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On the different interpretations of sentence-initial *ainsi* ‘so’ and the competition between three types of Verb–Subject order

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Abstract: This article is about different types of Subject–Verb inversion (nominal, pronominal, and complex inversion) in sentences introduced by *ainsi* ‘so, in this way’. We first make a distinction between four main interpretations: manner adverb *ainsi*, quotative *ainsi*, consecutive *ainsi* (expressing either an intentional or an unintentional consequence), and illustrative *ainsi*. On the basis of a corpus study, we show that nominal inversion often (but not always) combines with the manner interpretation, whereas the predominant function of *ainsi* + pronominal/complex inversion is to introduce an example or a consequence of the preceding discourse context. The data also contribute to the debate about the grammaticalization path of *ainsi*. Firstly, the unintentional consequence interpretation is argued to be a “bridging context” between manner and unintentional consequence. Secondly, given the preponderance of the illustrative interpretation, we argue that this under-researched interpretation be taken up in future diachronic and synchronic analyses of *ainsi* and its cross-linguistic counterparts.

Keywords: *ainsi*, subject-verb inversion, manner adverb, consecutive adverb, grammaticalization

1 Introduction¹

The French adverb *ainsi* in sentence-initial position can have a variety of interpretations. It is, besides *aussi*, the only adverb that combines not only with the

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canonical Subject–Verb constituent order (1a),² but also with three types of Subject–Verb inversion: nominal inversion (1b), complex inversion (1c), and pronominal inversion (1d)³:

(1) a. *Ainsi* + **Subject–Verb** constituent order

L'attractivité de cette zone serait toutefois plus forte si une véritable dynamique régionale se mettait en place. Des signes encourageants existent.

‘The attractiveness of that zone would however be higher if there were real regional dynamism. There are encouraging signs.’

***Ainsi**, le gazoduc entre le Turkménistan et l'Iran (...)*

so the pipeline between the Turkmenistan and the Iran

devrait Permettre à la République d'Asie centrale d'être

should permit to the Republic of Asia central of be

moins dépendante de la Russie dans ce domaine.

less dependent on the Russia in that domain

‘The pipeline between Turkmenistan and Iran, for example, should allow the Republic of central Asia to be less dependent on Russia in that domain.’ (Le Monde)

b. *Ainsi* + **nominal** inversion

A 17 heures 56, le véhicule est pulvérisé par une bombe sur l'autoroute qui mène à Palerme. Le juge, sa femme et trois policiers qui l'escortaient trouvent la mort.

‘At 17h56, the car is pulverized by a bomb on the road leading to Palermo. The judge, his wife, and three policemen who escorted him were killed.’

***Ainsi** commence le documentaire qui reconstitue minutieusement*

So begins the documentary that retraces carefully

l'enquête des autorités italiennes.

the.inquiry of.the authorities Italian

‘That’s how the documentary begins that carefully retraces the inquiry of the Italian authorities.’

(Le Monde)

² The English translations of *ainsi* in this paper may not seem very natural at times. This is due to the fact that in certain instances, the French adverb *ainsi* would not be translated by an adverb in English, but rather by a verbal expression such as *this enables you to*. However, in order to make the value of *ainsi* as explicit as possible, we have chosen to translate *ainsi* by adverbs whenever possible.

³ In all the examples, *ainsi* is boldfaced and the subject is underlined.

c. *Ainsi* + **complex** inversion

A l'exception des Bourses de Milan et de Madrid, toutes les places terminent la semaine dans le rouge.

‘With the exception of the Milan and Madrid stock exchanges, all stock exchanges closed in the red this week.’

Ainsi, la Bourse de Singapour affiche-t-elle un recul

So the stock.exchange of Singapore shows-she a loss record de 22,52%, celle de Djakarta a perdu 16,35%.

record of 22.52%, that of Djakarta has lost 16.35%

‘The Singapore stock exchange, for example, shows a record loss of 22.52%, and Djakarta lost 16.35%.’ (Le Monde)

d. *Ainsi* + **pronominal** inversion

Mathieu Dreyfus, le frère du déporté, qui a abandonné ses affaires et consacre son temps et son énergie à obtenir réparation de l'injustice, peut enfin répandre des placards reproduisant le fac-similé et des lettres de Dreyfus.

‘Mathieu Dreyfus, the brother of the deported, who has given up his business and spends his time and energy on getting justice, can finally spread posters reproducing the facsimile and letters of Dreyfus.’

Ainsi peut-on comparer les écritures.

So can-one compare the writings

‘The writings can thus be compared.’ (Le Monde)

Nominal and pronominal inversion refer to sentences in which a nominal (1b) or a pronominal (1d) subject follow the verb rather than precede it. The term “complex inversion” pertains to sentences such as (1c), in which the nominal subject preceding the inflected verb is “doubled” by a pronominal subject in postverbal position, without there being a pause between the nominal subject and the verb (as is the case in left dislocation).⁴

In the linguistic literature, *ainsi*’s various interpretations are said to be dependent on the word order configuration in which the adverb appears; according to many authors, nominal inversion only combines with *ainsi* as a manner adverb, whereas pronominal and complex inversion combine with *ainsi* as a sentence adverb (introducing a consequence or an illustration of the

⁴ There is no consensus about the status of the clitic-like element that is coindexed with the subject. It is argued by Rizzi and Roberts (1989: 1) and Dufresne (1995: 92) that complex inversion cannot be seen as a case of left dislocation (see also Fuchs and Pierre 2007; Tseng 2008: 2634–2635), and that it does not pattern like regular clitic-doubling either.

preceding context) (see Le Bidois 1952; Hybertie 1996; Guimier 1997; Flament-Boistrancourt 1999; Lahousse 2011; Molinier 2012).

The goal of this paper is twofold. First, making use of the newspaper corpus *Le Monde* (1998), we will describe the various interpretations of *ainsi* and examine whether or not the type of inversion affects the adverb's interpretations. We will then propose a grammaticalization account of the different interpretations of *ainsi*.

After presenting an overview of the literature on *ainsi* (Section 2) and presenting tests that allow us to distinguish its different interpretations (Section 3), we will show that, as argued in earlier studies of *ainsi*, nominal inversion combines most often with the manner adverb *ainsi*, while pronominal and complex inversion mostly combine with the sentence adverb *ainsi* (Section 4). However, contrary to some claims in the linguistic literature (e.g., Guimier 1997; Molinier 2012), other combinations also occur in the corpus data. These unexpected combinations are shown to follow from independent factors. Furthermore, it will be shown that the corpus data can contribute to the debate about the grammaticalization paths of *ainsi* (Section 5).

2 State of the art

Although we cannot do justice to the rich literature on inversion in French, or in other languages, we will briefly describe the three types of inversion following *ainsi* (Section 2.1). We will then turn our attention to the interpretations *ainsi* can have in general (Section 2.2) and when occurring with specific inversion patterns (Section 2.3).

2.1 The different inversion types

Nominal inversion patterns (in contrast with pronominal and complex inversion) have often been motivated discourse-functionally. For instance, Birner (1994) shows that nominal inversion in English allows “the presentation of relatively familiar information before a comparatively unfamiliar logical subject”⁵ (Birner 1994: 234; see also Cornish 2001: 121). For French as well, linguists

⁵ For instance, in sentence (1b), *ainsi* refers to the preceding discourse and the subject *le documentaire qui ...* ‘the documentary that ...’ expresses the new information.

tend to agree that nominal inversion finds its motivation in information structure packaging (see, among others, Fuchs 1997; Lahousse 2011 for an overview). In this regard, whereas most authors accept that the postverbal nominal subject is the focus of the sentence, Lahousse (2011: 267) argues that nominal inversion indicates that the postverbal subject should not be interpreted as the topic of the sentence, but not necessarily as the focus either.⁶ Furthermore, as Dorgeloh (2001: 34) notes, nominal inversion not only has an information structure effect at sentence-level: it is a marked option with respect to the canonical Subject–Verb word order pattern, and therefore may draw special attention to the content conveyed by the utterance (“system-based markedness”). This effect of inversion may, however, be more or less striking depending on the specific context (or genre) that the utterance appears in. In this sense, context-based effects may neutralize the effect of drawing special attention to the content of the utterance.

Pronominal inversion and complex inversion in French are attributed different functions than nominal inversion. According to Guimier (1997: 50) and Fournier (1997: 97), pronominal and complex inversion indicate that the speaker does not want to fully assert the content of the utterance⁷ (see also Flament-Boistrancourt 1999: 170–173; Fuchs and Pierre 2007). This subjective layer distinguishes these types of inversion from canonical Subject–Verb word order and from nominal inversion.⁸ According to Molinier (2012), another motivation for using complex or pronominal inversion rather than Subject–Verb constituent order is that inversion creates a closer link with the prior context. However, it is unclear whether this is due to the inversion type or to the presence of *ainsi*. This function is not attributed to nominal inversion.

It is beyond the scope of this paper to provide a detailed analysis of inversion with *ainsi* in terms of its information structure properties, the potential subjectivity it expresses, or the closer link it may have with prior context.

⁶ See Lahousse (2015) for a description of the information structure status of nominal inversion and pronominal inversion after preposed focal *ainsi*.

⁷ This would mean that in (1d), for instance, the speaker does not want to fully commit to the idea that one can compare the writings. However, in this particular example, it is unclear why the speaker would not want to do so. The authors who describe this function of complex and pronominal inversion often do not state clearly whether this function is always present or only occasionally.

⁸ This subjective nuance is also evoked by Prévost (2011) to account for some of her diachronic corpus data of pronominal inversion. The subjective dimension of complex and pronominal inversion can be related to Traugott’s (2010) notion of subjectification, referring to the process by which an expression starts to encode speaker attitude or viewpoint.

We will instead focus our attention on the interaction between constituent order patterns and the interpretations of *ainsi*; these will be introduced briefly in the next Section.⁹

2.2 Interpretations of *ainsi*

Among the scholars who study the interpretation and function of *ainsi* (most notably Le Bidois 1952; Buchmüller 1975; Jonare 1976; Zenone 1982; Hybertie 1996; Guimier 1997; Flament-Boistrancourt 1999; Blanche-Benveniste 2006a; Lahousse 2011; Molinier 2012),¹⁰ most agree that, in sentence-initial position (and regardless of the type of inversion), *ainsi*'s main function is to link the sentence/proposition it introduces (P2) to the preceding context/proposition (P1). Although the terminology used to indicate the various interpretations of *ainsi* may differ, all authors acknowledge the distinction between manner adverb *ainsi* (which includes its quotative use) (Section 2.2.1) and sentence adverb *ainsi* (Section 2.2.2).

2.2.1 *Ainsi* as manner or quotative adverb

Manner adverb *ainsi* (2) can be paraphrased as *de cette manière* 'in this way' and refers to a manner specified in the previous context.

(2) **Manner *ainsi***

Il écrivait avec une sorte de distraction concentrée, comme on crayonne sur le bloc du téléphone: on écoute de moins en moins et c'est le dessin qui s'impose. Ainsi écrivait Alexandre, se réfugiant dans les pleins et les déliés

⁹ In this paper, we focus on word order from a synchronic point of view. For a general overview of the evolution of word order in French, we refer to Marchello-Nizia (1995). Note, however, that the diachronic development of the different types of inversion in French is still under debate. For instance, Kaiser and Zimmerman (2011) argue against the widespread hypothesis that nominal inversion is a relic of the V2 nature of Medieval French, proposing instead that it was already a focalizing strategy at that time. As for complex inversion, Dufresne (1995: 92) seems to imply that it may have emerged from left-dislocation structures towards the end of the middle French period (see also Adams 1987). According to Roberts (1993: 193), the appearance of complex inversion may have rendered "simple" inversion a marked option, thus contributing to its decrease in frequency. See Prévost (2010; 2011) for a diachronic analysis of pronominal inversion and the expression and position of pronominal subjects more generally.

¹⁰ See also Blanche-Benveniste (2006b); Sabio and Benzitoun (2013); Lahousse and Lamiroy (2014, 2015) for analyses of *c'est ainsi que* 'it is thus that'.

de cette écriture sage, de ce crayonnement appliqué.

‘He wrote with a sort of concentrated distraction, the way you may doodle when you are on the phone: you listen less and less and it’s the drawing that imposes itself. That’s how Alexander wrote (lit. **Thus** wrote Alexander), seeking refuge in the fullness and fine strokes of that mature writing, of that devoted drawing.’ (Lahousse 2011: 94, our translation)

In (2), *ainsi* refers to the way in which Alexander writes, which is explicated in the previous context.

According to Hybertie (1996), *ainsi* can also function as a quotation marker of direct discourse (3). It is, however, not clear if these cases should be distinguished from occurrences of manner *ainsi*. In fact, (3) could be interpreted as either characterizing a *manner* of thinking and whispering, as paraphrased in (3’a) or as referring to a quotation (3’b), in which case *ainsi* corresponds to the direct object of the verb. The specific interpretation and function of *ainsi* in ambiguous cases such as these depends on the context.

(3) **Quotative *ainsi***

Ainsi pensait Jeanne. *Ainsi* chuchota-t-elle.

‘That’s how Jeanne thought. That’s how she whispered.’ (Lit. ‘Thus thought Jeanne. Thus whispered she.’)

(Hybertie 1996: 47; no context given, our translation)

(3’) a. *Elle pensait, chuchota de cette manière.*

‘She thought, whispered in that way.’

b. *C’est ce qu’elle pensait, chuchota...*

‘That’s what she thought, whispered.’

2.2.2 *Ainsi* as a sentence adverb

Ainsi also functions as a sentence adverb, in which case it does not modify the verb (as manner adverbs do, see Molinier and Levrier 2000), but has wide/sentence scope instead. There is, however, no clear consensus as to exactly which interpretations sentence adverb *ainsi* can have, as reflected by the different labels it has been given: “recapitulative *ainsi*” (Molinier 2012), “connective *ainsi*” (Lahousse 2011), or “propositional connective” (König 2012). According to Hybertie (1996) and Guimier (1997), *ainsi* can introduce a statement that follows from the previous statement (in a cause-result relationship)

(4) (i.e., consecutive *ainsi*), or it may introduce an illustration of a previous statement (5) (i.e., illustrative *ainsi*):

(4) *Ainsi* introducing a **consequence** (= consecutive *ainsi*)

a. *Je n'ai pas proposé à M. de Narbonne de dîner ici. Ainsi, tu es le maître de dire ce qui te convient.*

'I didn't invite Mr. de Narbonne over for dinner. So (lit. Thus), you can say whatever you like.'

(Hybertie 1996: 48, our translation)

b. *Le tissu léger, de temps à autre, chatouillait le bout de l'orteil; Catherine en saisit un coin, le tira vers elle. Ainsi apparut un panneau peint, quasiment de la largeur du lit et haut de quelque soixante centimètres.*

'The light fabric, from time to time, tickled her toe; Catherine grabbed it by a corner and pulled it towards her. As a result, a painted panel appeared (lit. Thus appeared a painted panel), almost as wide as the bed and about 60 cm long.'

(Lahousse 2011: 93, our translation)

(5) *Ainsi* introducing an **illustration** (= illustrative *ainsi*)

Plus abstentionnistes et plus conservatrices que les hommes durant 30 ans, les électrices votent aujourd'hui autant qu'eux et certaines catégories d'âge apparaissent, depuis le scrutin législatif de 1986, plus « progressistes » que leurs homologues masculins. Ainsi 53 % des filles âgées de 18 à 20 ans ont voté en faveur des listes de la gauche, 40 % des garçons étant dans ce cas.

'For 30 years, women used to vote less often and more conservatively than men, but now they vote as often as men, and certain age categories have appeared, since the elections of 1986, that are more "progressive" than men. For example, 53% of women between 18 and 20 years old voted in favor of the left, whereas 40% of the young men did so.'

(Hybertie 1996: 50, our translation)

In (4a), the speaker states that the addressee can say whatever s/he likes because Mr. de Narbonne has not been invited. Example (4b) is described by Lahousse (2011) in a similar vein: the sentence introduced by *ainsi* in (4b) is "the immediate consequence of the preceding sentence" (Lahousse 2011: 94).¹¹ In (5), on the other hand, the group of 53 % of the female population between 18 and 20

¹¹ Our translation. "(...) dans [4b], la phrase à inversion est la conséquence immédiate de la phrase antérieure (...)." (Lahousse 2011: 94)

years old instantiates “certain age categories of female voters who are more progressive than males”. Additional interpretations and subtypes of sentence adverb *ainsi* are discussed in Karssenbergh and Lahousse (2014).

Whereas most of these descriptions of the different interpretations of sentence adverb *ainsi* are intuitively appropriate, no attempt has been made in these earlier studies to clearly define them. Moreover, these different meanings are, in most cases, only illustrated by one or two examples, sometimes without context.

In short, although *ainsi* in sentence-initial position can be assigned different semantic interpretations (manner/quotative/ consecutive/illustrative *ainsi*), these interpretations are not defined on the basis of tests that could be applied more or less unambiguously in corpus research. The goal of Section 3 will be to provide such tests, and the results of their application will be presented in Section 4. But first we will look at the influence of the type of inversion on the interpretations that *ainsi* can have (Section 2.3).

2.3 *Ainsi* + inversion

In what follows, we present the different types of inversion (nominal inversion, Section 2.3.1; complex inversion, Section 2.3.2; pronominal inversion, Section 2.3.3) and the different interpretations of *ainsi* these inversion types can combine with. Our discussion is based on the relevant linguistic literature on the issue.

2.3.1 *Ainsi* + nominal inversion

It is generally accepted that when combined with nominal inversion, *ainsi* is usually a manner adverb (Le Bidois 1952; Lahousse 2011; Molinier 2012) (6), or a quotation marker (7).

(6) Manner *ainsi* + nominal inversion

a. ***Ainsi*** tourne *la Roue du monde*.

‘That’s how the Wheel of the world turns.’ (lit. ‘Thus turns the Wheel of the world.’)

(Le Bidois 1952: 112, in Lahousse 2011: 92; our translation)

b. ***Ainsi*** travaillait *Paul*.

‘That’s how Paul worked.’ (lit. ‘Thus worked Paul.’)

(Molinier 2012: 126; our translation)

- (7) Quotative *ainsi* + nominal inversion

Ainsi raisonnait *Mary-Anne*.

‘That’s how Mary-Anne reasoned.’ (lit. ‘Thus reasoned Mary-Anne.’)

(Hybertie 1996: 47; our translation)

Molinier (2012) emphasizes that nominal inversion *necessarily* combines with manner *ainsi*, excluding its combination with consecutive or illustrative *ainsi*. However, Flament-Boistrancourt (1999) and Lahousse (2011) provide examples of consecutive *ainsi* preceding nominal inversion (8):

- (8) Consecutive *ainsi* + nominal inversion

a. *Mettons la réunion plus tôt, ainsi pourra être abordée cette question qui vous tient à cœur.*

‘Let’s schedule the meeting earlier, **so** (lit. thus) that question we all care about can be addressed.’

(Flament-Boistrancourt 1999: 149; our translation)

b. (...) *c’est de sa mère qu’elle a reçu son fiancé: **ainsi** se referme hermétiquement autour de Charlotte sa maison-coquillage.*

‘It’s from her mother that she received her fiancé¹²: **as a result** (thus), Charlotte’s house-shell closed hermetically around her.’

(Lahousse 2011: 93; our translation)

Clearly, *ainsi* in (8a) refers to the addressing of the question as the result of a previous (causal) event, rather than to the way of addressing that question. Similarly, *ainsi* in (8b) refers to Charlotte’s house closing around her as the result of a previous event, rather than to the manner of this closing, which is in this case already instantiated by the adverb *hermétiquement* ‘hermetically’.

2.3.2 *Ainsi* + complex inversion

Several authors argue that complex inversion generally combines with sentence adverb *ainsi*, that is to say with the consecutive and the illustrative interpretations (Le Bidois 1952; Buchmüller 1975; Lahousse 2011; Molinier 2012), as illustrated by the examples in (9). Note, however, that it is difficult to determine exactly what the interpretation of *ainsi* is in such examples, since the authors provide no prior context.

¹² This probably means that the mother arranged the marriage.

- (9) Sentence adverb *ainsi* + complex inversion
- a. *Ainsi la meilleure partie de la jeunesse* [...] *n’aimait-elle plus que les œuvres ayant une haute portée morale et sociologique.*
 ‘Thus the majority of the youngsters only loved works with a high moral and sociological content.’
 (Le Bidois 1952: 114, in Lahousse 2011: 92; our translation)
 - b. *Ainsi, Pierre travaillait-il.*
 ‘Thus, Pierre worked.’
 (Molinier 2012: 122; our translation)

Molinier (2012) even states that complex inversion *necessarily* combines with sentence adverb *ainsi*: according to him, the adverb in (9b) cannot have a manner interpretation. Complex inversion is also said to be incompatible with quotative *ainsi* (Riegel et al. 2011: 256).

2.3.3 *Ainsi* + pronominal inversion

According to several authors (Fournier 1997; Guimier 1997), pronominal inversion patterns like complex inversion: all adverbs combining with pronominal inversion also combine with complex inversion and vice versa (Guimier 1997: 43). Hence, just like complex inversion, pronominal inversion can be seen to combine with sentence adverb *ainsi* (10), in this case with a consecutive interpretation:

- (10) *Ainsi* sentence adverb + pronominal inversion
Nous avons loué une maison de campagne. Ainsi pourrions-nous passer des week-ends au grand air.
 ‘We rented a cabin. So, (lit. Thus), we can spend weekends out in the open.’
 (Flament-Boistrancourt 1999: 147; our translation)

However, Molinier (2012) does provide examples of *ainsi* as a quotation marker (11) or manner adverb (12) preceding pronominal inversion.

- (11) Quotative *ainsi* + pronominal inversion
« Nous avons un staff de quatre entraîneurs qui vont diriger les Lions Indomptables de football ». Ainsi parlait-il, hier, au sujet de la fédération du quartier Tsinga.
 ‘“We have a staff of four trainers who will lead the Intamable Lions of soccer.” This is what he said/This is how he spoke about (lit. Thus he spoke, yesterday, about) the federation of the Tsinga district.’
 (Molinier 2012: 123; our translation)

(12) Manner *ainsi* + pronominal inversion

Riche, heureux, adulé à son tour, jouissant de toutes les voluptés, gourmand, débauché, ainsi vivait-il à Venise, honoré de tous et ayant Le Titien pour ami intime.

‘Rich, happy, idolized as well, enjoying all types of voluptuousness, insatiable, licentious, that’s the way he lived (lit. thus lived he) in Venice, honored by all and with Le Titien as intimate friend.’

(Molinier 2012: 123; our translation)

It appears, then, that pronominal inversion combines with more interpretations of *ainsi* than complex inversion.

2.3.4 Summing up

The linguistic literature about the interpretations of *ainsi* in different inversion contexts can be summarized as follows:

- (i) Nominal inversion is generally introduced by manner adverb *ainsi* or quotative *ainsi*.
- (ii) Complex inversion co-occurs only with sentence adverb *ainsi*.
- (iii) Pronominal inversion co-occurs with all interpretations of *ainsi*.

To the best of our knowledge, these claims have not yet been tested on the basis of corpus data. In Section 4, we will therefore carry out a corpus study to verify whether the claims are borne out and to investigate the frequency of each type of inversion in sentences introduced by *ainsi*. In Section 3, we first present tests to distinguish between the different interpretations.

3 Interpretations of *ainsi*: Definitions and paraphrases

In what follows we will first consider *ainsi*’s interpretations as manner and quotative adverb (Section 3.1), and then as a sentence adverb introducing a consequence (Section 3.2) or an illustration (Section 3.3). The different interpretations will be given precise definitions, and several tests will be provided to apply the definitions to the corpus data (Section 4).

3.1 Manner *ainsi* and quotative *ainsi*

When *ainsi* functions as a **manner** adverb (13), it can be paraphrased by *de cette manière* 'in this way' (13'a) and explicitly refers to the way in which the action denoted by the verb in the *ainsi* sentence is carried out. Another possible paraphrase is in terms of the interrogative *de quelle manière* 'in this way' (13'b):

(13) Manner *ainsi*

De notre envoyé spécial. Les sumotoris ont passé le drapeau aux cow-boys. Ainsi pourrait se résumer la cérémonie de clôture des XVIIIe Jeux olympiques d'hiver (...).

'From our special reporter. The sumo wrestlers passed the flag to the cowboys. That's how the closing ceremony of the 18th Olympic winter games could be summed up.' (Le Monde)

(13') a. *De cette manière pourrait se résumer la cérémonie.*

'In that way the ceremony could be summed up.'

b. *De quelle manière la cérémonie pourrait-elle se résumer?*

'In what way could the ceremony be summed up?'

Note that manner *ainsi*, when expressing the way in which the action denoted by the verb is carried out, may also describe the subject of the verb (in other words, *ainsi* also functions here as a subject-oriented adverb). Hence, in instances such as (12) above, *ainsi* not only refers to a manner of living, but it also expresses a property of the subject *il* 'he'; that is, *ainsi* may also function as an *attribut du sujet* (subject predicate). The same goes for instances of *ainsi* in combination with light verbs such as *aller* 'to go', as in (14).

(14) *Comme au cirque, dans le public un homme éclate de rire. Le président Castagnède ne bronche pas. Ainsi va la fin du procès de Maurice Papon (...).*

'Just like at the circus, a man in the audience bursts into laughter. Judge Castagnède remains unmoved. That's how the trial against Maurice Papon ends (lit. That's how the end of the trial against Maurice Papon goes).'

(Le Monde)

Furthermore, manner can be closely related to the notion of consequence, as will be illustrated in Section 3.2.

Quotative *ainsi*, as in (15), refers to a preceding quotation, and does not refer to a manner of *dire* ‘saying’.

(15) Quotative *ainsi*

« Il ne cherche plus qu’à animer le peuple contre le souverain pontife pour qu’on se révolte contre lui et ses ministres (...). » **Ainsi** dit *Machiavel* d’un dominicain condamné au bûcher, ainsi beaucoup ont pensé et écrit de Raymond Léopold Bruckberger.

“He only wants the people to turn against the pope so that they revolt against him and his ministers (...).” That’s what Machiavelli said about a dominican who was condemned to the stake, that’s how many thought and wrote about Raymond Léopold Bruckberger.’ (Le Monde)

Quotative *ainsi* differs from manner *ainsi* in two ways: (i) it cannot be paraphrased by *de cette manière* ‘in that way’ (15’a), and (ii) its antecedent should be retrieved by *qu’est-ce que* or *que* ‘what’ (15’b) rather than by *de quelle manière* ‘in what way’ (15’c).

(15’) [in context (15)]

a. * **De cette manière** dit Machiavel d’un dominicain.

* ‘In that way said Machiavelli about a dominican.’

b. **Qu’est-ce qu’il a dit ? Que** dit Machiavel?

‘What did he say? What did Machiavelli say? (lit. What said Machiavelli?)’

c. * **De quelle manière** dit-il d’un dominicain?

* ‘In what way said he about a dominican?’

3.2 Two types of consecutive *ainsi*

When *ainsi* is a **consecutive** adverb,¹³ it relates a cause (P1) to a consequence (*ainsi* P2). We argue that two types of consecutive *ainsi* should be distinguished,

¹³ We also classify example (i) as a case of consecutive *ainsi*. Unlike (16), in which the cause-consequence relation holds between the content of the two propositions, *ainsi* in (i) exemplifies a causal relationship on a *discursive* level. Therefore, the causal link can be described as ‘what I’ve just said leads me to state that ...’ (iia), rather than ‘consequently’ (iib).

(i) *Ainsi* introducing a **discursive consequence**

M. Bourdieu et ses collègues, dans leur point de vue du 17 janvier, dépassent les bornes de la sociologie pour entrer dans les chemins difficiles de l’économie. Affirmer que, à l’annonce d’un recul du chômage aux Etats Unis les cours baissent à Wall Street, c’est passer sous silence

depending on whether it introduces an unintentional consequence or an intentional consequence. The first type, “unintentional consequence”, is illustrated in (16). Here, the prior context identifies a cause, namely, the lacking quality of the speeches by the ones in power, and the sentence introduced by *ainsi* provides its consequence: the impression is created that the ones in power no longer believe in their own appeals for full-time employment.

(16) *Ainsi* introducing an **unintentional consequence**

[Talking about left-wing discourse] *On découvrait les détenteurs du pouvoir et de la parole inaptes à tenir un autre discours que l'éternel discours du pouvoir. A perte de vue, ils cherchaient des tireurs de ficelle, des comploteurs, des adversaires. Ainsi eut-on la brève intuition qu'ils ne croyaient plus à leurs propres invocations du retour au plein emploi.*

‘We discovered that the ones who held the power and the microphone were unable to give any other speech than the eternal speech of power. Everywhere they saw rulers, conspirators, adversaries. Thus, we briefly got the impression that they themselves no longer believed in their own appeals for a return to full-time employment.’ (Le Monde)

In this case, *ainsi* can be paraphrased as *par conséquent* ‘consequently/accordingly/as a result’ (16’a), but not as *de cette manière* ‘in this way’ (16’b). *Ainsi* is clearly not a manner adverb either, as it does not specify the way in which the action denoted by the verb (*avoir l'intuition* ‘to have the impression’) is carried out, nor does it denote a property of the subject.

(volontairement ?) que depuis plusieurs années les cours de la Bourse n'ont cessé d'y augmenter et que le chômage n'a jamais atteint un niveau aussi bas. *Ainsi, peut-être faudrait-il que M. Bourdieu nous éclaire plutôt sur les phénomènes sociologiques qui poussent les entreprises, en général, et américaines, en particulier, à créer, se développer et embaucher.*

‘Mr Bourdieu and his colleagues, in their opinion piece of January 17th, cross the borders of sociology to enter the difficult path of economics. To state that the stock exchange dropped at the announcement of lower unemployment rates in the US equals (voluntarily?) remaining silent about the fact that for several years now the stock market has risen and that unemployment has never been this low. *So maybe it would be better if Mr Bourdieu clarified sociological phenomena that steer companies in general and american ones in particular towards creating, developing, and recruiting.*’ (Le Monde)

(ii) a. ***Cela m'amène à dire qu'il faudrait peut-être que M. Bourdieu nous éclaire plutôt...***

‘That leads me to state that it might be better if Mr Bourdieu clarified....’

b. **# *Par conséquent, il faudrait peut-être que M. Bourdieu nous éclaire plutôt...***

‘Consequently, it might be better if Mr Bourdieu clarified...’

The number of occurrences of discursive causal *ainsi* in our corpus is very limited (5 out of 171).

- (16') a. **Par conséquent**, on eut la brève intuition qu'ils ne croyaient plus...
 'Consequently, we briefly got the impression that they no longer believed...'
 b. # **De cette manière**, on eut la brève intuition qu'ils ne croyaient plus...
 'In that way, we briefly got the impression that they no longer believed...'

In some cases, however, as in (17), *ainsi* can be paraphrased either by *par conséquent* 'consequently' or *de cette manière* 'in this way' (17'). In this case, *de cette manière* 'in this way' has an intentional reading: there is an agent (the Reserve Bank) whose intention it is to obtain a particular result (raise the GDP) in a particular way (by lowering interest rates).¹⁴

- (17) *Ainsi* introducing **intentional consequence**
Il n'est donc pas exclu que les taux d'intérêt soient prochainement revus à la baisse par la Reserve Bank, de façon à accompagner une croissance plus soutenue. Ainsi le PIB pourrait-il s'accroître d'un peu plus de 2% cette année, sans risque de dérive majeure.
 'It is therefore not excluded that the interest rates will soon be reduced by the Reserve Bank, so as to stimulate a more sustained growth. Thus the GDP might rise by a little over 2% this year, without great risk.' (Le Monde)

- (17') **De cette manière / par conséquent** le PIB pourrait s'accroître...

Clearly, *ainsi* in (17) does not refer to the way in which the action denoted by the verb takes place, i.e., *ainsi* does not modify *s'accroître* 'grow' (e.g., 'growing rapidly/slowly'). Rather, the adverb refers to the way in which the Reserve Bank wants to stimulate growth: by lowering the interest rates. In other words, *ainsi* indicates the way in which the growth will be established (lowering interest rates).

The difference between (16) and (17) lies in the absence (unintentional consequence) or presence (intentional consequence) of an agent who considers the cause as a *manner* to obtain a certain result/consequence. In (16), there is no agent whose intention it is for the speaker(s) to get an unfavorable impression of political discourse; the unfavorable impression of political discourse is there nonetheless, so this is an *unintentional* consequence. It is therefore inappropriate to replace *ainsi* by *de cette manière* 'in this way' (16'b).

¹⁴ This type of cause is also known as a *causa finalis* (due to Aristotle).

3.3 Illustrative *ainsi*

The **illustrative** interpretation of *ainsi* has received the least attention in the literature. The function of illustrative *ainsi* is to introduce an example of a more general assertion preceding it. In (18), “the *Singapore* stock exchange has a record loss of 22,52%” is an illustration of the more general assertion “all stock exchanges closed in the red”.

(18) **Illustrative *ainsi***

A l’exception des Bourses de Milan et de Madrid, toutes les places terminent la semaine dans le rouge. Ainsi, la Bourse de Singapour affiche-t-elle un recul record de 22,52%, celle de Djakarta a perdu 16,35%.

‘With the exception of the Milan and Madrid stock exchanges, all stock exchanges close in the red this week. The Singapore stock exchange, for example, shows a record loss of 22.52%, and Djakarta lost 16.35%.’
(Le Monde)

Since the illustration is not caused by the preceding proposition, *ainsi* in this context cannot be paraphrased by *par conséquent* ‘by consequence/as a result/accordingly’ (18’a). It does not designate a manner either (18’b), but it can be paraphrased by *par exemple* ‘for example’ (18’c):

(18’) a. # **Par conséquent**, la Bourse de Singapour affiche un recul record de 22,52%...

‘Consequently, the Singapore stock exchange shows a record loss of 22.52%....’

b. # **De cette manière** la Bourse de Singapour affiche un recul record...

‘In that way, the Singapore stock exchange shows a record loss of 22.52%....’

c. La Bourse de Singapour, **par exemple**, affiche un recul record de 22,52%...

‘The Singapore stock exchange, for example, shows a record loss of 22.52%....’

Note that, conversely, *ainsi* cannot be paraphrased by *par exemple* ‘for example’ when it is a manner adverb (19a), a quotative marker (19b), or when it introduces a result (19c, d):

(19) a. **Manner** *ainsi* (= (13))

*Les sumotoris ont passé le drapeau aux cow-boys. *La cérémonie, **par exemple**, pourrait se résumer.*

‘The sumo wrestlers passed the flag to the cowboys. The ceremony, for example, can be summed up.’

b. **Quotative** *ainsi* (= (15))

« *Il ne cherche* » # *dit Machiavel, **par exemple**.*

“‘He only wants to...” said Machiavelli, for example.’

c. **Consecutive** *ainsi* (unintentional consequence) (= (16))

*(...) A perte de vue, ils cherchaient des tireurs de ficelle, des comploteurs, des adversaires. # On eut la brève intuition, **par exemple**, qu’ils ne croyaient plus à leurs propres invocations.*

‘Everywhere they saw rulers, conspirators, adversaries. We briefly got the impression, for example, that they themselves no longer believed in their own appeals for full-time employment.’

d. **Consecutive** *ainsi* (intentional consequence) (= (17))

*Il n’est donc pas exclu que les taux d’intérêt soient prochainement revus à la baisse par la Reserve Bank, de façon à accompagner une croissance plus soutenue. # Le PIB pourrait, **par exemple**, s’accroître d’un peu plus de 2% cette année, sans risque de dérive majeure.*

‘It is therefore not excluded that the interest rates will soon be reduced by the Reserve Bank, so as to stimulate a more sustained growth. The GDP might, for example, rise by a little over 2% this year, without great risk.’

3.4 Overview

Our characterization of the different interpretations of *ainsi* can be summarized as follows:

- (i) *Manner ainsi* refers to the manner, specified in the preceding context, in which the action denoted by the verb in P2 is carried out
- (ii) *Quotative ainsi*: *ainsi* refers to a preceding quotation which functions as the object of the communicative verb in P2; it does not indicate the way in which the communication takes place
- (iii) *Consecutive ainsi* refers to (an) event(s) described in P1 that leads to the resulting proposition (P2) introduced by *ainsi*. Two types are distinguished:
 - a. Intentional consequence involves an agent who sees the causal event(s) (P1) as a way to achieve a certain result

- b. Unintentional consequence denotes a consequence that simply follows from a preceding event (in P1) without an agent intervening
- (iv) *Illustrative ainsi* introduces a specific instantiation (P2) of a preceding general observation (P1).

Table 1 presents an overview of the distinguishing characteristics of the different interpretations of *ainsi*:

Table 1: Overview of characteristics of the different interpretations of *ainsi*.

Tests	Manner	Quotative	Consecutive: unintentional	Consecutive: intentional	Illustrative
Antecedent retrievable by “ <i>de quelle manière...?</i> ”	+	–	–	–	–
Antecedent retrievable by “ <i>qu’est-ce que...?</i> ”	–	+	–	–	–
Paraphrase “ <i>de cette manière</i> ”	+	–	–	+	–
Paraphrase “ <i>par conséquent</i> ”	–	–	+	+	–
Paraphrase “ <i>par exemple</i> ”	–	–	–	–	+

It should be noted that a few corpus examples allow two paraphrases from different categories (see for instance discussion about example 3). However, there is usually one predominant interpretation.

Now that we have the means to distinguish between the different interpretations, we can move on to the corpus data (Section 4) and see how these might relate to the grammaticalization of *ainsi* (Section 5).

4 Interpretations of *ainsi* and inversion: Corpus analysis

After describing the corpus (Section 4.1), we will present the number of occurrences of sentence-initial *ainsi* per inversion type and the interpretations that the inversion patterns combine with (Section 4.2). It will be seen that quite a few tokens go against the generalizations in the linguistic

literature (see Section 2.3.4). These exceptions will be shown to follow from independent factors that block the default type of inversion in those cases (Section 4.3).

4.1 The corpus: *Le Monde* (1998)

Our analysis (for more details and examples, see Karssenberg and Lahousse 2014) is based on the corpus *Le Monde* (1998), which contains the issues of the newspaper *Le Monde* from the year 1998 and has a total number of approximately 25.7 million lemmatized words. In order to retrieve the occurrences of *ainsi* in which the adverb is sentence-initial, the query employed was “*. ainsi*”, i.e., *ainsi* following a period. This yielded 537 tokens, which were then sorted manually in order to select all instances of *ainsi* + inversion in tensed clauses. A total of 171 sentences with sentence-initial *ainsi* + inversion were obtained.

4.2 Quantitative results

Table 2 shows that the predominant type of inversion in sentences introduced by *ainsi* is complex inversion (42% of all the cases), followed by nominal inversion (35%) and pronominal inversion (23%).

Table 2: *Ainsi* + different types of inversion.

Type of inversion	n	%
<i>Complex inversion</i>	73	42.4 %
<i>Nominal inversion</i>	59	34.9 %
<i>Pronominal inversion</i>	39	22.7 %
Total	171	100%

Furthermore, the corpus contains 366 tokens with sentence-initial *ainsi* followed by Subject–Verb constituent order. Thus, 68,1% of all tokens show no pattern of inversion, and 31,9% (171 tokens) do. Clearly, inversion is marked with respect to canonical Subject–Verb constituent order in the sense of Givón (1995), in that

“the marked category (...) tends to be less frequent (...) than the corresponding unmarked category” (Givón 1995: 28).¹⁵

All 171 examples of *ainsi* followed by inversion were then coded for “interpretation” on the basis of the tests formulated in Section 3. The results are presented in Table 3:

Table 3: Classification of *ainsi*’s different interpretations + inversion.

	Nominal inversion		Complex inversion		Pronominal inversion	
	N	%	N	%	N	%
Manner	34	57.6%	6	8.2 %	5	12.8 %
Quotative	3	5.1 %	0	0%	1	2.6%
Intentional consequence	4	6.8 %	3	4.1 %	2	5.1 %
Unintentional consequence	16	27.1 %	14	19.2 %	14	35.9 %
Illustration	2	3.4%	50	68.5 %	17	43.6%
Total	59	100%	73	100%	39	100%

As can be seen from this table, nominal inversion co-occurs in many cases with manner adverb *ainsi* (58%, see (13)) and in 5% with quotative *ainsi* (see (14)). Hence, the claim that nominal inversion *necessarily* combines with a manner or quotative adverb interpretation of *ainsi* (Molinier 2012; see Section 2.3) is too strong: the *ainsi*-sentence is introduced by consecutive *ainsi* in a third of the nominal inversion tokens of our corpus. Moreover, there are two examples of nominal inversion introduced by illustrative *ainsi*, a pattern that is not mentioned in the linguistic literature. We will analyze both unexpected patterns in Sections 4.3.1 and 4.3.2.

As for complex inversion, our data confirm that this type of inversion occurs mostly with sentence adverb *ainsi* (91,7% of all complex inversion cases, see (16)). We will explain the unexpected combination “manner *ainsi* + complex inversion” in Section 4.3.3. Furthermore, among the sentence adverb interpretations, consecutive *ainsi* has received most attention in linguistic literature, but our data show that illustrative *ainsi* is by far the most frequent interpretation of *ainsi* sentence adverb in combination with complex inversion (50 of the 73 complex inversion tokens, i.e., 69%).

15 It would be interesting to examine whether discourse genres other than the journalistic register we are considering here yield similar results with respect to the frequency of inversion (see Dorgeloh 2001; Dorgeloh 2006 for English). We leave this for future research.

Finally, previous studies suggest that pronominal inversion, contrary to complex inversion, also co-occurs with manner and quotative *ainsi* (see Section 2.2.3). With respect to *ainsi* followed by Subject–Verb order, the great majority of the 366 tokens in our corpus have an illustrative interpretation (20a), while the consecutive interpretation is less frequent (20b).¹⁶ *Ainsi* does not function as a manner adverb in any of the tokens with Subject–Verb order. In this sense, when it comes to the interpretation of sentence-initial *ainsi*, Subject–Verb order behaves more like complex and pronominal inversion.

- (20) a. *Les forums sont organisés suivant une hiérarchie bien précise, regroupés en France sous le préfixe fr. Ainsi le forum fr.comp.sys.mac traite d’informatique (COMPUTing) et plus particulièrement du Macintosh, tandis que fr.rec.boissons.vins appartient à la catégorie loisirs (RECreation).*

‘The forums are organized according to a precise hierarchy, grouped in France under the prefix fr. The forum fr.comp.sys.mac, **for example**, deals with computers (COMPUTing) and more specifically with Macintosh, whereas fr.rec.boissons.vins belongs to the category leisure (RECreation).’ (Le Monde)

- b. *L’un des principaux obstacles à la diffusion des données hors de leur cadre d’origine est en effet d’ordre juridique et financier. Les textes doivent être libres de droits, ce qui n’est pas le cas des ouvrages contemporains. Ainsi, une partie seulement des 3 500 textes, du XVI^e siècle à nos jours, textes du corpus ayant servi à la réalisation du Trésor de la langue française (TLF) a pu être portée sur Internet (en accès « fermé » sur le site de l’Institut national de la langue française... et gratuitement sur le site web de l’université de Chicago !).*

‘One of the main obstacles for the dissemination of data outside of their original context is indeed of a legal and financial nature. The texts should be free from copyright, which is not the case when it comes to contemporary works. **Therefore / Thus**, only part of the 3500 texts, from the 16th century to the present day – corpus texts that helped establish the Trésor de la langue française (TLF) – has been made available online (with “restricted” access on the website of the National Institute of the French Language... and for free on the website of the University of Chicago!).’ (Le Monde)

¹⁶ Given this paper’s focus on inversion patterns behind *ainsi*, we did not perform a detailed quantitative analysis of the corpus tokens with Subject–Verb word order.

4.3 Marked cases

In what follows, we analyze the tokens found in our corpus that seem to run against tendencies mentioned in the linguistic literature (cf. Section 2.2): the combination of “consecutive *ainsi* + nominal inversion” (4.3.1), “illustrative *ainsi* + nominal inversion” (4.3.2), and “manner *ainsi* + complex/pro-nominal inversion” (4.3.3). All these exceptions are shown to follow from independent factors that render the unmarked type of inversion (i.e., the inversion type that is normally combined with that specific interpretation of *ainsi*) unavailable.

4.3.1 Consecutive *ainsi* + nominal inversion

Contrary to what is mentioned by Le Bidois (1952), Jonare (1976), and Molinier (2012), nominal inversion does not only combine with manner *ainsi* in our corpus, but also with consecutive *ainsi* (in 20 examples), as in (21) and (22).

- (21) *Dans les ports, les cargos peuvent demeurer quatre à dix jours entre arrivée et départ, contre six à huit heures à Singapour. Ainsi s'envolent des milliards de dollars qui pourraient stimuler la croissance.*

‘The cargos may remain in the harbors from four up till ten days between arrival and departure, whereas this is six to ten hours in Singapore. Thus, billions of dollars that could stimulate growth are wasted.’ (Le Monde)

- (22) *Depuis la « revalorisation » du salaire des enseignants en 1989 par Lionel Jospin, alors ministre de l'éducation nationale, les enseignants du premier degré bénéficient d'une formation de même nature (deux ans en IUFM après la licence) que ceux du second degré. Ainsi est né le nouveau corps des professeurs d'école (PE), avec un déroulement de carrière identique à ceux des certifiés.*

‘Since the 1989 ‘revalorisation’ of the teachers’ salaries by Lionel Jospin, who was Minister of National Education at the time, primary school teachers receive a training similar to that of secondary school teachers (two years of IUFM after their *license*). Thus, a new body of school teachers (‘PE’) is established, with a career path almost identical to that of a certified teacher.’ (Le Monde)

In these cases, *ainsi* refers to a spatio-temporal context that causes the state of affairs denoted in the proposition introduced by *ainsi*. Accordingly, in (21), the

slow logistic infrastructure in the harbors leads to billions of dollars being wasted. In (22), the “establishment of a new body of school teachers” is attributed to more favorable working conditions for primary school teachers as of 1989.

In these examples of consecutive *ainsi*, the verb is always a verb of (dis) appearance, e.g. *naître* ‘to be born’, *émerger* ‘to emerge’, *se constituer* ‘to constitute’, *paraître* ‘to appear’. These examples can thus be seen as instances of locative inversion (see Cornish 2001; Lahousse 2008; Lahousse 2011), which can be seen as a subtype of nominal inversion. In these cases, *ainsi* refers to a given (or inferable) *spatio-temporal* context, and the rest of the sentence is presented as new information. In other words, the spatio-temporal interpretation of *ainsi* licenses the inversion pattern in this case (see Lahousse 2011 for more details).

4.3.2 Illustrative *ainsi* + nominal inversion

As shown in Table 3, our corpus surprisingly contains two tokens of the combination “illustrative *ainsi* + nominal inversion”.

In (23), *ainsi* clearly does not refer to the manner in which the small vase has been installed; rather, it introduces an illustration of a more general principle and can be paraphrased by *par exemple*.

(23) Illustrative *ainsi*

Pour jouer sur le registre émotionnel, Volkswagen a entrepris de multiplier les références à la contre-culture des années 60 et 70, qui fit la part belle à sa petite voiture. Ainsi a été installé sur la planche de bord, à main droite juste à côté du volant, un minuscule vase, pas plus gros que le pouce. Cet accessoire surmonté d’une petite bague percée pourra accueillir une fleur, clin d’œil complice au flower power de la fin des années 60.

‘For an emotional touch, Volkswagen has increased references to the counterculture of the sixties and seventies, which puts the emphasis on their small car. For example, a small vase, not bigger than a thumb, has been mounted on the dashboard, to the right of the steering wheel. This accessory, decorated with a small ring, can hold a flower, a small tribute to the flower power of the late sixties.’ (Le Monde)

Given that the subject (of P2) in this example is a full NP, nominal inversion could potentially alternate with complex inversion. However, complex inversion is disallowed because the subject *un minuscule vase* ‘a small vase’ is a non-

specific indefinite, which, as a rule, cannot be doubled by the pronoun *il* 'he'.¹⁷ Furthermore, complex inversion as well as Subject–Verb order in the sentence introduced by *ainsi* would cause ambiguity in the next sentence, because the anaphor *cet accessoire* 'this accessory' would be closer to the intervening *volant* 'the steering wheel' than to *un minuscule vase* (23'), its real antecedent.

- (23') # *Ainsi un minuscule vase, pas plus gros que le pouce, a(-t-il) été installé sur la planche de bord, à main droite juste à côté du volant. Cet accessoire surmonté...*

The second token in which illustrative *ainsi* co-occurs with nominal inversion is the following:

- (24) Illustrative *ainsi*

(...) *à chaque fois que l'homme remporte une victoire technique qui lui permet de repousser les limites que lui imposent les éléments dont il dispose, tout se passe comme s'il en profitait pour proliférer jusqu'à atteindre de nouvelles limites. Ainsi serait apparue, vers 10 000 ans avant notre ère, l'agriculture sur abattis-brûlis, en réponse aux insuffisances de la technique jusqu'alors pratiquée, à savoir la prédation opérée par chasse et cueillette. (...) Mais le déboisement gigantesque opéré par cette agriculture « fut sans doute le plus grand bouleversement écologique de l'histoire », estiment nos auteurs, et il a bien fallu inventer autre chose.*

'Every time man achieves a technical victory that allows him to exceed the limits imposed on him by the instruments at his disposal, it's as though he wishes to maximally exploit this new technique until he reaches new limits. For example, about 10.000 years before our era, the slash-and-burn technique apparently appeared as a reaction to the shortcomings of the technique used until that moment, namely the the hunting-gathering technique. (...) But the enormous deforestation resulting from this agricultural technique 'was likely the most radical ecological change in history', so our authors state, and so man was forced to invent something else.' (Le Monde)

In this example, *ainsi* functions as an illustrative adverb, because it introduces the slash-and-burn technique (*l'agriculture sur abattis-brûlis*) as an instance of *une*

¹⁷ Out of Buchmüller's (1975) 61 examples of complex inversion introduced by different modal adverbs, only 5 are indefinites. However, since in all these cases the context is lacking, it is impossible to know whether the indefinites are specific or non-specific. Moreover, in our corpus, none of the 73 examples of complex inversion have a non-specific indefinite NP subject.

victoire technique qui lui permet de repousser les limites que lui imposent les éléments dont il dispose ‘a technical victory that allows him to move up the limits imposed on him by the elements that are at his disposal’. In this token, the NP subject clearly provides the discourse-new and focal information, a factor favoring its postverbal position (see Section 2.1. about the information structure properties of nominal inversion). The corresponding example with complex inversion is pragmatically odd due to the focal status of the preverbal subject (24’).

(24’) # *ainsi l’agriculture sur abattis-brûlis serait-elle apparue vers ...*

Summing up, the combination ‘illustrative *ainsi* + nominal inversion’ only occurs when complex inversion is unacceptable because of contextual factors such as indefiniteness and anaphora resolution (23) and the newness of the referent of the subject NP (24).

4.3.3 Manner *ainsi* + complex/pronominal inversion

According to several authors, it is not possible for *ainsi* to have a manner interpretation in a sentence with complex inversion (see Section 2.2). However, our corpus contains 6 instances of this type. In what follows, we will show that in each of these cases, nominal inversion is excluded for independent reasons.

Firstly, in 5 out of the 6 cases (illustrated in (25)) the verb takes a lexical direct object, which, as is well known (e.g., Fuchs 2009), is incompatible with nominal inversion.

(25) Complex inversion + **direct object**

- a. « *C’était un beau saut (...).* » *Ainsi Andreas Goldberger a-t-il commenté son deuxième très beau saut à 115 m (...).*

“‘It was a beautiful jump.’ That’s how Andreas Goldberger commented on his second very beautiful jump at 155 m.’ (Le Monde)

- b. « *Alors la guerre nous a pris comme une ivresse. Sous une pluie de fleurs, nous étions partis dans une atmosphère d’ivresse de roses et de sang.* » *Ainsi Ernst Jünger décrit-il son expérience du début de la guerre de 1914.*

“‘So the war took us as if we were in a state of drunkenness. Under a rain of flowers, we had left in an inebriated atmosphere of roses and blood.’ That’s how Ernst Jünger described his experiences of the beginning of the 1914 war.’ (Le Monde)

Furthermore, nominal inversion is disfavored in (26) by the presence of the directional complement *sur une route ...* (26'), which is selected by the verb *avancer* (see Korzen 1983). Directional complements are similar to obligatory direct objects. In this sense, the example in (26) aligns with the previous cases.

- (26) *En 76 heures, Jean Paul II n'y aura certainement pas changé le cours de la vie, mais il a redonné de la fierté au peuple ibo en faisant de l'un des siens le premier bienheureux africain (de l'Ouest). Il a dit ses quatre vérités au général Abacha (...). Il a rencontré, à leur demande, les responsables musulmans. Principale autorité islamique du Nigeria, le sultan de Sokoto l'a accueilli comme « un messenger de la paix ». Cela en dit long sur la situation des musulmans modérés soumis à la surenchère de militants extrémistes actionnés par le Soudan et la Libye. **Ainsi, à Abuja comme à La Havane, à Sarajevo comme à Beyrouth, le pape** avance-t-il sur une route qu'il avait ouverte dès 1979 en Pologne.*

'In 76 hours, John Paul II will certainly not have changed their course of life, but he did give the Ibo people back their pride by appointing a fortunate (West) African as one of his assistants. He told general Abacha a few home truths. He met with the muslim authorities, at their demand. The sultan of Sokoto, the main Islamic authority of Nigeria, received him as a "messenger of peace". That says a lot about the situation of the moderate muslims subjected to the Sudanese and Libian extremist militants. In this way, in Abuja as well as in Havana, in Sarajevo as well as in Beyrouth, the pope proceeds down the path he started on in Poland in 1979.' (Le Monde)

- (26') ?? ***Ainsi, à Abuja comme à La Havane, à Sarajevo comme à Beyrouth, avance le pape** sur une route qu'il avait ouverte dès 1979 en Pologne.*

Given the occurrence of these examples in our corpus, we can thus conclude that Molinier's (2012) claim that manner *ainsi* cannot precede complex inversion is too strong. It is not the preferred option, but it is available when nominal inversion is ruled out for independent reasons.

As for pronominal inversion, some authors claim that it patterns like complex inversion (co-occurring only with sentence adverb *ainsi*), whereas according to others, pronominal inversion can also follow manner and quotative *ainsi* (cf. Section 2.3.3). At first sight, our corpus seems to confirm the latter claim: pronominal inversion combines with manner *ainsi* in five examples and with quotative *ainsi* in one case. However, in all five examples of

“manner *ainsi* + pronominal inversion”, as in (27), the verb is accompanied by a lexical direct object, as was also found for complex inversion. Hence, apart from the fact that pronominal inversion does not compete with nominal inversion in (27), since the speaker uses a pronoun rather than a full noun phrase as a subject, nominal inversion would not be possible with these particular VPs containing direct objects.

- (27) a. *Emmanuel est « mort ». Ainsi nomme-t-on les rescapés au Rwanda, des « morts » que la mort a refusé.*
 ‘Emmanuel is “dead”. That’s how you call those who escaped death in Rwanda, “dead people” that death refused.’ (Le Monde)
- b. *FRANCFORT de notre envoyé spécial. « Oui, mais... » Ainsi pourrait-on résumer le rapport de l’Institut monétaire européen (...).*
 ‘FRANKFURT from our special reporter. “Yes, but...” That’s how you could sum up the European Monetary Fund’s report.’ (Le Monde)

The corpus data show (i) that manner *ainsi* only occurs in 8 % of the complex inversion cases and in 13 % of the pronominal inversion cases, and (ii) that in all these cases, nominal inversion is excluded for independent syntactic reasons. Hence, nominal inversion is the default type of inversion in sentences introduced by manner *ainsi*, and complex/pronominal inversion only occurs when nominal inversion is not possible for independent reasons.

5 Grammaticalization

In what precedes, we have shown that *ainsi* can have different interpretations in combination with different types of inversion. From a more theoretical point of view, this immediately prompts two questions: why can *ainsi* have all these different interpretations, and what is the relation between these interpretations? It is well known that the polysemy of an expression can reflect different grammaticalization paths (König 2012: 23; see also Lehmann 1985). Investigating the diachronic path of *ainsi* can therefore shed light on its use in present-day French.

In what follows, we will first briefly present previous analyses of the grammaticalization paths of *ainsi* (Section 5.1), and then we will show that our corpus data can contribute to these analyses by (i) identifying a potential “bridging context” (Evans and Wilkins 2000; Heine 2002) and commenting on the illustrative interpretation of *ainsi* (Section 5.2). Of course, future studies of diachronic data are necessary to (dis)confirm any hypotheses about grammaticalization processes.

5.1 Grammaticalization of *ainsi*: Prior accounts

Manner adverbs are known to grammaticalize into sentence adverbs. Thus, König (2012; 2015) sees *ainsi* as one of many manner deixis markers that have followed cross-linguistically attested paths of grammaticalization (e.g., French *ainsi*, *pareil* 'same', *autant* 'as much'; German *so* 'thus'; Dutch *zo* 'thus'; English *thus*, *so*). These processes have led to different new uses, among which consecutive adverbs, quotation markers, and comparative adverbs. König (2012) states: "From a synchronic point of view, these notable processes of grammaticalization and of semantic change turn up in the uses of these demonstratives [e.g., *ainsi*] as very elaborate polysemous structures" (König 2012: 37).¹⁸ Manner adverbs can be the source of so many different sentence adverbs because their basic interpretation is "very general and vague, so that an extension of their interpretation is possible in many contexts" (König 2012: 29).¹⁹ Some of the attested cross-linguistic paths of deixis markers of manner and degree are summarized in Figure 1 below (see König 2012: 23).²⁰

According to König (2012) and Diessel (1999), the point of departure of the grammaticalization of a manner expression is always its exophoric use, that is, the manner expression is accompanied by gestures and refers to a referent in the discourse context (surroundings). The expression then evolves towards an endophoric use: it refers to a linguistic referent that precedes (anaphoric) or follows (cataphoric) the utterance of the sentence containing the manner expression. The anaphoric manner expression can then take either a conditional/inferential meaning or a comparative and then consecutive meaning; through its cataphoric use, it can take a quotative meaning (see Figure 1).

¹⁸ Our translation. "*Du point de vue synchronique, ces impressionnants processus de grammaticalisation et de changement sémantique manifestent dans les emplois de ces démonstratifs une polysémie très élaborée.*" (König 2012: 37)

¹⁹ Our translation. "*Les démonstratifs de manière sont la source d'une large variété de connectifs de proposition, due au fait que leur signification de base est très générale et vague, de sorte qu'un élargissement de l'interprétation est possible dans de nombreux contextes.*" (König 2012: 29)

²⁰ We left out three paths for the sake of clarity, and because they do not apply to *ainsi*:

- (i) exophoric → "recognitive" → approximative → focus marker;
- (ii) exophoric → anaphoric → additive (French *aussi*, *ainsi que*);
- (iii) exophoric → anaphoric → affirmation (Italian *si*)

Figure 1: Deixis markers of manner and degree: the paths of grammaticalization.

In their analysis of *c'est ainsi que* 'it is so/thus that', Lahousse and Lamiroy (2015) also argue that *ainsi* has evolved from a manner/comparative expression into a sentence adverb. The anaphoric or "relational" dimension of *ainsi* plays an important role in this process.²¹ According to these authors, the adverb has lost its concrete, manner semantics, which has been replaced by more abstract meanings such as consequence, a typical sign of grammaticalization. They also note that it is no surprise that *ainsi* in contemporary French can occur as a manner adverb as well as a sentence adverb: when an expression grammaticalizes from stage A to stage B, both stages often co-exist in a language (the notion of *layering*, Hopper 1991). Furthermore, two meanings can also be simultaneously present in one utterance, in which case one can speak of a "bridging context" (Evans and Wilkins 2000; Heine 2002). Lahousse and Lamiroy (2015) state that their corpus data contain tokens in which both the manner interpretation and the consequence interpretation are present at the same time, i.e., there is overlap (see, e.g., Heine et al. 1991; Heine 1999).

5.2 From manner adverb to sentence adverb

In what follows, we will argue that the grammaticalization paths described by König (2012) and Lahousse and Lamiroy (2015) can be supplemented by results from the corpus analysis in Section 4.

Firstly, recall that a distinction between two types of consecutive *ainsi* was proposed (Section 3.2): intentional consequence *ainsi* can be paraphrased by *de cette manière* 'in this way', whereas unintentional consequence *ainsi* cannot. Contrary to the path proposed by König (2012) from anaphoric to consecutive adverbs, in which the comparative interpretation is positioned in between the

²¹ See Lamiroy and Charolles (2004); Lamiroy (2005), according to whom the anaphoric nature of manner adverbs plays an important role in the process of grammaticalization towards a "sentence connector".

two (28a), we hypothesize that an alternative (or an additional) path could be the one visualized in (28b). Given that intentional consequence combines the semantics of manner and of consequence, it can be seen as a bridging context between manner and consequence.²²

- (28) a. Anaphoric manner → comparative → consecutive
 b. Anaphoric manner → intentional consequence → unintentional consequence

Secondly, it is interesting to note that the interpretation that is by far most frequent in combination with *ainsi*, namely illustration, is not (yet) integrated into Figure 1. This use of *ainsi* can be said to be the most “semantically bleached” in that it no longer refers to any manner or cause, but simply presents a link between a set in the previous discourse and an example of this sub-set in the sentence introduced by *ainsi*. Further insight into this under-researched interpretation of *ainsi* could come from taking a cross-linguistic perspective, that is, from examining *ainsi*’s cognates in languages that followed similar paths, described by König (2012, 2015, 2017) (see Figure 1). As (29) shows, both German *so* ‘thus’, Dutch *zo* ‘thus,’ and English *so* can function as a manner adverb, although in English, the adverb needs to be reinforced by *like* (see König 2017).

- (29) a. **German:** manner *so* ‘thus’
Peter fährt so: + mimicking gesture (indicating behavior)
 ‘Peter drives like this’
 (König 2017: 3, our translation)
 b. **Dutch:** manner *zo* ‘thus’
Zo heeft de modewereld David Bowie geëerd.
 ‘This is how the fashion scene honored David Bowie.’
 (<https://www.hln.be/nina/style/zo-heeft-de-modewereld-david-bowie-geeverd~aab08e70/> (accessed on 1 December 2017))

²² An anonymous reviewer wonders whether every part of the cline proposed in (28b) is due to grammaticalization, pragmaticalization, or something else (Heine 2013; Hancil 2014), and how it relates to the notion of subjectification (Traugott and Dasher 2002). We believe that subjectification is less at stake in the development of the different interpretations of *ainsi*, because neither of those interpretations clearly encode speaker belief or viewpoint. Rather, the link that *ainsi* creates operates at the (inter)propositional level. Furthermore, to the extent that the different uses of *ainsi* cannot easily be classified as discourse markers, the notion of pragmaticalization – which leads to the emergence of discourse markers according to Heine (2013: 1217) – is less relevant in this context.

c. **English:** manner *so*

Why don't you do it like so/like this (+ gesture)?

(König 2017: 5)

German *so* 'thus' and Dutch *zo* 'thus' are also productively used as quotation markers (30a–b). In English, the adverb *so* is only used as a quotation marker in rather archaic formulations (30d), and although *thus* is also possible (30c), the translations of the French, German, and Dutch quotative uses show that *like this* is a more natural way to indicate a quotation.

(30) a. **German:** quotation *so* 'thus'

Der Präsident hat es so formuliert: "..."

'The president put it like this: ...'

(König 2017: 13)

b. **Dutch:** quotation *zo* 'thus'

President Thomas S. Monson heeft het zo verwoord:: "..."

'President Thomas S. Monson put it like this: ...'

(<https://www.lds.org/broadcasts/article/worldwide-devotionals/2016/01/find-joy-in-everyday-life?lang=nld> (accessed on 1 December 2017))

b. **English:** quotation *thus*

Fowler, in his inimitable style, puts it thus: "..."

(<http://www.btb.termiumplus.gc.ca/tpv2guides/guides/favart/index-eng.html>

[lang=eng&lettr=indx_autr8nk3zKJYfVlg&page=9qJfFtm25mQs.html](http://www.btb.termiumplus.gc.ca/tpv2guides/guides/favart/index-eng.html?lang=eng&lettr=indx_autr8nk3zKJYfVlg&page=9qJfFtm25mQs.html) (accessed on 1 December 2017))

d. **English:** quotation *so*

And who are you, the proud lord said, that I must bow so low? (...)

*And **so** he spoke, and **so** he spoke, that lord of Castamere*

(http://awoiaf.westeros.org/index.php/The_Rains_of_Castamere (accessed on 1 December 2017))

As for the consecutive uses of the adverbs under consideration, German *so* is reinforced as *somit* 'thus' (lit. *so with*) (31a). In Dutch, *zo* 'thus' can be reinforced as *zodoende* 'thus' (lit. *so doing*), but it need not be: in (31b), *zodoende* 'thus' can be replaced by *zo* 'thus'. In English, *thus* can be used to express a cause-consequence relationship (31c), and so can *so*, reinforced or not by *that* (31d).

- (31) a. **German:** consecutive *somit* 'thus'

*Das Skidepot der Ahornbahn befindet sich direkt an der Talstation - **somit** kannst Du Deinen Heimweg unbeschwert genießen.*

'The ski depot of the Ahornbahn is located directly by the bottom station; so (lit. thus) you don't have to carry all your luggage back to the hotel.'

(<https://www.linguee.de/deutsch-englisch/uebersetzung/somit+kannst+du.html> (accessed on 1 December 2017))

- b. **Dutch:** consecutive *zo/zodoende* 'thus'

*Door loopbaanbegeleiding leer je meer over jezelf en wat jij uit een bevredigende job/carrière wilt halen. (...) Maak plaats voor meer passie en plezier in je werk. **Zodoende** kan je beter beslissingen nemen om ook een nieuw pad in te slaan dat leidt naar een betere of nieuwe loopbaan + meer.*

'Through career counseling you will learn more about yourself and about what constitutes a satisfying job /career for you. Make room for more passion and fun in your job. **Thus** you will be able to make decisions more easily for a new or better career path, and possibly more.'

(<http://ekundu.eu/nl/loopbaan/> (accessed on 1 December 2017))

- c. **English:** consecutive *thus*

*Please note that a finished task can only be opened in read-only mode, meaning that it is write-protected, and **thus** you cannot edit the task any further.*

(<https://www.across.net/online-help/v60/across/data/acrossSchritte30.htm> (accessed on 1 December 2017))

- d. **English:** consecutive *so*

*We brought some toys along, **so** that the children were kept busy.*

(König 2017: 12)

However, contrary to German *so* 'thus' and Dutch *zo* 'thus', English *so* and *thus* cannot have an illustrative interpretation, as shown by the examples in (32).

- (32) a. **German:** illustrative *so*

[Description of the menu on a boat] *Bei besonderen Veranstaltungen wird das Angebot schon mal um passende Spezialitäten erweitert. **So** gibt es zu den Erzählungen von Käpt`n Kalle auch schon mal Pannekoeken und Vla.*

'Lit. At special events is the menu already sometimes for fitting special-ties broadened. So gives it to the stories of Captain Kalle also already sometimes pannekoeken and vla.'

‘The menu can be adapted in the case of special events. For example, when Captain Kalle tells stories, sometimes pannenkoeken and vla [Dutch specialties] are served.’

(<http://www.ruhr-guide.de/ausgehen/clubs-und-discos/herr-walter-das-eventschiff-im-dortmunder-hafen/21894,0,0.html> (accessed on 1 December 2017))

b. **Dutch:** illustrative *zo*

*Rilatine® is niet het enige medicijn dat wordt voorgeschreven bij ADHD/ADD. **Zo** is er ook Concerta® dat een langere werking heeft.*

Lit. ‘Rilatine® is not the only medicine that is prescribed with ADHD/ADD. So is there also Concerta® that a longer effect has.’

‘Rilatine® is not the only medicine that is prescribed for ADHD/ADD. For example, there’s also Concerta®, which has a longer-lasting effect.’

(<https://www.druglijn.be/drugs-abc/drugs-algemeen/veelgestelde-vragen/rilatine> (accessed on 1 December 2017))

c. **English:** *illustrative *so*

* **So / thus**, there is also Concerta®, which has a longer-lasting effect.

* **So / thus**, sometimes pancakes and vla are served when Captain Kalle tells stories.

It could therefore be the case that the illustrative meaning was the last to emerge in French, German, and Dutch, and that this simply did not (yet) happen in English.²³ Clearly, the illustrative interpretation is still in need of further research, both from a diachronic and a cross-linguistic point of view.

23 Note, furthermore, that French *ainsi* lacks certain interpretations that its German, Dutch, and English counterparts can express. For instance, Dutch *zo* ‘thus’ and German *so* ‘thus’ can be used as comparatives, but in French *aussi* ‘also/as’ must be used (i), and the intensifying use of English *so* (ii) (also possible in German and Dutch) cannot be conveyed by French *ainsi* (iii) – instead *tellement* ‘so’ or *si* ‘so’ must be used.

(i) German: *Peter ist **so** schwer wie Paul (schwer ist).*

Peter is as heavy as Paul (heavy is)

(König 2017: 10)

Dutch: *Peter is **zo** zwaar als Paul (zwaar is)*

Peter is so heavy as Paul (heavy is)

French: *Peter pèse **aussi** lourd que Paul.*

Peter weighs as heavy as Paul

‘Peter is as heavy as Paul.’

(ii) English: *John is so/SOOOO attractive!* (König 2017: 12)

(iii) French equivalent: *John est *ainsi beau!*

Summing up, we hypothesize that (i) intentional consequence may have been a bridging context between manner and consequence, and (ii) the illustrative interpretation may have been the last to develop.

6 Conclusion

In this article, we have analyzed the adverb *ainsi* in sentence-initial position, preceding nominal, pronominal, or complex inversion. On the basis of 171 attested corpus tokens, the various interpretations of *ainsi* were analyzed, and a classification of four main uses was proposed: manner adverb, quotation marker, consecutive sentence adverb, and illustrative sentence adverb. Within the consecutive adverb category, a further distinction was made between two types, unintentional consequence and intentional consequence, the latter of which combines the semantics of manner and consequence. In order to distinguish these interpretations, a set of tests was developed, which was then applied to our corpus.

Two important quantitative tendencies emerge from our analysis: (i) nominal inversion often combines with manner *ainsi* (58 % of all nominal inversion tokens), whereas (ii) complex inversion co-occurs almost exclusively with sentence adverb *ainsi* (92 % of all complex inversion tokens); more specifically, it combines with illustrative *ainsi* (69 % of all complex inversion tokens), which has hardly received any attention in the literature. In addition, our data allow us to contest the claim (Molinier 2012) that nominal inversion only combines with manner *ainsi*: this type of inversion quite often combines with consecutive *ainsi* as well (33 % of all nominal inversion cases). Finally, we have shown that, unexpectedly, pronominal inversion is not less constrained than complex inversion concerning the interpretations of *ainsi* it allows: it turns out that both types of inversion only combine with manner *ainsi* when nominal inversion is excluded due to the presence of a direct object. We therefore argue that nominal inversion is the default constituent order when manner *ainsi* is sentence-initial, while the other types of inversion are only used when nominal inversion is unavailable.

We have also argued that our corpus data can contribute to grammaticalization theory. Firstly, a possible bridging context was identified (intentional consequence), and secondly, given the high frequency of illustrative *ainsi*, this interpretation deserves to be integrated into the grammaticalization paths of *ainsi*, although it is not clear yet from which interpretation it originally emerged.

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