S) and Addressee (P_A), as well as of a Communicated Content (C). The latter includes Referential (R) and Ascriptive Subacts (T) corresponding to the referents and properties evoked during a Speaker's act of communication. On the semantic RL, the outermost layer is formed by a truth-conditional Propositional Content (p), which itself may consist of one or more Episodes (ep), which in turn consist of two or more States-of-Affairs cohering in terms of temporal, spatial, and participant specifications. A State-of-Affairs (e) is made up of a Configurational Property (f^c) containing a predicate and its arguments. Here, a versatile further layer is the innermost Lexical Property (f), which provides the (typically verbal) predicate lexeme as well as the (typically nominal) head lexemes for its Individual (x) arguments. Next to this category of Individuals, Lexical Properties may moreover head other semantically specific layers like Location (l), Time (t), Manner (m), Quantity (q), or Reason (r).⁹ On the other hand, these layers may also lack a head, in which case such absent heads will appear as deictics, question words, or proforms at the ML (Hengeveld and Mackenzie 2008, 249–50, 258, 265, 269, 272–3). The ML, in contrast to the IL and RL, is purely formal in being concerned with linearizing the information received from the higher levels, and it hierarchically and recursively comprises layers like the Linguistic Expression (Le), the Clause (Cl), as well as different Phrases (Xp), Words (Xw), Stems (Xs), Roots (Xr), and Affixes (Aff).

Finally, each layer at the IL and RL, with the general format $(\pi v_1: \text{head } (v_1): \sigma(v_1))_\varphi$ (the variable symbol v representing any layer), can be further specified by modifiers (σ), expressed by lexical means, and operators (π) or functions (φ), both expressed by grammatical means. That there are also linguistic units in between the lexical and the grammatical is recognized in FDG by the use of lexical operators and lexical functions, *i.e.* expressions which can be focalized but not modified (*e.g.* demonstratives, conjunctions, or auxiliaries). The next section will demonstrate how these elements come into play in an FDG analysis of *just so*.

5 The *just so* story in FDG

The exact beginning of the *just so* story is not completely clear. Next to the constructions involving manner and subordination that are treated here in more detail, another early use of *just so* appears to some extent in complex adverb phrases where *just* is modifying the degree intensifier *so*. However, it is uncertain if this form has any link to the manner and subordinator uses of *just so* and for the moment has thus been left out

⁸ The analyses presented in this article do not include the lowermost PL since this level plays only a peripheral role in the phenomena at hand. But see Kojadinović (2022) for a treatment of English illocutionary adverbs which also includes their prosody.

⁹ See also Giomi (2022) for the semantic categories of Manner and Quantity, and for Quantity alone see also Keizer (2022).

of the discussion.¹⁰ Nevertheless, it is obvious that in some contexts there can be an overlap between the manner and the modified degree readings. In (18), for example, *so* could function either as an intensifier, emphasizing the size of the sun and moon, or the speaker could be exophorically referring to an accompanying gesture, indicating the size with a deictic *so* pointing to something in the communicative situation.

- (18) *the sun and moon were but **just so big**, and every star, as they appeared unto us, and our eyes...*
(EEBO 1672)

To avoid such complications, this article will focus on the clearer developmental stages, first treating *just so* in manner constructions before turning to the subordinator and, finally, the pragmatic marker uses.

5.1 *Just so* of manner

The manner use of *just so* is the most frequent form found at the beginning of the nineteenth century and, therefore, is considered to be the earliest function of this combination (together with the intensifier use not treated here). *Just so* of manner is often (but not necessarily) positioned clause-initially and seems to mainly serve the function of anaphorically referring back to portions of discourse of varying magnitude as exemplified in (19a) and (19b).

- (19) a) *Mr. B. perceived this, he, with his characteristic calmness and resolution, gave up his hold of his son, and, motioning to him to save himself, resigned himself to his fate. His son reached the shore, but was too much overwhelmed by his loss to leave it. [...] “The body was found, and **on the countenance was the sweetest smile**; and Bradford said, ‘**just so** he smiled, upon me when he let go and pushed me away from him.’”* (COHA 1856)
- b) *The original fountains may be remote and unknown; but the river laves our fields, and passes by to diffuse its treasures among other regions; and even if its waters are lost to our sight by evaporation, they descend again in showers to embellish and fructify the earth in a thousand forms. **Just so** it is with intellectual treasures. Very few persons now read the works of Aristotle, and not many those of Bacon: but the wisdom which they first taught, or perhaps collected, is now spread far and wide by numerous modes of diffusion, and is incorporated into the minds of thousands who know nothing of its origin...* (COHA 1824)

In (19a), *so* links the sweetest smile seen on Mr. B.’s dead face to that of his final smile, meaning he smiled in the same manner. In (19b), *so* metaphorically links the picture of the distribution of water over a region to the distribution of knowledge among people, meaning either in ‘the same way’ or ‘in the same manner.’

In connection with this manner use of *so*, *just* functions as a particularizer meaning ‘exactly’ or ‘precisely’ (Section 2.2). Particularizers of this kind express what Dik et al. (1981, 66) have called restricting focus within Functional Grammar (FG), FDG’s predecessor theory, and work by either identifying or specifying the element in focus, particularly in terms of its validity (Nevalainen 1991, 6, 58; see also König 1991, 117).¹¹ *So* in its meaning ‘like this/that, (in) this/that way’ (Giomi 2020, 140, 178) has been formalized in FDG as a unit of the semantic category Manner with an absent head (m_i) on the RL, corresponding to a Referential Subact (R_i) with an identifiability (+id) and specificity (+s) operator (*i.e.* a referent identifiable for both the speaker and the hearer; Hengeveld and Mackenzie 2008, 122) on the IL and inserted as a proform on the ML:

¹⁰ An FDG analysis of the degree word *so* can be found in García Velasco (2013, 89–92).

¹¹ Compare also the following component in Wierzbicka’s (1986, 598) definition of *just* and its impact on the focal unit: “‘X’ and not something other than ‘X,’ is a good word to say about it.”

- (20) IL: (+id +s R_I)
 RL: (m_i)
 ML: so (adapted from Hengeveld and Mackenzie 2008, 265)

Furthermore, *just* has been classified as a grammatical particle by Hengeveld and Mackenzie (2008, 401, Table 8) or as a grammatical(ized) interpersonal adverb by Keizer (2018, 75), and it is analysed as a (lexical) interpersonal grading operator by Giomi (2020, 302, 328, 2021, 217). Combining different aspects of these earlier proposals, we represent the relevant levels and layers of the underlined segment in example (21) as in (22):

- (21) (Context: how to stow an umbrella) *Then, with finality, roll the strap the right way, and snap the snap just so*. (COHA 2002)
- (22) IL: (C_I: [(T_I) (R_I) (**just** +id +s R_J)] (C_I))
 RL: (e_i: (f_i: [(f_j: snap (f_j): (**m**_i) (f_j)) (x_i)_A (x_j: (f_k: snap (f_k)) (x_j))_U] (f_i)) (e_i))
 ML: (Cl_i: [(Vw_i: snap (Vw_i)) (Np_i: [(Gw_i: the (Gw_i)) (Nw_i: snap (Nw_i)) (Np_i)) (Adv_p_i: [(Gw_j: **just** (Gw_j)) (Gw_k: **so** (Gw_k))] (Adv_p_i))] (Cl_i))

Essentially, this is a split analysis of *just so* between IL and RL, with *just* as a lexical operator at IL applying to an identifiable and specific Referential Subact (R_J) – arguably as a sort of exactness marker in the sense of Hengeveld and Keizer (2011) – which in turn corresponds to a Manner modifier with an absent head (m_i) at RL.¹² Applying Hengeveld’s (2017, 31) distinctions and criteria (based on Keizer 2007), *just* has been classified as a lexical operator because it apparently can take focalization stress (e.g. *snap the snap JUST so*) but does not seem to be modifiable. Although examples with adverb modifiers can be found in the corpus, it is more likely that these modify *just so* together, i.e. the whole State-of-Affairs, instead of *just* by itself, as exemplified in (23).

- (23) A: “...Dear me, how confused everything is to-day!”
 B: “It is **always just so**, Sundays,” said John...
 (COHA 1843)

Furthermore, the absent head in (22) modifies the predicate (f_j) of the Configurational Property (f_i) (see also Hengeveld and Mackenzie 2008, 266) and is expressed by insertion of a proform *so* at ML. However, this analysis suggested by the existing literature calls for some refinement and, therefore, what follows is our preferred analysis.

At IL, it is not entirely clear that what is involved is indeed a Referential Subact or whether a second Ascriptive Subact (T_J) could possibly be involved instead. In other words, it seems difficult to conceive of the way in which something is (supposed to be) done as evoking an entity instead of a property. In fact, Hengeveld and Mackenzie (2008, 121) themselves state that “not all anaphora involves Referential Subacts,” a point already made more forcefully in Mackenzie’s (1997) study of English *such* within the earlier FG framework: “The antecedent of anaphoric *such* would appear never to be an entity, but rather a property of one or more of the entities involved in the textual world” (Mackenzie 1997, 92). For *such*, this pertains to antecedent nouns in predicate position (e.g. *He was a genius but not recognized as such*) as well as adjectives. Moreover, the author interestingly notes that adjectival properties can also be anaphorically referred to by *so* and that the latter expression is the only option for establishing an anaphoric relation to verbal properties, as in *Do not accept anything as true unless you know it to be such/so* in comparison with *Bill was sleeping and so/*such was Fred* (Mackenzie 1997, 92). From an FDG perspective, Ascriptive Subacts are the

¹² This would seem congruous with the claim that the class of words to which *just* belongs “does not modify a phrasal element semantically by contributing to its descriptive meaning. Instead it selects or focuses on the clause element and relates it to the rest of the discourse in a given way. The interpretation of the clause then depends on the focused element, the context, and the semantic type and scope of the focusing adverbial” (Nevalainen 1991, 6, 54).

IL counterparts of Properties and thus the proper locus for the lexical operator introduced in (22) above to apply in the following way:

$$(24) \text{ IL: } (C_I: [(T_I) (R_I) (\text{just } T_I)] (C_I))$$

Representing Manner as an Ascriptive Subact rather than a Referential Subact in (24) means that the +id +s specifications do not apply, since these are not operators of the ascription layer. As Hengeveld and Mackenzie (2008, 36) equate identifiability with definiteness, this seems to match up with “the ‘indefiniteness’ of *so* (in its anaphoric use)” (Cornish 1986, 96, referring to Cushing 1972, 186–7). But the question now is what exactly is evoked by this Ascriptive Subact? In this regard, it is helpful to differentiate between explicit and implicit anaphoricity. Explicit anaphors work exclusively within the Grammatical Component by introducing a dedicated expression which is co-referential with an antecedent predicate expression that has been mentioned earlier (see also Mackenzie 1997, 92). This can be formalized in FDG by co-indexation of the relevant variables at the RL. For implicit anaphoricity, which seems especially relevant for *just so*, “there is no predicate or predicate complex which could function as an antecedent” (Mackenzie 1997, 94). Here “the grammar clearly interacts with elements of the textual world that is gradually being constructed,” for the formalization of which “a representation of that textual world, and feedback to the grammar, is an essential requirement” (Mackenzie 1997, 103). This gradual building-up of a textual (or discursual) world and its ongoing feedback interaction with the grammar is provided for in FDG by the Contextual Component (a separate component interacting with the Grammatical Component), which appears to be crucial in establishing implicit anaphoric links *via* inferences over longer stretches of discourse, as well as exophoric links directly anchored in the discourse situation (see also Mackenzie 1997, 90, 93–6). This is underscored in the following conclusion drawn by Cornish (1986, 31): “The basic function of anaphora is a discourse one: namely, that of referring to a discourse referent already present within the speaker’s discourse model, or of actually creating one, via an inference on the addressee’s part, on the basis of the discourse context.” Thus, it could be argued that what the Ascriptive Subact (T_I) in (24) evokes is directly fed by such inferences from the Contextual Component.¹³

At RL, there are also the alternatives for the absent Manner head to modify the whole State-of-Affairs or Configurational Property, as in (25a) and (25b), respectively. Although these different attachment points would be expected to show different semantic behaviours of the Manner modifier (Hengeveld and Mackenzie 2009, 208–9), this does not seem to seriously impinge on the rest of the analysis that we propose.

$$(25) \text{ a) RL: } (e_i: (f_i^c: [(f_j: \text{snap } (f_j)) (x_i)_A (x_j: (f_k: \text{snap } (f_k)) (x_j))_U] (f_i^c)) (e_i): (\mathbf{m}_i) (e_i))$$

$$\text{ b) RL: } (e_i: (f_i^c: [(f_j: \text{snap } (f_j)) (x_i)_A (x_j: (f_k: \text{snap } (f_k)) (x_j))_U] (f_i^c): (\mathbf{m}_i) (f_i^c)) (e_i))$$

At ML, *so* being a proform triggered by an absent head at RL is analysed as a Grammatical Word, similarly to *just* being triggered by a lexical operator at IL. Both are then part of an adverb phrase as in (22).

5.2 *Just so* as subordinator

Just so as a subordinator has not been discussed in detail in the literature, being only briefly mentioned in Quirk et al. (1985, 1089) and Kortmann (1997, 315–6) (but see now Kaltenböck and ten Wolde 2020a,b, 2022). Although not as frequent as the older subordinator *so* (*that*), the different subordinating functions of *just so* raise a number of issues about the development of these subordinators and the way they interact with their modifiers. *Just so* develops two separate subordinating functions: purpose, which will be discussed first, and condition, which will be discussed second.

¹³ For the interaction between the Contextual Component and the RL in the construction of entity descriptions through further specification by modifying expressions, see García Velasco (2022).

5.2.1 *Just so* purpose

The subordinator *just so* signalling purpose appears around the mid-nineteenth century in COHA (see example (26)) and is the most dominant subordinating function of *just so* in (informal) PDE. Its analysis is somewhat problematic because *so* by itself still functions as a subordinator indicating purpose. Therefore, it is most likely that this construction is semi-compositional in that *so* signals purpose and *just* functions as a focus marker (but in this case of the exclusive kind; see Section 2.2). However, we say *semi-compositional* because, considering all the focus markers, there is a strong collocational preference specifically between *just* and *so*.¹⁴

- (26) “[...] *I don’t want to uhge you; but I do want to carry away the picture, in my mind’s eye – what you may call a mental photograph – of this slipper on the kind of a foot it was made fob, so’t I can praise it truthfully to my next customer. What do you say, ma’am?*” he addressed himself with profound respect to Clementina. “*Oh, do let him, Clem!*” said one of the girls, and another pleaded, “***Just so*** he needn’t tell a story to his next customa,” and that made the rest laugh. (COHA 1848)

Diachronically, *so* developing into a conjunction with a purpose meaning from its earlier manner use seems to be a plausible scenario, probably involving the process which, for FDG, Giomi (2020, 120–1) has termed “Discourse Act integration” (but see also Section 2.1 for König’s non-FDG analysis of the development of condition *so*) of two separate Discourse Acts (A_1) and (A_2) into a single one (A_1), and which “is often – though not necessarily – accompanied by primary or, especially, secondary grammaticalization of a specific element of the construction” (Giomi 2020, 121), demonstrated in (27).¹⁵

- (27)
- | | |
|--|--|
| (A_1) | (A_2) |
| e.g. <i>We need to have kids.</i> | <i>So</i> (‘in this way’) <i>I can justify the toys.</i> |
| (A_1) | > (A_2) |
| e.g. <i>We need to have kids.</i> | <i>So</i> (Purpose) <i>I can justify the toys.</i> |
| | > |
| | (A_1) |
| e.g. <i>We need to have kids so</i> (Purpose) <i>I can justify the toys.</i> | |

Now, *just* very likely began to modify the already prevalent *so* purpose subordinator, whereby the focus marker in this combination does not seem to allow for the particularizing ‘exactly, precisely’ reading it has with manner. But one and the same example can sometimes have two different exclusive readings, either ‘only’ or emphatic ‘simply’ (see Section 2.2), as demonstrated in (28).¹⁶ One can read this as the *only* purpose he had for buying the Giants was so that he could sit on the bench and fire Cooper; in that case, the speaker says that these are the lowest possible extremes on a scale of all the potential reasons to buy a team. However, one could also choose the more emphatic ‘simply’ reading of *just*; here, the speaker means that these are the only two reasons and eliminates all conceivable alternatives, a non-scalar exclusive use similar to example (17b) above (see Tottie (1986, 99), who also remarks on the overlap of these two meanings of *just*).

- (28) *as he says, he would buy the Giants from DDD and F just so he could sit on the bench and fire Shoat Cooper.* (COHA 1972)

¹⁴ The more frequent exclusive focus marker *only* would appear to be the strongest contender as an alternative for *just*, but has merely 29 instances in COHA compared to 528 instances with *just*.

¹⁵ The possibility of a similar development of integration is mentioned for *if*-clauses in Kaltenböck and Keizer (2022).

¹⁶ We would like to thank Evelien Keizer for pointing out the alternative ‘simply’ reading of this example to us.

Example (29) is similarly ambiguous in this regard, and we accordingly propose (30) and (31) as the two respective FDG analyses (where dashes indicate that a layer could be further analysed but that this is not necessary for the present discussion):¹⁷

(29) ...we need to have kids **just so** I can justify the toys. (COHA 2004)

(30) IL: (M_I: [(A_I: (F_I: DECL (F_I)) (P_I)_S (P_J)_A (C_I: [...] (C_I)) (A_I))
(A_J: (F_J: DECL (F_J)) (P_I)_S (P_J)_A (**just** C_J: [...] (C_J)) (A_J))] (M_I))

RL: (ep_i: –we need to have kids– (ep_i): (ep_j: –I can justify the toys– (ep_j))_{PURP} (ep_i))

(31) RL: (ep_i: –we need to have kids– (ep_i): (**just** ep_j: –I can justify the toys– (ep_j))_{PURP} (ep_i))

As reflected in these representations, purpose clauses, like other adverbial clauses, are dependent on and optional additions to their main clauses (see Hengeveld and Wanders 2007, 210). As a marker of purposive subordination, *so* cannot receive focalizing stress ([?]*We need to have kids just SO I can justify the toys*), and if it can be modified at all, then the modification is primarily restricted to a few focus markers like *even*, *only*, and, naturally, *just*, next to a few other adverbs. However, it is possible that these modifiers have scope over the whole clause, as in example (32), where *really* may express the speaker's epistemic uncertainty over Desmond's purpose (*just so he could meet Jack*).

(32) *Why did Desmond run Locke over – really just so he could meet Jack?* (COCA 2012)

That is, in line with its apparent grammaticalization, the *so* element is represented in both analyses (30) and (31) as a Purpose function characterizing an Episode which in turn modifies the layer corresponding to the main clause (see Hengeveld and Mackenzie (2008, 171) as well as Giomi (2020, 149–50) on *in order to*; more generally, see Hengeveld and Wanders 2007, 218). In comparison to our manner analysis in Section 5.1, the relevant scope relations in diachrony would thus show an expected increase (see also Keizer, Schwaiger, and ten Wolde 2022) from within (or at) the Configurational Property layer (*so* as a Manner variable with an absent head) to the Episode layer (*so* as a semantic function): (f₁^(c)): (m₁) > (ep₁)_{PURP}.

Note that, according to Giomi (2020, 148, Tables 8 and 9, the latter based on Hengeveld 2017), FDG hitherto only allows modifiers of purpose to occur higher than the State-of-Affairs, and then only up to the Episode layer (as in (30) and (31) above), whereas the respective purpose function is restricted to the State-of-Affairs layer (unlike in (30) and (31) above). However, at least for now, we do not see why Purpose as a function on a higher layer like the Episode should be excluded as not possible or undesirable in the theory.

Moreover, it should be pointed out that Hengeveld and Mackenzie (2008, 161–2) introduce another semantic function, namely that of Consequence, for representing certain other occurrences of *so* (*that*). But this appears to be more akin to a use of *so* (*that*) treated elsewhere as result (Section 2.1), *i.e.* as a completed, unintended event described in the subordinate clause following as a logical consequence from the event denoted in the main clause, a reading which is crucially almost completely excluded for the *just so* data from COHA and thus not immediately relevant for our analysis.¹⁸

Perhaps more controversially, in (30) *just* 'simply' remains at the IL but moves from the layer of the Ascriptive Subact to the layer of the Communicated Content within a Discourse Act of its own,¹⁹ corresponding to the purpose clause at RL (in which case we would also see an increase of scope of the lexical operator at the IL in relation to our manner analysis in Section 5.1). Furthermore, in (31) we now represent *just* 'only, merely' as a lexical operator at the RL, specifically applying to the whole Episode modifying

¹⁷ An alternative analysis has been suggested to us by Evelien Keizer, namely to have *just* remain on the IL for both purpose subordinator usages and to distinguish between the two with an Emphasis operator.

¹⁸ There are very few more recent *just so* examples in COHA that could be interpreted as a result, for example, the following: *Ten years of hard-core training at taxpayers' expense, just so I could play mind reader in Where-the-hell, Nevada* (COHA 2002).

¹⁹ An alternative also worth considering might be to allow one Discourse Act to contain more than one Communicated Content, similar to what is proposed by Olbertz (2022).

another Episode for Purpose. This seems necessary in view of the fact that *just* seemingly has semantic, *i.e.* representational, import when used in this specifically non-evaluative purpose conjunction constellation.²⁰ Thus, in the ‘only’ reading of (29), the element *just* can be negated, as seen in (33) and (34). In (33), (33a) entails (33b) and (33c), and it is the (33c) reading that gets negated should the statement be challenged as in (34).

- (33) a) *We need to have kids just so I can justify the toys.*
 b) *We need to have kids so I can justify the toys.*
 c) *The only reason we need to have kids is to justify the toys.*
- (34) A: *We need to have kids just so I can justify the toys.*
 B: *No, that’s not true. We also need to have kids so my mother can be a grandmother.*

Diachronically, grammaticalization theory would predict a shift from RL to IL. However, the shift implied here of the lexical operator from IL to RL might be less of a problem for FDG if the second construction evolved through an integration of erstwhile separate Discourse Acts (see above), a process which has been claimed to sometimes “involve a *decrease* in the semantic or pragmatic scope of a grammatical element of the Formulation levels” (Giomì 2020, 121; original emphasis; see Giomì 2020, 121–2 for examples of IL-to-RL shifts).²¹ In this regard, it is moreover tempting to view constellations like (30) as the diachronic source of constellations like (31), whereby the latter would then correspond to a single Discourse Act at IL:

- (35) IL: (M_I: (A_I: (F_I: DECL (F_I)) (P_I)_S (P_I)_A (C_I: [...] (C_I)) (A_I)) (M_I))
 RL: (ep_i: –we need to have kids– (ep_j: (**just** ep_j: –I can justify the toys– (ep_j))_{PURP} (ep_i))

But why is it that *just so* is selected as a marker of purpose? There are several reasons why the combination of *just so* for purpose might be preferred to *so* or *so that*, such as informality and semantic precision. First, it offers an informal alternative to *so that* and even more elaborate and formal purpose subordinators like *in order to* and *with the purpose/aim/intention to*. In addition, the narrowing down of *just so* to a single function conforms with a general trend toward semantic specialization in which adverbial subordinators tend to decrease polyfunctionality and increase semantic precision in the history of English (Kortmann 1997, 315): *so* is highly polysemous, including a number of discourse marker functions as well as functioning as an intensifier and proform, and *so that* can indicate both purpose and result (Quirk et al. 1985, Kortmann 1997). *Just so* as a subordinator is now primarily used to indicate purpose (for further discussion of this point see Kaltenböck and ten Wolde 2022). However, before purpose became the dominant function of the *just so* subordinator at the end of the twentieth century, it was also frequently used as a condition subordinator (Kaltenböck and ten Wolde 2022).

5.2.2 *Just so* condition

In our corpus data, *just so* signals a sufficient condition (‘x is enough’),²² meaning ‘as long as’ (Quirk et al. 1985, 1093, Huddleston and Pullum 2002, 1134), and this use appears 40 years after the first *just so* purpose tokens (the first purpose instance is found in the 1840s, shown in example (26), the first clear condition in the 1880s as shown in example (36)).

²⁰ In this respect, *only* as a focus marker also differs from other focus markers: in examples like *John only phoned Mary*, *only* clearly is truth-conditionally relevant, since challenging the truth of this sentence “does not deny the fact that John had phoned Mary but only the implication that he had phoned nobody else” (Nevalainen 1991, 57).

²¹ Scope decrease in connection with the lexicalization, as opposed to grammaticalization, of the American Spanish interpersonal adverb *dizque* is treated by Olbertz (2022).

²² As opposed to necessary condition (‘x is required’).

- (36) DEVINE. MRS. DEVINE. *Jealousy is borne of an instinctive knowledge of this truth.*
 CARROTS. CARROTS (Starts, comes back.) *Hey?*
 DEVINE. MRS. DEVINE. – *You don't understand?*
 CARROTS. CARROTS *No; that's all Modoc to me.*
 DEVINE. MRS. DEVINE. – *Well, you will understand some time. So run along, now I am sad, and must sit and think.*
 CARROTS. CARROTS *All right! Just so you don't think of Belle.*
 (COHA 1888)

So alone by this time no longer functions as a condition subordinator, as mentioned in Section 2.1. However, the *just so* conditional construction may have begun with *just* as a focus marker that came to modify conditional *so* before this latter use was lost. (Needless to say, at this point this is all rather speculative and a larger diachronic study would need to be conducted to answer this question more definitively.) In the PDE instances of these constructions, *just* no longer seems to be a focus marker: it cannot be substituted by any of the different meanings ascribed to it, e.g. 'precisely,' 'only,' 'simply,' or 'barely' (see König 1991, 116–7), as demonstrated in (37). However, this does not mean that it could not have been a focus marker at a time when *so* alone could denote condition, and it still functions as a focus marker in combination with PDE conditional subordinators as shown in example (38).

- (37) a) “*This doesn't have to be art. Just so it looks like him.*” (COHA 1993)
 b) “*This doesn't have to be art. *Precisely/? Only/*Simply/*Barely so it looks like him.*”
 (38) *I don't care! Just as long as you call me.* (COCA 2012)

Therefore, we see two possible paths for the development of condition *just so*. The first, and maybe less likely one in terms of diachronic motivation, is that the condition subordinator stems directly from the compositional *just so* purpose subordinator (Section 5.2.1). In this case, *so* no longer signals purpose and *just* is no longer a focus marker, but both together constitute a non-compositional condition subordinator. This would indicate that *just* and *so* in this specific combination form what has been called a complex grammatical conjunction (Hengeveld and Wanders 2007, 213). Such an analysis is supported by the fact that neither element can be deleted, as demonstrated in (39b), and *just* can no longer be substituted by another focus marker, as already shown in (37b) above (but see also Pérez Quintero 2013, 104, who argues that all subordinating conjunctions should be analysed as lexical in FDG).

- (39) a) “*Faith, Sidony, I don't care how the man arrives, just so he does,*” ... (COHA 2006)
 b) **I don't care how the man arrives, so he does/*I don't care how the man arrives, just he does...*

As straightforward as this account may appear to be, when considering the historical data an alternative, and perhaps more plausible, scenario must also be considered. This second path would have to assume that *so* condition still existed when *just* began to be used with this simple subordinator. This in turn would mean that the condition subordinator could have initially been compositional after all: *just* + *so*, similarly and in parallel to the *just so* purpose subordinator; only when *so* lost its condition function did the surviving *just so* condition become non-compositional.

If *just so* condition was indeed compositional in its initial use in the eighteenth or nineteenth centuries, what might have been the exact function of *just* in this construction?²³ The most likely interpretation in this

²³ Interestingly, *just*, like *only*, can indicate necessary condition as in (i). However, this reading is only possible when *just* has narrow scope as in (ii), where it only scopes over the noun phrase. With a wide scope reading over the whole clause, it would be ungrammatical, as demonstrated in (iii) (Nevalainen 1991, 72–3). Therefore, this condition function of *just* does not seem to play a role in the *just so* subordinator construction.

(i) *Only/Just twenty pounds would solve my problems.*

(ii) [*Only/Just <twenty pounds >*] *would solve my problems, I need as little as that.* (narrow scope reading)

case would be the non-scalar ‘only’ use of *just* in (40): ‘only as long as I don’t look untidy’. The reason for this would lie in the semantics of the condition subordinate clause itself: it fulfils the minimal condition for the main clause to be acceptable. In other words, the subordinate clause denotes a lower or the lowest value on a scale of possible outcomes that would be acceptable to the speaker. In example (40), the speaker’s condition is that he does not look untidy and can move his jaw; furthermore, the assumption is that this condition is fulfilled.

- (40) RUTHERFORD *Oh, does it hurt so? It is a bad cut. I’m glad I had these things. Hold still. The only way the bandage seems to fit is this way. (Putting it under his chin and over his head.) I haven’t got any more of those pins. You don’t mind, do you?*
 STERN **Just so** *I don’t look untidy. (Trying to move his jaw.) And give me a little jaw action, if you don’t mind, that’s all I ask.*
 (COHA 1918)

Thus, an FDG analysis for condition *just so* in (41) would look like (42), where the fact that *just so* is no longer compositional is reflected in the respective Condition function at RL, which characterizes an Episode that in turn modifies a Propositional Content:²⁴

- (41) *It [your grip] isn’t important, just so it works.* (COHA 1958)

- (42) RL: (p_i: –It isn’t important– (p_i): (ep_i: –it works– (ep_i))_{Cond} (p_i))

As to the different implications of this analysis for the two possible scenarios of development outlined above, the first pathway would pose the question from which purpose use of *just so* the condition use arose: from ‘only, merely’ or from ‘simply’? The first case would be less problematic, since it would entail a change of fusing an RL lexical operator with the Purpose modifier it previously applied to, yielding a function Condition: (just v₁)_{Purp} > (v₁)_{Cond}.²⁵ In the second case, we would need an IL lexical operator to fuse with the Purpose function on RL, once again suggesting the integration of separate Discourse Acts. For the second pathway scenario, we can hypothesize an earlier stage in which *just so* condition was still compositional, and since we have argued above that this would have most likely involved *just* in its scalar ‘only’ meaning, this previous stage could be represented in the following way:

- (43) RL: (p_i: –It isn’t important– (p_i): (**just** ep_i: –it works– (ep_i))_{Cond} (p_i))

Diachronically, we would here then again find the relatively unproblematic fusion of an RL lexical operator, though now with the Condition modifier it previously applied to, taking over once so as a condition conjunction on its own disappears.

5.3 Pragmatic functions of *just so*

In the mid-twentieth century, some *just so* purpose subordinate clauses developed a purely interpersonal use, as demonstrated in (44)–(46). In these examples, the subordinate clause no longer denotes the purpose

(iii) [*Only/*Just <twenty pounds> would solve my problems*], *any smaller amount would not help.* (wide scope reading) (revised example from Nevalainen 1991, 73)

²⁴ One problem with this kind of representation is that it would seem to be the same as for the condition subordinator *as long as*, which can still be combined with *just* (see example (38)). While we acknowledge that this would merit further research into different forms of condition clauses in English, our main aim here is to highlight the non-compositional nature of the respective *just so* subordinator in relation to other uses of combining the elements *just* and *so*.

²⁵ For the moment, we leave out the additional complication of the relevant layers involved, hence use the general layer variable symbol (v).

of the action in the main clause, but now provides the motivation for a request (44), extralinguistic action (45), query (46a), or statement (46b). Essentially, (44) is a subordinate clause linked to an ellipted main clause, saying [*I am requesting that you tell me the rules*] *just so I'm sure I've got them straight*, and something similar applies to (46a): *Hey, darling. [I am asking you this] Just so I can finish my paperwork early, what are your people gonna steal today?* This function also includes semi-formulaic phrases like *just so we understand each other*, *just so we're/you're/I'm clear*, *just so we are all on the same page*, and *just so I/you know*. Their extra-clausal status is clearest in those cases where the illocutionary force of the main clause is different from the one in the subordinate clause, as in (46a), where the main clause is an interrogative and the subordinate purpose clause a declarative. Furthermore, whereas the purpose subordinate clause usually occurs in final position, the interpersonal uses often occur in initial position.

- (44) *And he shrugged. "Now the rules, Mrs. Blodgett – just so I'm sure I've got them straight."* (COHA 1967)
- (45) *Dakin drew the dark heavy door-blind and snapped off the lights at the front of the store. "Just so we won't be interrupted," he explained. "Now come over here to the table, Alvin, and sit down so we can have a nice, friendly little talk."* (COHA 1945)
- (46) a) *Hey, darling. Just so I can finish my paperwork early, what are your people gonna steal today?* (COCA 2003)
- b) *His book Panther Dream follows the hunting-related adventures of a boy named Lokuli, who tries to save his village from starvation. (Just so you Don't worry: He does.)* (COHA 1991)

Such a use of subordinate clauses is what Sweetser (1990, 76–82) calls the speech act conjunction. Sweetser (1990, 77) distinguishes between conjunctions functioning in the content domain, whereby the subordinate clause gives the purpose of the action denoted in the main clause, as was the case for our purpose subordinators analysed in Section 5.2.1, and the speech act function, in which the subordinate clause modifies the speech act evoked by the main clause, in the case of *just so* this being the purpose/motivation for uttering the main clause.²⁶ The listener/reader must assume the Gricean principle of relation to understand how the two clauses relate. For FDG, the content domain use of *just so* is a semantic function (on the RL) and the speech act function a pragmatic one (on the IL).

Here, as was also the case with condition in Section 5.2.2, purpose *just so* becomes an inseparable unit, and together with its clause fulfils an interpersonal function (unlike condition, which remains representational). *Just* is no longer a focus marker; none of the uses attributed to it in the literature would seem to fit in these instances, particularly not the 'only' or 'simply' *just* found together with the representational purpose clauses discussed in Section 5.2.1. Furthermore, deleting *just* would make the respective clauses awkward at best, as demonstrated in (47b) and (48b) ((47a) and (48a) being repeated from (44) and (45), respectively). Although there is a strong link to the original purpose semantics, these clauses perform pragmatic functions such as explaining or motivating particular actions or discourse contributions. Furthermore, such clauses are not completely fixed; there can be variation, particularly, in pronouns (e.g. *just so I'm sure I've got them/it straight* or *just so we/you/I understand (each other)*).

- (47) a) *And he shrugged. "Now the rules, Mrs. Blodgett – just so I'm sure I've got them straight."* (COHA 1967)
- b) ? *"Now the rules, Mrs. Blodgett – so I'm sure I've got them straight."*
- (48) a) *Dakin drew the dark heavy door-blind and snapped off the lights at the front of the store. "Just so we won't be interrupted," he explained. "Now come over here to the table, Alvin, and sit down so we can have a nice, friendly little talk."* (COHA 1945)

²⁶ There is a third category suggested by Sweetser (1990, 76–7), the epistemic function; however, it is not clear that this use applies to *just so*. This is a topic to be explored in future research.

- b) ? “**So we won’t be interrupted**,” he explained. “Now come over here to the table, Alvin, and sit down so we can have a nice, friendly little talk.”

We thus propose to analyse examples like (49) as in (50):

- (49) *But, **just so we understand each other**, slick, we’re talking about a bag job, right?* (COCA 2005)

- (50) IL: (M_I: [(A_I: (F_I: DECL (F_I)) (A_I))_{Motiv} (A_J: (F_J: INTER (F_J)) (A_J))] (M_I))_{Contr}

According to this analysis, *just so* is introduced at the IL in one go by the rhetorical function of Motivation for a Discourse Act (A_I) which is dependent on a nuclear Discourse Act (A_J) – note especially the different Illocutions (Declarative and Interrogative, respectively) involved, which are a clear sign for the respective Discourse Act status in FDG. From our perspective, this suggests the following diachronic change: (just ep₁)_{Purp} > (A_I)_{Motiv}, in which scope increases through pragmaticalization in that the combination of a lexical operator and a semantic function at RL becomes an interpersonal function at the Discourse Act layer of IL. However, Giomi (2020, 119, 360) also describes English *so* as pragmaticalizing into a Motivation discourse marker in and of itself *via* (secondary) grammaticalization, presumably from an earlier Consequence marker use (see also Section 5.2.1) pertaining to Episodes: (ep₁)_{Cons} > (A_I)_{Motiv} (Giomi 2020, 149, 164), see examples in (51).

- (51) a) *The bridge has fallen down, **so** we will have to cross the river in a boat.*
 b) *There will be trick questions in the exam, **so** watch out.* (Hengeveld and Mackenzie 2008, 54)

This raises the question in how far the two analyses are compatible with or contradict each other. It seems obvious, though, that motivational *so* and *just so* do not appear in all the same environments and do not have exactly the same interpersonal import, the latter (*i.e.* with *just*) sounding somewhat more restrictive than the former. Moreover, as an only tangentially relevant aside, initial *but* in (49) is analysed as introducing a new, contrasting Move in the interlocution in (50), following Giomi (2020, 329–30).²⁷

Finally, the most frequent of these forms have developed into pragmatic markers, such as *just so you know* (Kaltenböck and ten Wolde 2022). There are a number of definitions and terminological variations surrounding discourse markers and pragmatic markers, which we cannot go into here, but instead we adopt Heine’s (2013, 1206–7) classification of discourse markers (in which he includes pragmatic markers as a subcategory). For him, discourse markers are defined as reflecting the following criteria: they (i) ascribe procedural meaning and are (ii) non-restrictive, (iii) non-compositional, (iv) syntactically independent as well as (v) prosodically set off from the rest of the utterance (Heine 2013, 1209). Naturally, not all pragmatic markers have to conform to all of these characteristics; however, in the cases under scrutiny here, all criteria would appear to apply.

The phrases in question, for example *just so you know*, are no longer compositional, a fact that can be most plainly seen in examples like (52), where the speaker wants to divulge some information that he/she expects the hearer does actually not want to know. Instead, they have a number of different discourse functions such as signalling a topic shift (53), or they are employed for expressing emphasis (54) (criteria i and ii). The phrases are relatively fixed (criterion iii) and positionally mobile (criterion iv). For example, in a sample of 1,050 tokens for *just so you know* from COCA, 81.4% prefer the left periphery, 1.2% medial position, and 14.7% the right periphery (2.7% are unclear). *Just so you know* is clearly not part of the main clause and could be read as a prosodically separate unit (criterion v), which is supported by the orthographic evidence that it is set off by commas in (52) and (53) (for more discussion, see Kaltenböck and ten Wolde 2022).

²⁷ Judging from example (i) adduced by Giomi (2020, 330), this would then appear to be a context in which *so* on its own may also directly follow *but*, pace Huddleston and Pullum (2002, 1320–1):

i) *But **so** you tell me now, what is the “honest” and “honorable” thing to do?*

- (52) *Look, I can't believe I have to say this, but **just so you know**, there's no way the two of you work. Why would you say that? You don't know that.*
(COCA 2019)
- (53) KOTB: *You missed the Cutest Baby Contest and we're so bummed because – oh! Come on.*
STOCKMAN: *That's Juice-Juice. [...]*
STOCKMAN: *So that's why I call her Juice-Juice. That's my baby.*
KOTB: ***Just so you know**, Shawn's on the road all the time. I didn't realize that you guys were...*
(COCA 2011)
- (54) HODA-KOTB# *All right. So if you want one of those, oh, my god, what a cute video pieces we have that for you. There is a baby elephant –*
KATHIE-LEE-GIFFORD# *That's what I feel like today.*
HODA-KOTB# *– in a kiddie pool. This is in Fort Worth, Texas. Her name is Belle. She was born on July 7th. She weighs three hundred pounds.*
KATHIE-LEE-GIFFORD# *Oh, my gosh. Look at that.*
HODA-KOTB# *Oh, my gosh. Okay. **Just so you know** that is the cutest three-hundred-pound baby.*
KATHIE-LEE-GIFFORD# *Oh, my gosh.* (COCA 2013)

The pragmatic markers do not allow for pronoun variation, which can still be found in the earlier forms of the pre-pragmatic marker stage (see (55)), and they exhibit greater syntactic flexibility. In fact, the earlier constructions are often integrated into the clause structure, the speaker usually elaborating on what he or she actually wishes to know, as in example (55b).

- (55) a) *Jake, I think we need a business plan. **Just so we know** what we have and where we're going.*
(COCA 1993)
b) ***Just so I know**, would you be open to taking his class?* (COCA 2008)

The pragmatic marker *just so you know* as in (56), on the other hand, lacks the above features of compositionality, and can accordingly be formalized as in (57):

- (56) ***Just so you know**, what you're looking at here is the pith.* (COCA 1994)
- (57) IL: $(M_I: [(A_I: \text{just so you know } (A_I))_{\text{Orient}} (A_J: \text{–what you're looking at here is the pith– } (A_J))]) (M_I)$

This IL representation analyses the fixed expression *just so you know* as heading a Discourse Act (A_I) of its own, with the rhetorical function Orientation in relation to a following nuclear Discourse Act (A_J).

6 Conclusion

This study traces the 'courtship' and eventual 'marriage' in the relationship between the erstwhile separate linguistic elements *just* and *so*. The narrative begins with the manner version of *just so*, and in this use, the two elements already show a strong preference for being used together. This preference gets stronger in the purpose subordinator until the combination finally becomes non-compositional in the condition subordinator. Along a separate path, the *just so* purpose subordinator adopts interpersonal functions and, finally, the most frequent forms of the latter become invariable pragmatic markers. The first and tentative FDG analyses of these developments presented here raise a number of issues. A central problem surrounds *just* being analysed as a lexical operator (a modifier in the broad sense of Van de Velde 2007, 204) applying to different representations of *so*: on the IL in its earlier manner and the later 'simply' purpose use, as well as on the RL in its later 'only, merely' use. In terms of diachrony, this seems to entail a scope-decreasing pathway from IL to RL between particularizing focus and one reading of the exclusive focus, a scenario FDG at present only appears to allow for the phenomenon of Discourse Act integration. In two separate further

steps, *just so* fuses into a non-compositional unit: on the one hand, expressing condition at RL and, on the other hand, functioning as a pragmatic marker at IL, in the latter case diachronically conforming to the scope-increasing pathway expected within the theory of FDG.

The transition from subordinate clause to pragmatic marker is less surprising (Brinton 2010). Transitions from truth-conditional to non-truth-conditional and from objective or subjective evaluation of manner to intersubjective pragmatic marker have been discussed and demonstrated in numerous papers and studies since Traugott (1982). However, what is interesting in the present context, and what FDG can model very precisely, is the interplay of semantic and pragmatic information in the stages when *just so* is still compositional, *just* providing interpersonal (*i.e.* pragmatic) and *so* representational (*i.e.* semantic) information.

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