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# Coordination with Causal Subordinators

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## 1. Introduction

The coordinate conjunction of premodifiers in the form of [*adjective + conjunction + adjective*] *noun* is available with coordinators such as *and*, *or*, and *but*, as exemplified in (1).

- (1) a. [kind and gentle] people, [physical and mental] health, [civil and political] rights ...  
b. [small but growing] group, [critical but stable] condition, [small but real] risk ...  
c. [free or reduced] lunch, [elementary or middle] school, [daily or weekly] basis ...

It is well-known that this structure is also present in the subordinators *though* and *if* that are regarded as limited irregularities. These usages are listed in dictionaries, as presented in (2) and (3) in the next section. However, *because* is another conjunction used in this function, of which examples are attested in the citations of *the Oxford English Dictionary* (OED). Surprisingly, no dictionary that I have consulted lists this usage as a conjunction, which indicates that it is not widely acknowledged.

In contrast, conjunctions of temporal relations, such as *when*, *after*, and *before*, do not seem to be employed in this function. No example is given in dictionaries, and I could not find any instance of these in the Corpus of Contemporary American English (COCA) or in the Corpus of Historical American English (COHA). It is important to note that *while*, having a small number of attested examples, is restricted to its concessive meaning, not the temporal meaning, when used in relevant constructions. The same observation also applies to *since*. It is more difficult to find examples of this usage with this connector, but when it is employed in this function, it is used in the causal meaning, not in the temporal meaning. In short, this usage is employed for designating causal relations, but not for describing temporal relations. This study tries to delve into the reasons for this asymmetrical distribution of function between causal and temporal conjunctions, namely the ability of causal subordinators to participate in the word-level coordination of premodifiers and the inability of temporal subordinators to assume the same function.

The remainder of this paper proceeds as follows. Section 2 deals with the descriptions presented in dictionaries with regard to the present problem, and with the results of a corpus survey with a variety of subordinators to see if they are employed in the word-level coordination of premodifiers. Section 3 explores three points related to the asymmetrical distribution of function: (i) propositional property of cause-effect coherence relations, (ii) essential and permanent properties ceded to premodifiers, and (iii) ordering flexibility of conjuncts. All the arguments in this section indicate that causal subordinators are amenable to the new structure, while temporal ones are not. We cannot determine the most influential factor, and yet, as far as all the factors point in the same direction, it is only a natural move for causal subordinators to assume a new function as a coordinator; temporal subordinators do not assume this function. Section 4 summarizes this argument.

## 2. Description in dictionaries and the results of the survey in COCA and COHA

### 2.1. Entries in Dictionaries

As mentioned in the introduction, it is reported that *though* is listed as a coordinator of premodifiers.

- (2) though
  - a. Shogakukan Random House English-Japanese Dictionary (RAN)  
e.g., a stern though fair teacher
  - b. Readers English-Japanese Dictionary (REA)  
e.g., a shabby though comfortable armchair
  - c. Kenkyusha's New English-Japanese Dictionary (KEN)  
e.g., a small though comfortable house
  - d. Taishukan's Unabridged Genius English-Japanese Dictionary (GEN)  
e.g., a shabby though comfortable sofa

Another subordinator *if* also qualifies as a conjunction employed in this structure. It is important to note that *if* is used with a concessive meaning in this construction.

- (3) if
  - a. RAN/REA [concessive] (even if) (even though)  
e.g., an enthusiastic if small audience
  - b. GEN [concessive] (used parenthetically)  
e.g., a very pleasant if talkative boy
  - c. Longman Dictionary of Contemporary English (LDOCE)  
e.g., Lunch was a grand if rather noisy affair.
  - d. Merriam-Webster's Advanced Learner's English Dictionary (MER)  
(even though)  
e.g., It was an interesting if unbelievable story.
  - e. Cambridge Advanced Learner's Dictionary (CAL) (although)  
e.g., It was a hot, if windy day.

However, no entry of *because*, *while*, or *since* is found in the following dictionaries as far as the coordinate structure of our concern goes: RAN, REA, KEN, GEN, LDOCE, MER, CAL, Macmillan English Dictionary for Advanced Learners (MAC), and Oxford Advanced Learner's Dictionary (OALD).

## 2.2. Data gleaned from OED, COHA, and COCA

Although not listed in dictionaries, examples of *because* as a coordinator are attested in OED.

- (4) From OED (18 instances out of 10,535 citations)
  - a. 1660 Thy humane traditions, and [unauthentick **because** uncatholick observations], instead of Christ's institutions.
  - b. 1769 [This execrated, because culpable child].
  - c. 1796 The unsuspecting frankness of [an unguarded, **because** innocent nature].
  - d. 1879 If it be soft, broken granite ... will prove [a useless **because** an unendurable surface].
  - e. 1912 This style (of pottery) was found in [the important **because** well-stratified site] at Phylakopi.

COHA and COCA also attest examples of the same kind.

- (5) COHA (42 cases out of 283 hits) <sup>1</sup>
- a. 1835 Such a hope is often a prelude to [a more awful, **because** unexpected doom].
  - b. 1850 The Whigs had the majority on their side, and the Democrats nothing but principle, and [unanswered, **because** unanswerable, arguments] ...
  - c. 1856 And as the song of the bells fell upon his ear, it awakened in the drunkard a thousand memories of [happier, **because** better days].
- (6) COCA (8 cases out of 1413 hits)
- a. There is [an intriguing, **because** counter-intuitive, irony] in Bowles' findings ...
  - b. ... he will unquestionably suffer for his pains, and give a good deal of [unnecessary **because** fruitless trouble] into the bargain.
  - c. It is an extreme form of self-denial, [an inauthentic **because** incredible attempt] to suppress the sometimes terrible misery of individuality.<sup>2</sup>

*Though* and *if* in the construction are listed in dictionaries; therefore, I will simply cite some examples from COCA to demonstrate that they are employed in daily contexts.

- (7)
- a. Karen Ross was nearly six feet tall, [an attractive **though** ungainly girl].
  - b. Brazilian cachaa is likewise made from sugarcane juice or syrup, but different production methods make it [a close **though** distinct relative].
  - c. Granny Bones replied in the very tone so venerable a lady might use toward [a favored **though** forward grandchild].
  - d. ... Elsevier serves the needs of [incompetent **though** ambitious academics].
  - e. Mr. Bush did not use that phrase in his speech in Japan, nor did he mention North Korea by name, but he did make [this indirect **though** pointed reference].
- (8)
- a. ... while some might have seen it as dragging, it really was just laying down [a solid **if** unspectacular groove].
  - b. This would be [a splendid **if** impossible achievement].
  - c. Increasing lift was a matter of refining blade design and boosting motor power density, [a straightforward **if** non-trivial task].
  - d. It's mostly [a well-made **if** complicated game].
  - e. A critic said Devorah was reaching toward Sargent, [a worthy **if** unattainable goal].

We will now proceed to the verification of other conjunctions, starting with *while*. First, I could not find any example of word-level coordination in OED. COCA and COHA (with the search strings of [j\*] *while* [j\*][n\*] / [j\*], *while* [j\*] [n\*] / [j\*], *while* [j\*], [n\*] / [j\*] *while* [j\*], [n\*]) returned five relevant instances out of 573 hits in COCA and two out of 236 hits in COHA. Although the number of examples is quite small, it is clear that they are all used in the meaning of concession, similar to *though*. This is enough to ascertain that they are not used in the temporal sense of *during the time that*.

<sup>1</sup> Search strings of [j\*] *because* [j\*] [n\*] / [j\*], *because* [j\*] [n\*] / [j\*], *because* [j\*], [n\*] / [j\*] *because* [j\*], [n\*] were used for the data search. [j\*] stands for adjectives, and [n\*] for nouns. COCA was accessed from 2020/5/20~2020/8/12, and COHA from 2021/3/20~2021/4/25).

<sup>2</sup> British National Corpus returns 86 hits for the search string [j\*] *because* [j\*] [n\*], and the following example shows that the structure in question is also attested in this database.

(i) From the Col there is, in summer, a rack railway that will lift you, if you are so minded, to [the conspicuous **because** lonely summit] of La Rhune, which is far and away the most prominent mountain at this Atlantic end of the Pyrenees, even though it is no more than 3,000 feet high. (BNC FA2)

- (9) a. Starring Chlo Sevigny The fashion-forward actress models the best looks from the Paris runways--think [an angelic **while** pleated dress], a sultry lake (*sic*) on a tuxedo and a glamour-girl confection of a gown--that will surely be setting the trends to come. (COCA 2005 MAGAZINE Bazaar)
- b. This article explores one aspect of how evangelicals manage this paradoxical task of adapting their tradition to [the local **while** remaining part] of translocal evangelical movements. (COCA 2005 Academic Anthropological quarterly)
- c. Because I think he taught us all how to as journalists hold politicians responsible for what they say and what they do, make them match up to their own words and their own rhetoric, but to do it in [a fair **while** tough way]. (COCA 2008 FOX Spoken)
- d. Schopenhauer saw [a similar **while** different problem]: Questions are not only historical in a social context but even in a private one. (COCA 2012 Web)
- e. Poor Jeanne! she crowns her with a puppet love, As children put on paper diadems, And play [the real, **while** unreal kings] ... (COHA 1863).

As for *since*, no relevant data were attested in the citations of OED. COCA and COHA returned 481 and 135 hits for *since*, respectively. The only relevant example in the database is provided below, which is also interpreted causally, not temporally.

- (10) [The anti-federal, **since** Democratic, party], were far from being opposed to that great instrument; as a whole, hut (*sic*) they strained every nerve to popularize its provisions in some important details, and to add to the security of the freedom it guaranteed, by some judicious amendments. (COHA 1838)

The subordinators *while* and *since* originate in temporal use and subsequently extend to causal use (Traugott 1988: 406–7). As will be demonstrated in the next section, temporal subordinators are not likely to be used in this construction; this could be the reason for the unproductivity of causal subordinators originating in temporal uses, such as *while* and *since*. Till now, the construction in question addressed subordinators designating causal relations (*though*, *if* (*concessive*), *because*, *while* (*concessive*), and *since* (*causal*)).

Next, we examine the problem of whether the same structure is present in temporal subordinators, such as *when*, *before*, and *after*. First, we will take the case of *when*. COCA returned 1195 hits (with the strings of *[j\*] when [j\*] [n\*] / [j\*], when [j\*][n\*] / [j\*], when [j\*], [n\*] / [j\*] when [j\*], [n\*]*), and COHA returned 432 hits, but no relevant data were found. Similar results were observed in the cases of *after* and *before*. COCA returned 348 and 206 hits, respectively, for *after* and *before*, and COHA showed 148 and 107 hits, but no relevant data were found.<sup>3</sup>

<sup>3</sup> Additional data search with COCA for the subordinators *unless*, *once*, *now* (*that*), *until*, *till*, and *so* with the search string of *[j\*] conj [j\*] [n\*]* returned 48 hits for *unless*, 32 for *once*, 46 for *now* (*that*), 231 for *until*, 14 for *till*, and 133 for *so*. No relevant data, however, were attested. More than 4000 hapax legomena obtained for *as*; moreover, it is sometimes difficult to determine the meaning of the conjunction in a given context. I could not find any relevant example among the tokens occurring more than once in the corpus (857 hits).

### 3. Characteristics of conjunctions of causal relations

In light of the observations presented in the previous section, it seems that the coordination employing subordinators, which is not acceptable from a prescriptive point of view,<sup>4</sup> is admitted only with causal subordinators. We would like to delve into the reasons for this proclivity attested with causal subordinators, especially in contrast to temporal subordinators that show no affinity for this structure.

#### 3.1. Propositional property of causal relations

Regarding the coherence relations of text and discourse, Kehler (2002, 2019) distinguished three types of coherence relations (Resemblance, Cause-Effect, and Contiguity). The following are the restrictions he proposed for cause-effect coherence relations.

(11) Kehler's restrictions on cause-effect coherence

- a. Result:  $P \rightarrow Q$  (e.g., and as a result, therefore)  
George is a politician, and therefore he's dishonest.
- b. Explanation:  $Q \rightarrow P$  (e.g., because)  
George is dishonest because he's a politician.
- c. Violated Expectation:  $P \rightarrow \sim Q$  (e.g., but)  
George is a politician, but he's honest.
- d. Denial of Preventer:  $Q \rightarrow \sim P$  (e.g., even though, despite)  
George is honest, even though he's a politician.

(Kehler 2002: 20-21)

P and Q in the formulae represent the propositions in the first and second sentences, respectively. It is important to note that causal relations are maintained between two propositional contents (not between phrasal or word-level contents). Subordinators like *because* and *though*, present in examples in (11), connect sentential categories, and conform to the coherence restrictions.

The structure of our concern should be categorized as an instance of cause-effect relations, as far as it employs subordinate conjunctions such as *because* or *though*. On face value, however, the conjuncts in this structure are premodifying adjectives, which are claimed to be word-level categories (Sadler & Arnold 1994). Thus, the conjuncts do not seem to qualify as propositional contents, and need to be conceptually expanded to fit themselves into propositional contents.

A possible way to look into this problem is to analyze the structure in terms of the ellipsis strategy frequently attested in subordinate clauses. In these clauses, a subject co-referential with a participant in the main clause, together with a copular verb, is likely to be deleted.

- (12) a. **Although** [she was] no longer a minister, she continued to exercise great power.  
b. **Once** [she was] away from home, she quickly learned to fend for herself.  
c. He can be very dangerous **when** [he is] drunk.  
d. **While** [I was] in Paris, I visited Uncle Leonard.

(Huddleston and Pullum 2002: 1267)

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<sup>4</sup>Quirk et al. (1985: 923) claim that coordinators can link clausal constituents, and this characteristic is taken to be distinguishing coordinators from subordinators.

In light of the ellipsis, coordinate structures employing subordinators appear to use the same strategy of eliding a subject co-referential with a participant in the main clause together with a copula.

(13) Coordinator **though**

- a. That was [a small though comfortable house].  
⇒ That was a small house though [that was] a comfortable house.
- b. He was [a stern though fair teacher].  
⇒ He was a stern teacher though [he was] a fair teacher.

(14) Coordinator **because**<sup>5</sup>

- a. If it be soft, broken granite ... will prove [a useless because an unendurable surface].  
(=(4d))  
⇒ If it be soft, broken granite ... will prove a useless surface because [it is] an unendurable surface.
- b. This style [of pottery] was found in [the important because well- stratified site] at Phylakopi. (=(4e))  
⇒ This style of pottery was found in the important site at Phylakopi, because [it was] a well-stratified site.<sup>6</sup>

Adjective premodifiers in the position of the conjuncts are required to expand their conceptual content by employing a causal subordinator, which is expected to connect propositional contents. For the expansion of propositional contents, a familiar strategy for subordinators is readily available, namely the addition of a subject co-referential with a participant in the main clause together with a copula. The elliptical structure for subordinators works as key to the appropriate extension of the propositional content in question.

In contrast, temporal expressions need not be understood to connect propositional contents. *Before*, *after*, and *since* (*temporal*) may select nominal time expressions as their complements, forming adverbial phrases. They are not necessarily required to expand their semantic contents to fit into a proposition. In this respect, they do not work as automatic signposts for the conceptual expansion of word-level conjuncts, in contrast to causal subordinators.<sup>7</sup>

<sup>5</sup> Coordinate constructions with subordinators in OED comprise of not only adjective conjuncts, but also adverbial ones (5 cases out of the 18 examples in (4)). In these cases as well, the conjuncts are easily expanded to correspond to a propositional content, since they are taken to modify the verb phrase of the matrix clause.

(i) 1678 This they *do* [most slow **Because** most choicely].

⇒ This they do most slow because (this they do) most choicely.

(ii) 1800 It had been [most uncandidly, **because** untruly] *argued*.

⇒ It had been most uncandidly argued because (it had been) untruly argued.

<sup>6</sup> OED lists citations of elliptical structures for *when/while* at least as early as the end of the 16<sup>th</sup> century, as in (i) and (ii), and *because* also has the same structure around the same period, as shown in (iii) and (iv). Coordinate structures of our concern is attested at least as early as the latter half of the 17<sup>th</sup> century, as in (4a).

(i) 1591 **While** [they were] in ambushment close they lay on land.

(ii) 1643 God ... takes his opportunity, (for we are best, **when** [we are] at worst).

(iii) 1592 Great houses long since built Lye destitute and wast, **because** [they are] inhabited by Nobody.

(iv) 1596 He is likewise called Sathan, **because** [he is] an aduersary: · · and Belial, **because** [he is] **yoakles** (yokeless). (from the *Oxford English Dictionary*)

<sup>7</sup>COCA returns many instances of *adjective+before/after/since+adjective+noun* sequences, most of which consist either of “a predicative adjective + prepositional phrase” (as in the following) or of “a predicative adjective + conjunction + subject of the following clause.” The search string does not necessarily pick up conjunctive usages of *before/after/since*.

- (15) a. John returned home before Christmas.  
 b. John came home after the incident.  
 c. John has been working for the company since 2018.

*When* and *while* (*temporal*) cannot be used as prepositions, and need to be analyzed as connectors of propositional contents. In this respect, they are not at all different from causal conjunctions such as *because*, *if* (*concessive*), *though*, and *while* (*concessive*). However, they are not more qualified to be the connectors of premodifiers in noun phrases than the other temporal subordinators in the two respects dealt with in Sections 3.2 and 3.3.

### 3.2. Incompatibility between temporal relations and premodification

Premodifiers are claimed to be used for designating essential and permanent properties of the referents of modifying nouns, rather than temporary properties (Bolinger 1967: 4). In contrast, temporal subordinators, combined with modifiers, restrict the temporal validity of the properties described by the modifiers. For instance, the combination of *when* and *young* evokes a situation where the property of youngness holds for a limited span of time. The same situation holds for other temporal subordinators, such as *before*, *after*, *while* (*temporal*), and *since* (*temporal*). They all specify a limited portion of the time when the properties in the complement hold. Thus, premodifiers and temporal subordinators are incompatible with each other. It is natural that we do not find coordinate structures of premodifiers combined with temporal subordinators.<sup>8</sup> In contrast, causal relations have nothing to do with the temporal nature of the properties in the position of the cause or effect. Essential and permanent properties can be the cause of an effect that is described by a premodifier specifying another essential and permanent property. It can be claimed that causal connectors are not incompatible with premodification, while temporal connectors are.

The incompatibility between temporal subordinators and premodifiers dissolves once the modifiers are postposed together with the subordinator. Examples in (16) to (18) show that postmodification, encoding temporary properties, permits the combination of adjectives and the subordinator *when*.

- (16) a. He's an ass [unrivaled **when** drunk]. [postmodification]  
 b. ??He's an [unrivaled **when** drunk] ass. [premodification].  
 (17) a. That's an operation [available **when** necessary]. [postmodification]  
 b. ??That's an [available **when** necessary] option. [premodification]  
 (18) a. This is the amount [payable **when** due]. [postmodification]  
 b. ??This is the [payable **when** due] amount. [premodification]  
 (19) OK a floor [slippery **when** wet]  
 OK a [slippery **when** wet] sign

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(i) Part I discusses the right to be present **before** military commissions.

(ii) They feel beautiful **after** cosmetic surgery.

(iii) She's been awfully busy **since** high school.

<sup>8</sup> Strictly speaking, premodifiers can designate both temporal and essential properties, as demonstrated in (i) and (ii).

(i) the currently navigable rivers

(ii) the navigable navigable rivers (navigable rivers that are navigable now) (Kawamura 2019 : 56)

However, in contrast to postmodifiers that designate temporally limited properties, premodifiers are easily interpreted to describe essential and permanent properties, as an effect of the pragmatic division of labor between the two types of modification.



The phrase *slippery when wet* in (19) appears in both prenominal and postnominal positions. I believe this phrase should be treated as an exceptional compound adjective. The string of [*slippery when wet*] + *N* in COCA and COHA returns only the compound use of the title of an album by the rock group Bon Jovi, *Slippery When Wet*.

Another point worth mentioning is that adjective combinations using *and* and *when/while* are semantically different even without the modified nouns, as shown below. (*Adjective* + *when/while* + *adjective* is frequently observed, while *adjective* + *before/after/since* + *adjective* is not a common combination; therefore, we only take up the cases of *when/while* here.)

- (20)
- a. perfectly flat when open vs. perfectly flat and open.
  - b. gigantic when excited vs. gigantic and excited
  - c. frigid when damp vs. frigid and damp
  - d. flexible when moist vs. flexible and moist
  - e. inedible when raw vs. inedible and raw
  - f. useless while angry vs. useless and angry
  - g. depressed while pregnant vs. depressed and pregnant
  - h. silly while drunk vs. silly and drunk
  - i. idle while unemployed vs. idle and unemployed

The semantic relation designated by *when/while* is different from the one specified by *and*; therefore, the two types of adjective combinations do not show much affinity with each other. This is in clear contrast with the causal relations to be dealt with in the next section. Causality is expressed by both causal subordinators and simple coordinators, such as *and* and *but*. This is a good testimony to the fact that they both share semantic commonality, which gives rise to the extended use of causal subordinators in coordinate structures.

### 3.3. Causality of coordinate structures and the peculiarities of temporal relations

#### 3.3.1. Causal interpretations and their realization

Another relevant factor might be the types of causal relations presented in (11). We have two positive causal relations of Result and Explanation, and two negative causal relations of Violated Expectation and Denial of Preventer. We need to pay attention to the coordinate conjunctions (*and* and *but*) listed as prototypical connectors for the relations of Result and Violated Expectation. They show that causal relations are realized by ordinary coordinate conjunctions. Consulting the data in corpora, we can understand that coordinators in combination with conjunctive adverbials are used to express causality in several ways.

The relation of Result is explicitly coded in the combination of *and therefore*, and we find examples such as the following in COCA employing the combination of the coordinator and conjunctive adverb for the construction of our concern.

- (21)
- a. According to Josephus, the Pharisees were the group most influential with the people, were noted for [their accurate **and therefore** authoritative interpretations] of Jewish law, ...
  - b. In referring to Shona (Zimbabwe) art, but also relevant to Makonde, Povey set forth the problem of [an amorphous **and therefore** anonymous school of art] (1987:12).

There is one important difference between Result, codified by *and therefore*, and Explanation, codified by *because*—the linear ordering of cause and effect. We will return to this topic later.

In the case of adversative causal relations, both *and* and *but* are employed together with conjunctive adverbials. COCA returns many different combinations of *coordinator* + *conjunctive adverb*, as shown below.

- (22) a. Payne's latest film, *Sideways* (see review on page 46), is [a dark **but unexpectedly** sweet comedy] that runneth over with messy realities.  
 b. The first woman he sees is Miss Sarah, [a prim **but unexpectedly** sultry Salvation Army drum thumper].
- (23) a. Adorning the walls of the caves were [crude **but surprisingly** subtle paintings, engravings, and line drawings] of reindeer, bison, boars, aurochs, early horses, and woolly mammoths.  
 b. To do so, she must take on [hundreds of dangerous **but surprisingly** cute phantoms] living in the surrounding forests and mountains.
- (24) a. M. M. Cohen, a Charleston lawyer and state militia officer who wrote the popular *Notices of Florida and the Campaigns* (1836) soon after returning from the war, thus portrayed [Abraham's attentive **but nevertheless** deferential role] as one of Micano-py's trusted aides as nothing less than a deceitful ruse.  
 b. I insisted she "freshen" herself up and as she performed the necessary ablutions I had Herman prepare [a properly austere **but nevertheless** festive refreshment] for the two of us.
- (25) We took all measures to participate in the military operation, in [unhappy **and nevertheless** likely occasion] which it would be necessary ...
- (26) a. Keren David narrated [a complex **and yet** simple situation].  
 b. [A complex **and yet** stimulating read].
- (27) a. It is also the first convincing evidence of [an accepted **but yet** unsubstantiated theory] of roaming planets.  
 b. Part-time faculty made up [a small **but yet** significant percentage] (17%) of the total physical education faculty within the HBCUs.
- (28) a. Add broccoli rabe to broth. Simmer until [tender but still bright green], 3 to 5 minutes.  
 b. He is appealing to and educating [the decent **but still** clueless people] of good will who are our potential allies.<sup>9</sup>

All of these phrases describe adversative relations, but they are different from the concessive relations exemplified by the subordinators *though*, *if*, and *while*. Constructions with coordinate conjunctions are classified into Violated Expectation in (11c): the default expectation retrieved from the properties of the first adjective conjunct is canceled, and the converse of the expectation is brought about in the second conjunct. In contrast, strings employing subordinate conjunctions designate the relation of Denial of Preventer in (11d): against the default expectation of the second conjunct, the properties in the first conjunct still hold. In the case of Violated Expectation, the first conjunct is presupposed and the second becomes the asserted

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<sup>9</sup>[*A and surprisingly A*] *N* does not seem to express an adversative relation. Rather, it specifies the relation of addition of the second conjunct; therefore, it is not listed in this group of causal coordination.

(i) But the confirmed bachelor underestimates [the quick-witted **and surprisingly** sensual Miss Grenville].

(ii) Only when you look at them from a distance do the images fully emerge as [recognizable **and surprisingly** three-dimensional landscapes].

[*A and unexpectedly A*] *N* and [*A and still A*] *N* are also excluded for the same reason.

part, while in Denial of Preventer, the first conjunct is the assertion and the second conjunct is presupposed. This asymmetry is verified by the following examples.

- (29) This room is a bit shabby, but still very comfortable. I'm absolutely sure.  
---I'm sure of its comfortableness.
- (30) This room is very comfortable, though a bit shabby. I'm absolutely sure.  
---I'm sure of its comfortableness.
- (31) He is very stern, but fair. I'm absolutely sure.  
---I'm sure of his fairness.
- (32) He is fair, though very stern. I'm absolutely sure.  
---I'm sure of his fairness.

B is the asserted part in *[A but (still) B]*, since it is the target of the speaker's certainty. A is given so that it is not weighed according to the degree of certainty. In contrast, in the case of *[A though B]*, A is the target of the assessment of the degree of certainty, and B is presupposed.

In short, coordinators and subordinators arrange cause-effect relations in different orders. The irregular usage of subordinators in coordinate structures is an innovative device for expressing the varieties of possible cause-effect relations, namely Explanation and Denial of Preventer.

### 3.3.2. Temporal relations of coordinate structures

In light of the conjunctive adverbials of cause-effect relations, we also have a temporal adverbial combined with a coordinator, *and then*. However, this adverbial is unnecessary since the time relation is specified from the start by the iconic principle of sequential order (Givón 1990: 971). According to this principle, the conjuncts should be arranged in line with the order of temporal sequence. The iconic relation of temporal precedence between the conjuncts is maintained very strongly.

Some studies on binominals have verified this restriction (Benor and Levy 2006, Mollin 2012). These studies demonstrate that temporal precedence is the strongest factor in deciding the order of conjuncts in binominals. While other restrictions respecting phonological, semantic, social, or frequency-based properties of binominals have exceptions, the iconic ordering restriction is almost impeccable. Benor and Levy (2006) and Mollin (2012) checked 20 and 17 factors, respectively, showing that temporal order is the strictest constraint in deciding the order of conjuncts.

- (33) a. slowed and stopped  
b. manufacture and install  
c. cooked and shelled (referring to the preparation of live crawfish)  
d. there and back (one cannot come back before going there)  
e. out and about (one must first go out in order to go about)  
f. unconstitutional and severable (the rider restricting the President's Article II powers was only severable because it was unconstitutional)  
g. eighth and ninth  
h. elementary and high [school] (Benor & Levy 2006: 240)  
i. trial and error  
j. spring and summer (Mollin 2012: 88)

Temporal order is observed not only in verb combinations such as (33a) to (33c), but also in adverb, adjective, or noun combinations such as (33d) to (33j). When temporal precedence is detected, the order of the conjuncts should not be changed.

There is no need to devise a new option for this relation of temporal precedence, since the simple use of *and* coordination will suffice. The subordinator *before* can express the same temporal relation, but as long as the simple coordinator covers the semantic range of temporal precedence, we do not need to use a new device. Other temporal relations such as simultaneity (*when*) or limited time span (*while/since*) are also prohibited. The restriction of temporal order is strong enough to reject other possible time relations between the conjuncts. The incompatibility of other temporal relations is corroborated by the unacceptability of the replacement of *and* with *when/while/since* in (33a) to (33c).<sup>10</sup> Moreover, the reverse order is strictly prohibited for coordinate structures because of the principle of iconicity; thus, the temporal coordination of *[A after A] N* will be prohibited. In short, in the case of temporal relations, it is difficult to find motivations for employing subordinators in the position of coordinators because the principle of iconicity on sequential ordering bars all the other possible temporal relations.<sup>11</sup>

#### 4. Summary

This study examined the irregular usage of subordinators as connectors in a coordinate structure. Causal subordinators are employed in this usage, while temporal ones are not. We have dealt with three arguments, all of which suggest that the former group of connectors is readily deployed for innovative construction, while the latter is not.

First, causal relations are maintained between propositions, and the word-level coordination of premodifiers with subordinate conjunctions is readily expanded to fit into propositional contents because of the regular deletion process observed in subordinate clauses. The addition of a subject identical to a main clause participant together with a copula will lead to the reconstruction of full-fledged propositions for the word-level conjuncts combined by causal subordinate connectors. Second, cause-effect relations can be maintained between propositions whose properties designated by adjectives are essential and permanent, as required by the premodification structure. Third, subordinate conjunctions can extend the range of possible combinations of cause-effect relations, as presented in Kehler (2002, 2019). The addition of Explanation and Denial of Preventer, with the help of the subordinators *because*, *since* (*causal*), *though*, *if* (*concessive*), and *while* (*concessive*), covers the whole range of causal relations.

In contrast, the three arguments regarding temporal connectors are as follows. First, temporal connectors do not necessarily connect two propositional contents; therefore, word-level conjuncts are not necessarily instigated to extend into propositional contents. Second, premodification is incompatible with temporal connectors because the essential and permanent

<sup>10</sup>If the second conjunct of (33c) *shelled* is analyzed as an adjective, meaning the shell of the crawfish is still on, the replacement of *when/while* would be fine. However, under this reading, the structure is not of the binominals consisting of conjuncts of equal status.

<sup>11</sup>Explanation and Denial of Preventer seem to place the temporally following conjunct (denoting the effect of the causal relation) in the first position, so that they appear to go against the principle of iconicity. In these cases, however, the featured relation is cause-effect, not temporal precedence. In the case of the conjunction *after*, it is only the temporal precedence that counts as the determinant of the arrangement of conjuncts, while in the cause-effect instances, motivation for the new order is found in the types of causal relations. Causal relations between states of affairs show that temporal precedence is not necessarily clear in cause-effect relations, as in (i) and (ii).  
(i) He is a liar because he is a politician.  
(ii) He is kind though very stern.

properties designated by premodifiers go against the temporal limitation specified by the connectors. Third, temporal precedence dictated by the principle of iconicity is impeccable and, therefore, the range of temporal relation and the ordering of the conjuncts are fixed. There is no motivation for employing connectors other than *and* to encode the limited range of temporal relations.

Irregular usages are occasionally identified in the system of grammar, and they may initially appear to be exceptions. However, exceptional behavior will have its own motivations. Once these motivations are taken into consideration, they will no longer be mere exceptions.

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