

「論文」

On the *NP as we know it* Expression and its Variants

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Abstract

This paper quantitatively and qualitatively investigates the overall distribution and behavior of the *NP as we know it* expression (e.g., *the world as we know it*) and its variants (e.g., *records as we knew them* and *his life as he knows it*), by employing the Corpus of Contemporary American English (COCA). It reveals that this group of expressions significantly tends to be used concerning the following three situations: “origination,” “transformation,” and “non-existence.” Examples relating to the “non-existence” of the referent of a nominal modified by an *as*-clause whose verb is *know* (e.g., *The world as we know it will be over*) occur by far the most frequently; these account for half of the total. Moreover, it is claimed that there are two functional restrictions on the use of this kind of nominal: (a) the referent of the nominal in question is very unlikely to cause another entity to change its state and (b) the attributive or identificational information predicated of this referent needs to be unexpected or unfamiliar to hearers or readers.

1. Introduction

There is a nominal expression with an *as*-clause whose verb is specified as *know*, as shown in (1).

- (1) The world as we know it will cease to exist.
(COCA, Fiction, 2007; emphasis mine; the same applies hereafter)

In (1), the *as*-clause *as we know it* modifies the nominal *the world*, and the resulting more complex nominal *the world as we know it* functions as the subject of the sentence, which depicts the referent of this nominal as being lost in the future. Despite interesting

syntactic and semantic properties of this kind of nominal (cf. Section 2), a detailed investigation to reveal its effects and restrictions has hardly been conducted. To clarify these points, this paper focuses on the nominal's collocational and functional aspects. It shows that the referent of a nominal modified by an *as*-clause whose verb is *know* significantly tends to participate in situations related to its "origination," "transformation," and (especially) "non-existence." It also points out two functional restrictions on the nominal: the *as*-clause tends to severely avoid modifying a nominal whose referent causes a change in another entity's state, and the attributive or identificational information predicated of the referent of the nominal in question needs to be unexpected or unfamiliar to hearers or readers.

This paper is organized as follows: Section 2 highlights several observations on the nominal modifier *as*; Section 3 conducts a corpus-based investigation of a nominal modified by an *as*-clause whose verb is specified as *know*; Section 4 attempts to account for its results and points out two functional restrictions on this nominal; and Section 5 concludes the study and offers suggestions for further research.

2. General Characteristics of the Nominal Modifier *As*

This section explores the characteristics of the nominal modifier *as*, mainly based on Yagi (1996), who summarizes the findings of previous studies and discusses the functions of *as* (see also Kanaguchi (1978), Kinugasa (1979), Fukumura (1985a, b), Ogawa (1985), Hirota (1988)).

To begin with, let us look at the pronoun included in the *as*-clause. While the pronoun co-referential with the preceding nominal must be overtly expressed in the *as*-clause, this is not the case in its paraphrase using the relative pronoun *that*, as seen in (2).

- (2) a. The world_i *as*/**that* we know *it*_i will cease to exist.
 b. The world **as*/*that* we know will cease to exist.

Moreover, the pronoun *it* in (3a) functions as the object of the verb *know*, but it does not refer to the propositional content of the matrix clause (cf. Huddleston and Pullum (2002)) as opposed to (3b), which can be interpreted as "we know that language is a unique human property."

- (3) a. Language as we know it is a unique human property.
 b. Language, as we know, is a unique human property. (Yagi (1996: 213))

Yagi (1996) argues that due to its syntactic behavior, *as* in this type of expression is a nominal modifier. The *as*-clause and the preceding nominal form a constituent that can occur within the focus position in the *it-cleft* construction, as seen in (4).

- (4) a. The novel as I have described it has never been established in America.
 (L. Trilling, *The Liberal Imagination*) (Kanaguchi 1978: 89)
 b. It is the novel as I have described it that has never been established in America.
 (Yagi (1996: 217))

Notably, any word string cannot intervene between the *as*-clause and the preceding nominal without breaking this constituency. The *as*-clause in (5a) does not modify the preceding nominal (i.e., *the novel*), but it functions as an adverbial adjunct. In (5b), the *as*-clause is interpreted to modify *a unique human property*, not *language*.

- (5) a. You are describing the novel exactly as I have described it.
 b. ?Language is a unique human property as we know it. (Yagi (1996: 212, 217))

Therefore, Yagi (1996) (and the other previous studies) deal(s) with the relationship between the *as*-clause and the preceding nominal, but not the one between the complex nominal modified by this *as*-clause and the matrix clause.

With respect to this point, the descriptions of the *NP as we know it* expression in some dictionaries provide beneficial information. Specifically, the descriptions in the 9th edition of *Collins COBUILD Advanced Learner's Dictionary* (CCALD9) and the 2nd edition of *Macmillan English Dictionary for Advanced Learners* (MEDAL2) are worth noting, as shown in (6).

- (6) a. the form of a thing or system in which it exists now and which is familiar to
most people (CCALD9)
 b. something that people are familiar with, especially something that is likely

to change

(MEDAL2)

These descriptions are considered to supplement each other. In (6a), there are two important elements: *now* and *most people*. As will be discussed in Section 4, the current form of a certain entity is at issue and the pronoun *we* is likely to be interpreted as referring to people in general rather than particular persons, including the speaker. While (6a) does not clarify any collocational preference of the phrase, (6b) overtly states that the referent of a nominal modified by the *as*-clause is likely to change. Regrettably, it does not identify what type of change is most likely to happen.¹ Furthermore, the overall distribution and behavior of this kind of expression are far from clear and remain to be elucidated. Hence the need for such a survey, which will be treated in the next section.

3. Corpus Investigation

3.1 Methodology

This section investigates the *NP as we know it* expression (e.g., *the world as we know it*) and the same type of other expressions (e.g., *records as we knew them* and *his life as he knows it*) by employing the Corpus of Contemporary American English (COCA).² That is, this investigation focuses on a nominal modifier (i.e., *as*) with *know* specified as its clause's verb.³ The reason for this is that the author's preliminary corpus research for the distribution of verbs that occur within the *as*-clause in question (e.g., *know*, *understand*, and *have*) shows that *know* is the most typical and frequent verb.

To retrieve data, the following search string is specified as the input: *n* as * KNOW it/them/him/her/you/me/us*. The signs *n** and *** are used to denote any type of noun and a single arbitrary word, respectively. The verb *know* in capital letters includes all its variants (i.e., *know*, *knows*, and *knew*), and each oblique slanting line inserted between words means *or*.

3.2 Results and Observations

A total of 1580 examples with the nominal modifier *as* were collected from COCA. The first point to mention is that there is a great difference in frequency between two groups: group α , which takes *we* as the subject of the *as*-clause (1350

tokens), and group β , which takes other nominal phrases (e.g., *I, he, Adams, and people*) as the subject of the *as*-clause (230 tokens) (see Table 1). As for group α , the verb *know* is predominantly used as a present-tense form (1295/1350 tokens = over 95%). In fact, the string *NP as we know it* accounts for over 75% of all the examples (1197/1580 tokens). This bears out the prototypicality of this phrase vis-à-vis all the other variants (e.g., *NP as we knew them* and *NP as he knew it*).

Table 1 also shows information for the head nouns modified by the *as*-clause.

Table 1. Frequency and Varieties of Head Nouns Modified by the *As*-clause

group α (e.g., <i>NP as we know it</i>)		group β (e.g., <i>NP as he knows it</i>)
token frequency	1350 tokens	230 tokens
type frequency	435 types	86 types
varieties of modified nouns		
<u>life</u> (203), <u>welfare</u> (126), <u>world</u> (125), <u>civilization</u> (65), medicare (29), system (22), fact (18), industry (14), television (14), democracy (13), universe (13), internet (11), society (11), America (10), culture (9), stress (9), war (9), baseball (8), history (8), reality (8), security (8), education (7), science (7), capitalism (6), earth (6), government (6), IRS (6), party (6), process (6), story (6), time (6), church (5), country (5), landscape (5), law (5), music (5), politics (5), privacy (5), skiing (5)		<u>life</u> (90), <u>world</u> (28), truth (6), <u>civilization</u> (5), fact (5), television (5), family (4), universe (3), <u>welfare</u> (3), country (2), detail (2), discipline (2), marriage (2), medicare (2) (adolescence, America, bar, baseball, bird, Bulls, business, character, child, Christianity, circumstance, classroom, college, competence, culture, darkness, discourse, Espinoza, event, evidence, exhibition, face, field, future, history, hunting, internet, James, journalism, lifestyle, Macready, market, moderation, Momo, mountain)

As for nominal varieties, the number of occurrences is represented within parentheses. Because of space limitations, those that occur more than four times are listed in group α while those that occur more than once are listed in group β . Hapax legomena are partially indicated in group β . It can be seen in both groups that the same particular nouns (underlined in Table 1) frequently occur with the *as*-clause. Examples with these four nouns (i.e., *life, welfare, world, and civilization*) account for nearly 40% in group α and 55 % in group β . Their referents are considered closely related to living life, and they influence people all over the world. For example, the world is a place where we live, and welfare and civilization are necessary to enrich our lives. Without them, we would not be able to live a (normal) life, or at least our way of life would deteriorate. Moreover, most of the referents of the nouns listed in Table 1 do not assume a definite, concrete form, and they are difficult to imagine visually (i.e., abstract or conceptual). Another important point is that different types of nouns account for one-third of all the

an entity at the time of the speech, as in (8c) (i.e., in the ratio of nine to one).

- (8) a. If it [an asteroid] hits us, Earth as we know it will be over.
(COCA, Fiction, 1998)
- b. Ten years ago, my world as I knew it ended. (COCA, Spoken, 2016)
- c. “The software industry as we know it is dead,” says Srivats Sampath, CEO of antivirus software maker [...]. (COCA, Magazine, 2002)

From these facts, it is not sufficient to say that the referent of the nominal in question tends to change, let alone to say that it is what is well-known now, as seen in (6a-b) in Section 2 (see also the ratio of “transformation” in Table 2 below). Instead, it is important to specify that its non-existence at a time other than the present is very likely focused on.

The following examples belong to the second type of situation “origination”:

- (9) a. Henry Steinway invented the piano as we know it. (COCA, Magazine, 2003)
- b. The modern computer as we know it emerged in 1945, [...].
(COCA, Magazine, 2013)
- c. “The Midwest as we know it began here.” (COCA, Academic, 2006)

I use the term “origination” to represent a situation concerning the origin/birth of an entity (i.e., the referent of a nominal modified by the *as*-clause). Information about when/where it started to exist or who made it is typically involved in this case. For example, (9a) describes the invention of the piano and its inventor (i.e., Henry Steinway), (9b) the first appearance of the modern computer and its date, and (9c) the beginning of the Midwest and its place of origin.

What should be brought to attention is that these examples account for over 10% (i.e., 158 tokens) of the examples in group α while they account for only 1% (i.e., 3 tokens) in group β . The reason for this can be considered in the following way: information providing the origin of an entity becomes the most informative and beneficial when the entity is known by many people. If it were known to only one person, it would be futile to state its origin to others. In fact, the subject of the *as*-clause (i.e., the number of persons who recognize an entity) is plural in all the examples

belonging to “origination” in group β , as exemplified in (10).

- (10) [...] 12.9 billion years ago, when the universe as humans know it was just beginning to emerge from the Big Bang. (COCA, Magazine, 2011)

That people all over the world know the presence of the universe is implied by the word *humans* in this case. Since the universe is known to everyone, information on its origin is regarded as informative and beneficial for hearers or readers, and thus worth noting.

The third type of situation is “transformation,” whose examples are given in (11).

- (11) a. Television as you know it is about to change. (COCA, Spoken, 2008)
 b. Since liquid water is crucial to the evolution of life as we know it, the possibility of life on Mars does not stretch scientific credibility. (COCA, Magazine, 1997)
 c. “This FreeMarkets auction idea,” says Brittan, “is revolutionizing procurement as we know it.” (COCA, Magazine, 2000)

The situation “transformation” is intended to denote a case where the form of an entity (i.e., the referent of a nominal modified by the *as*-clause) changes, or some aspect of it is altered for some reason, as in (11a). Cases such as (11b-c) are considered more specific instances of (11a), because *evolution* and *revolutionize* are words that each express some development (i.e., a certain type of change). This kind of situation accounts for about 10% (i.e., 160 tokens) of all the examples. We can see from this rate that “transformation” is not the first and foremost situational type when the *NP as we know it* expression or one of its variants is used.

The next type of situation “correspondence” needs some explanation. The term “correspondence” is used to represent a case where a person interprets two entities as being identical or compatible with each other. Strictly speaking, this type, unlike the three types seen above (i.e., “non-existence,” “origination,” and “transformation”), does not reflect a normal, objective event that seemingly occurs outside of a conceptualizer’s (i.e., recognizer’s) mind, but represents his or her inner activity, or cognitive process (i.e., how he or she construes the relationship between two relevant

entities). For this point, I adopt the perspective of Cognitive Grammar (cf. Langacker (1987; 2008)), where any “objective” event cannot be recognized as such, but it is perceived via a conceptualizer’s construal. What a person recognizes and describes necessarily reflects his or her construal. Therefore, I use the term “situation” in a broader way to cover any mental representation encoded in language.

Examples such as (12a-e) belong to “correspondence” and account for 4% (i.e., 64 tokens) of all the examples.

- (12) a. [...] the Middle Realm is the world as we know it; [...].
(COCA, Academic, 1990)
- b. Health insurance as we know it is illness and accident insurance, meaning there must be a diagnosis. (COCA, Magazine, 2004)
- c. But the first guess is that it might be the cosmological constant, and that fits with the facts as we know them today. (COCA, Spoken, 2003)
- d. [...] trigonometry as we know it today is probably the result of Islamic religious rituals. (COCA, Spoken, 2002)
- e. Santa Claus as we know him is a combination of stories from many different countries. (COCA, Spoken, 2005)

Examples (12a-b) intend to convey the referential identity between the first and second nominals. In (12c), each referent of the two nominals is construed as being compatible with one another. Examples (12d-e) directly convey the referential identity between the first and second nominals, but they also seem to imply how the referent of the nominal modified by the *as*-clause took shape. (12d) can be interpreted as “Islamic religious rituals contributed to the emergence of trigonometry” and (12e) as “combining stories from many different countries created a fictional character, Santa Claus”; nevertheless, both examples may not be purely considered to belong to “origination” due to the function of referential identity, but it would be safe to say that they are at least relevant to it. There are 15 examples of such a case. By classifying this situational type into two classes (i.e., (12a-c) and (12d-e)), we can find interesting syntactic behavior in each class. For the former class, 70 % of the nominals modified by the *as*-clause serve as the complement of the matrix verb while for the latter 73% of them serve as the subject of the sentence. This means that the nominals in question

frequently function as ones specifying or identifying the (comparatively unfamiliar) subject referents in the former class whereas they are very likely to be used as topics in the latter. Their referents are already familiar to many people, as (6a) indicates, and therefore it is reasonable for these nominals to be used under the above conditions.

The fifth type of situation is categorized as “non-concurrence” and some of its examples are:

- (13) a. Chanel Fluid Iridescent Eyeshadow (\$30). This is not eye shadow as you know it. (COCA, Magazine, 2005)
- b. Western democracy as we know it is incompatible with Zionism. (COCA, Newspaper, 2005)
- c. On the positive side, the work would be different from journalism as she knew it [...]. (COCA, Fiction, 1991)

This type of situation accounts for the same percentage as that of the previous one (i.e., 4%). Typically, it corresponds to a negated version of “correspondence,” as in (13a). I use the term “non-concurrence” to indicate a situation where by comparing an entity with another similar or relevant one, a person (i.e., conceptualizer) finds that they are incompatible with each other. Examples (13a-c) all convey the perceived difference between two entities, whether via the use of *not*, *incompatible*, or *different*. Interestingly, most of the examples belonging to this type (i.e., about 90%) take a nominal modified by the *as*-clause as the complement of the verb or preposition in the matrix clause, as in (13a) and (13c). This is similar to the former class in “correspondence” and further confirms that the nominals in question tend to provide more specific information for the subject referents in these two types (except for the latter class in “correspondence”).

Moreover, this type can be related to the situation “transformation,” where an entity changes and as a result it would not be (i.e., be incompatible with) the entity that it used to be. One difference between the two situations lies in the two referents considered incompatible with each other. They are the same entity in the case of “transformation” while they are typically not in “non-concurrence.” Another, important difference is that the latter situation does not depict any influence on the existence of the referent of the nominal modified by the *as*-clause. For this reason, the number of these examples is low compared to that of such situations as “non-existence,”

- (COCA, Magazine, 1996)
- c. [...]: the computer as we know it represents the world in digital bits—ones and zeros. (COCA, Magazine, 2001)
- d. Comet C/2019 Q4 could not have formed in our solar system as we know it. (COCA, Magazine, 2019)
- e. Bret’s most recent show, “Life As I Know It” ended with a proposal. (COCA, Spoken, 2011)

Examples (15a-c) are categorized into “other situations.” As the name suggests, this type consists of the set of examples that do not belong to any of the six types mentioned so far. For example, the situation of discussing or talking (e.g., (15a-b)) does not belong to any of them. Examples like (15c) are especially rare in that the referent of the nominal in question is considered to carry out something. Only five examples (i.e., 0.3%) are considered as members of this case. Importantly, it was also revealed that none of them depicts a situation where the referent in question causes another referent to change its state, which will be dealt with in more detail in Section 4.3.

Examples (15d-e) belong to “non-situational.” With the term “non-situational,” I intend to indicate that the referent of a nominal modified by the *as*-clause does not directly participate in the situation described by the matrix clause. For example, *Solar system* in (15d) serves as a place where the situation described by the matrix clause occurs and the underlined nominal in (15e) is the title of a show, which indicates that life itself does not take part in the situation described by the verb *end*.

Table 2 summarizes all the results of the distribution of the eight categories we have discussed so far.

Table 2. Distribution of Situational Types per Group

situational type	group α (e.g., <i>NP as we know it</i>)	group β (e.g., <i>NP as he knows it</i>)
non-existence	692 (50%)	101 (43%)
origination	158 (11%)	3 (1%)
transformation	133 (10%)	27 (12%)
correspondence	51 (4%)	13 (6%)
non-concurrence	53 (4%)	17 (7%)
existence	50 (4%)	3 (1%)
other situations	104 (7%)	40 (17%)
non-situational (e.g., place, title)	140 (10%)	30 (13%)
total number ⁴	1381 (100%)	234 (100%)

Notably, the distribution of these situational types is highly skewed. The top three situations (i.e., “non-existence,” “origination,” and “transformation”) account for about 70% of all examples in groups α and β . In particular, “non-existence” accounts for about 50%. As will be demonstrated in the next section, this strikingly skewed distribution results from the use of a nominal modified by the *as*-clause.

3.3 Comparison between Two Similar Types of Expressions

One may suspect from the results in Section 3.2 that expressions similar to *NP as we know it* also have almost the same results. However, this is not the case. To reveal this, this section compares the following similar, but different types of expressions: nominals modified by the *as*-clause whose subject and verb are *we* and *know* and ones by the *that/which* relative clause whose subject and verb are *we* and *know*. The search string of the latter is: *n that/which we KNOW. The total number of examples after removing noises and ambiguous cases⁵ is 276 (tokens).

Among them, only 8 examples (i.e., 3%), including (16a), belong to “non-existence”; 10 examples (i.e., 4%), including (16b), belong to “origination”; and 3 examples (i.e., 1%), including (16c), belong to “transformation”, all of which only account for 8 % of the total.

- (16) a. A young lady that we know died last year from an overdose of pills.
(COCA, Newspaper, 2019)
- b. The modern American society that we know today was just beginning.
(COCA, Newspaper, 2009)

- c. [...] and the standard model that we know now will be part of this larger model. (COCA, Spoken, 2001)

Table 3 shows a frequency comparison between *NP as we know it* expressions and *NP that/which we know* expressions, depending on four situational types (i.e., “non-existence,” “origination,” “transformation,” and “others”).

Table 3. The Cross Table of Two Variables “Expression” and “Situation”

	non-existence	origination	transformation	others	row total
<i>NP as we know it</i> type	692	158	133	398	1381
<i>NP that/which we know</i> type	8	10	3	255	276
column total	700	168	136	653	1657

I conducted a Chi-square test based on the data in Table 3, and the results revealed significant differences among conditions ($X^2(3) = 391.577, p < .001, V = 0.486$).⁶ Residual analyses also revealed that the *NP as we know it* expressions significantly prefer the three situational contexts “non-existence,” “origination,” and “transformation” and disprefer the context “others” while the *NP that/which we know* expressions significantly disprefer the former and prefer the latter.

Another important difference between the two kinds of expressions is that 7 examples (i.e., 2.5%) were attested where the referent of a nominal modified by the *that/which* clause plays a role of Agent or Causer in the matrix clause, as in (17), whereas their corresponding examples in the *NP as we know it* expressions only account for 0.3% of the entire examples.

- (17) a. Even soloists that we know have made such a claim. (COCA, Magazine, 2000)
 b. This gentleman that we know flies Black Hawk helicopters, so [...]. (COCA, Spoken, 2003)

The agentive subject referent in (17a) does not affect the claim while that in (17b) changes the state of the helicopters. Remember the latter case was not attested in all the examples with the nominal modifier *as*. Consequently, these comparative data clearly show that a nominal modified by the *as*-clause has an idiosyncratic behavior of its own

with respect to situational types its referent participates in.

4. Considerations on a Nominal Modified by the *As*-clause and Situational Types

4.1 The Basic Meaning of a Nominal Modified by the *As*-clause

The meaning of the phrase *NP as we know it* is not strictly predictable from its parts. Based on its descriptions in two dictionaries in Section 2 and observations on the corpus data in Section 3, it can be concluded that the pronoun *we* typically refers to not just interlocutors, but also many other people, which attracts words whose referents are well-known and felt close to them into the nominal slot. Moreover, the verb *know* specifically means familiarity with the present state of the referent of a nominal modified by the *as*-clause, rather than just recognizing it.

In addition to these aspects, especially important is the role of *as*. At the end of the last section, the findings revealed that this kind of phrase markedly tends to be more connected with “non-existence,” “origination,” and “transformation” than a similar phrase like *NP that/which we know* is. This skewed distribution can be accounted for as follows. Both connectors (i.e., *as* and *that/which*), whether directly or indirectly, function as restrictors on the range of a modified nominal, but it seems that the use of *as* relatively highlights knowledge of its referent at a certain point of time (reflected by the tense of the *as*-clause), as implied by the use of *now* in (6a) to specify the meaning of the *NP as we know it* expression, where the verb *know* is in the present tense. This can lead to the following typical situation: we have enough knowledge of a certain entity at a given point of time (typically, at the present), but we do not know how it will be or how it was. If we focus on the former, situations concerning “transformation” or “non-existence” will be chosen. If we focus on the latter, that of “origination” will be selected. Therefore, this kind of implication motivates the strong connection between the referent of the nominal in question and the three types of situations.⁷ However, the reason why the case of an entity’s disappearing is much more preferred to any other situation is not entirely predictable from any function of the nominal modifier *as* (and any meaning of the other elements used in this nominal). Therefore, these characteristics must be identified as idiosyncratic aspects of the nominal as a whole (see also the next section for a striking preference for “non-existence”).

Given this implication, the same can be said for the other cases where subjects other than *we* are used in the *as*-clause (i.e., group β). The main difference between them is that the referent of the nominal in question is not necessarily known by many people in group β , as suggested in (18).

(18) The end of the world, at least the world as he knew it, had come.

(COCA, Fiction, 1998)

In (18), the nominal *the world* probably refers to the whole one known by everyone, but the nominal *the world as he knew it* does not correspond to the entire world per se, but to his personally experienced world; accordingly, other people do not necessarily know it. This difference leads to a further difference between the two groups with respect to “origination,” as already discussed in Section 3.2.

4.2 The Relationship between “Non-existence,” “Origination,” and “Transformation”

The previous section has shown how the nominal modifier *as* plays a key role in the significant connection between the referent of the nominal in question and the three types of situations (i.e., “non-existence,” “origination,” and “transformation”). It is time to consider the relationship between these situations. They are argued to be typically subsumed under a common structured notion: a life cycle. That is, an entity, concrete or abstract, undergoes the following course of life: it is born, some of its aspects change as time goes on, and it finally becomes obsolete or extinct. If we consider a nominal and its modifying *as*-clause whose verb is *know* as a construction in the sense of Goldberg (2006), it follows that it evokes such a life cycle as the background knowledge needed to understand the phrase, or a frame in Frame Semantics (e.g., Fillmore (1982)). If this life cycle frame is so salient that it is entrenched and easily evoked as part of one’s knowledge about the nominal construction in question, it would be reasonable to suspect that it induces the nominal to co-occur with the expressions depicting one of the three types of situations. Besides, since the notion of a life cycle involves existence of an entity, the nominal in question probably includes this more abstract notion as a secondary frame that thus motivates the occurrence of examples concerning “existence” as in (14). It is, however, the life cycle frame that is considered to be salient and easy to evoke. The existence frame’s low saliency hampers its easy

evocation, and hence the low number of such examples.

Among the three types of situations above, “non-existence” is outstanding in that a dominant number of examples belong to this type, as I have repeatedly mentioned. This fact may be accounted for in the following way. Constructs such as *NP as we know it* and *NP as he knew it* presuppose the existence of their referents, and therefore, their focus is more likely to be on how the referents will be than on how their existence was formed. Be that as it may, it remains an open question at this stage why the situation “transformation” is not as preferred as is the situation “non-existence.” We need to further assume here that these constructs especially prefer to be used in a situation where their referents are going to undergo a radical, unfavorable change. The situation “non-existence” meshes well with such a change, because it typically describes cessation of existence (i.e., the transition from existence to non-existence) rather than an entity’s minor changes. The situation “transformation,” on the other hand, does not necessarily represent the same degree of change, as we can see in (11). From this line of reasoning, it follows that “non-existence” is particularly favored.

4.3 Functional Constraints on the Use of a Nominal Modified by the *As*-clause

The corpus investigation in Section 3 revealed that a nominal modified by the *as*-clause can be used with various situations, despite a strong preference for the three types of situations—“origination,” “transformation,” and “non-existence”—. Indeed, it seems that the use of this nominal is possible whenever a situation is compatible with its basic meaning discussed in Section 4.1.

However, the investigation also revealed that the referent of the nominal is very unlikely to participate in a situation where it carries out something, as in (15c). Consider the following relevant sentences:

- (19) a. ??Albert as we know him killed three persons two years ago.
 b. ??This gentleman as we know him flies Black Hawk helicopters.

Example (19a) depicts a situation relevant to “non-existence” and (19b) corresponds to example (17b), but neither of them is accepted as natural. Here each subject referent causes each object referent to change its state. Remember no such cases were attested in the corpus investigation. Then, the following constraint on the use of the nominal in

question is in effect: the referent of a nominal modified by the *as*-clause must not cause another entity to change its state. Why does such a constraint exist?

Huddleston and Pullum (2002: 1150) provide an insightful statement about the nominal modifier *as*. They point out that the *as*-clause in question specifies some property or aspect of the referent of the modified head noun.⁸ If each of the subject referents in (19) denotes some or a set of properties that constitute the individual, these marginal sentences are naturally accounted for. Specifically, the properties of an entity are unlikely to be interpreted to influence another entity in these cases. What causes the object referent to be killed or flown in (19a-b) is the person, not his properties themselves. Because of the presence of the *as*-clause, these sentences sound unnatural.

Having set the stage, let us now go back to (15c), repeated as (20).

- (20) [...]: the computer as we know it represents the world in digital bits—ones and zeros. (COCA, Magazine, 2001) (= (15c))

Example (20) is similar to (19) in that the subject referent carries out some action, but there are two points to note. The first point is that the subject referent in (20) does not affect the object referent's state. It just computationally describes the world. The second one is that this sentence does not indicate any individual situation that happens at a particular time. Rather, it presents a general fact. Since it is predicated of one of the intrinsic properties of the computer, it is regarded as acceptable and these examples are attested.

With this in mind, consider the following example⁹:

- (21) Gender diversity as we know it today will destroy women's sports in the future.

This example will be judged acceptable even though the nominal modified by the *as*-clause serves as the subject whose referent causes other entities to be destroyed (i.e., to change their state). Two aspects make this sentence acceptable. The first point is that this sentence probably depicts a situation expected to happen at any point of time in the future, not one that actually happened as in (19a). This means that destroying women's sports can be considered as one of the stable properties of gender diversity, which is compatible with the explanation given for (20). Another point is that the nominal

phrase *gender diversity* encodes an abstract notion (not a concrete or animate entity) and represents some property in itself. Hence it has compatibility with the above-mentioned function of the nominal modifier *as*. Nevertheless, it is crucial to say that most of the attested examples are concerned with what happens to the referent of a nominal modified by the *as*-clause, not what it does. This overall tendency, therefore, disprefers cases such as (19)–(21) to occur in the actual examples.

There is another important condition imposed on the nominal in question. We already saw in (12a) that it can function as the complement of the predicate in the matrix clause and provide more specific information for the subject referent. This conforms to its meaning, since many people are likely to be more familiar with the former than the latter. This nominal, however, requires careful attention when it functions as the subject in a sentence. Specifically, this nominal cannot be used in a case where a well-known fact is predicated of the referent of the nominal to specify the kind of entity or property it belongs to:

(22) ??Paris *as we know it* is a beautiful city.

This can be improved if the predicate is adapted with the phrase *is not just a beautiful city, but has a dark side* or if it is simply replaced with the phrase *has a dark side*. Either phrase implies that the attributive or identificational information introduced for a nominal modified by the *as*-clause needs to be unexpected or unfamiliar to hearers or readers (at least at the speech time).¹⁰

To sum up this section, at least two conditions are needed to reflect characteristics of the attested examples: (a) the referent of the nominal in question must not cause another entity to change its state unless its act is regarded as some property it has and (b) the attributive or identificational information predicated of this referent needs to be unexpected or unfamiliar to hearers or readers.

5. Conclusion and Outlook

This study confirms the collocational preference of a nominal modified by an *as*-clause whose verb is specified as *know*, and its basic semantic and functional properties. As for the former, I revealed that the referent of the nominal in question

significantly tends to participate in one of the situations describing its “origination,” “transformation,” and “non-existence.” Among them, the situation “non-existence” is the most typical, accounting for half of all examples with this kind of nominal in COCA. Classification of this nominal into two groups also uncovered the fact that group α is an unmarked, typical variant (e.g., the string *NP as we know it* accounts for 75% of all the examples). Group β greatly differs from group α in that the former includes very few examples expressing the situation “origination” (i.e., only 1 %). I claimed that information about an entity’s origin is beneficial when the entity is known by many people, as in group α , and is futile when only a single person knows it. Group β includes many examples where it is only known by a single person or a small group and hence disprefers this type of situation.

With respect to the basic meaning of the nominal in question, one must be aware of the fact that the subject referent of the *as*-clause feels familiar with the referent of this nominal. Importantly, the use of this nominal is claimed to convey that its referent is well-known at a certain point of time (typically, at the present), but it is unclear how it will be or how it was. This implication is considered to motivate the referent’s significant tendency toward participating in the three types of situations above. The assumption that a situation where an entity is going to undergo a radical, unfavorable change is particularly preferred by this nominal further accounts for a predominant number of examples concerning “non-existence.”

In regard to restrictions imposed on this nominal, I revealed two functional conditions. The first one is that the referent of the nominal must avoid causing another entity to change its state unless its act is regarded as some property it has. The second one is that the attributive or identificational information predicated of the subject referent of the nominal needs to be unexpected or unfamiliar to hearers or readers. Thus, cases are ruled out in which something self-evident is predicated of this referent.

This study examined and revealed the nature of a specific type of construction: an *as*-clause whose verb is specified as *know* modifies a preceding nominal expression. To clarify and cover the full scope of the nominal modifier *as*, however, there is much work to be done from both synchronic and diachronic perspectives. As the next step, we need to conduct a synchronic investigation into what types of verbs are allowed to occur in the *as*-clause (e.g., *life as we understand it* and *reality as we have it*) and what types of situations tend to be described. After uncovering these points, we can postulate

general functions of the nominal modifier *as*. From a diachronic perspective, unveiling the historical development of this kind of nominal expression is crucial—specifically, how the *as*-clause came to modify the preceding nominal expression. It is also important to ascertain what led to the present skewed distribution of situational types revealed by this study. In this sense, this paper has significant importance as a foundational study toward clarifying the full scope of the nominal modifier *as*.

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Notes

1. None of these dictionaries does no more than cite an example of situations describing some change:
 - (i) This could mean the end of life as we know it. (MEDAL2)
2. The first access to the data was dated January 23rd, 2020, and COCA was updated in March 2020 to expand its scale, so this paper does not include those data that belong to “TV/MOVIES” and “BLOG.”
3. There also exists the following type of sentence:
 - (i) “Live TV, as we know it, is over,” she says. (COCA, Magazine, 2004)
 However, this (marked) variant with commas occurs much less frequently (i.e., 1/15 times) than the other (unmarked) variant without commas. As this paper aims to reveal the basic properties of the *NP as we know it* expression and the same type of other comma-less expressions, these unmarked cases are dealt with in the following sections. I leave their differences to my future research.
4. The total number in this table is different from that in Table 1, because the referent in

question can participate in more than one situation when the two (or more) predicates are conjoined within the matrix clause in a sentence:

- (i) Does all this mean that heavy metal music as we know it is dead, buried and beyond resuscitation? (COCA, Newspaper, 1997)

The number of situations is counted within the range of a matrix clause in cases like (i). If there is any noun depicting some situation as in (ii), the range is restricted to such a nominal phrase, which includes its head, an *as*-clause, and another nominal modified by this *as*-clause.

- (ii) [...] we're finally going to see the end of welfare as we know it. (COCA, Spoken, 1996)

In (ii), the noun *end* is considered to denote a situation and thus the situation depicted by the verb *see* is not counted.

5. The following case is ambiguous whether the relative clause serves to modify the preceding nominal or restrict a range of the speaker's knowledge (as when using the phrase *as far as we know*), according to Kono (2012):

- (i) This is not explicable by any means that we know. (COCA, Spoken, 2007)

He points out that in the latter case, certain elements such as negatives (e.g., *no*), numerals, or quantifiers (e.g., *all*, *every*, *any*) generally accompany the modified nominals. Therefore, this paper excludes examples with these elements. However, even if they are included in the total number, the results are much the same as those without these examples.

6. To analyze the data, I used js-STAR, a data analysis software, which is available online at <https://www.kisnet.or.jp/nappa/software/star/>.
7. It is, of course, possible that this implication is not overtly reflected by any linguistic material, especially when the referent of the nominal does not directly take part in a situation (i.e., in the case of "non-situational").
8. Although they do not discuss why the nominal modifier *as* has such a specification in detail, the following point is suggestive for it. Huddleston and Pullum (2002: 1150) (and also Yagi (1996: 219)) point out that the nominal in question (e.g., *the world as we know it*) can be paraphrased as a sentence with *as such and such* (e.g., *We know the world as such and such*). There are similar phrases like *regard the situation as serious*, where the adjective *serious* depicts one (potential) property of this situation. In the same vein, the part *such and such* in *We know the world as such*

and such is analyzed as depicting some property of the entity functioning as the complement of the matrix verb and this part corresponds to *the world* in *the world as we know it*, as a result of which this nominal can be considered to depict some property associated with it. The detailed analysis will be left to my future research.

9. I owe this example to an anonymous reviewer in the Society of English Grammar and Usage.
10. This condition does not seem idiosyncratic to the nominal of this type, because a similar sentence (e.g., ??*The Paris that we know is a beautiful city*) is also unnatural. I leave the scope of its application for future research.

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