

## Exploring Conjunctive Adverbials in International and National Indexed Journals

Avika Cahyowati  
English Language and Literature  
Universitas Pendidikan Indonesia  
avikacahyowati@gmail.com

### ABSTRACT

This study explores the use of conjunctive adverbials (CAs) in journals with different indexing levels, specifically to see the distribution of conjunctive adverbials and whether the most dominant conjunctive adverbial is used correctly. Thirty articles were collected from two journals, with specification: fifteen articles from journal indexed in international database (INT) and fifteen articles from journal indexed in national database (NAT), and encoded into INT-01 until INT-15 and NAT-01 until NAT-15. Forty adverbials belonging to four classes of conjunctive adverbials according to Celce-Murcia and Larsen-Freeman (1999) were searched using Laurence Anthony's concordance program (AntConc). The results show thirty individual conjunctive adverbials from four classes occur in the whole corpus. From this finding, additive class dominates the frequency of occurrence in the whole corpus by 49.4 percent. In line with this result, the most frequently used CA is the conjunctive adverbial *also*, with 26 percent occurrence from 1380 CAs found in the whole corpus. Based on these results, the analysis is centered on conjunctive adverbial *also* as the most dominant CA in order to see how this CA is used. The findings show that the conjunctive adverbial *also* is mostly used correctly; however, there are cases where the use of conjunctive adverbial *also* is redundant with additive class members, and even overlaps with other classes. In conclusion, the case of overuse and inappropriate register still linger on the use of CAs in academic prose register, whether it is internationally indexed or not.

**Keywords:** research articles, journal indexation, conjunctive adverbials.

## INTRODUCTION

As a part of academic writing, research articles hold the same rules of academic writing style, which emphasizes formal tone and, most importantly, a logical flow of ideas to form a unity (Labaree, 2009). A unified whole of ideas will help readers to follow the logical arguments in the research articles and make sense of the content that is being communicated. In addition, a well-organized text is essential so that the readers may follow the mind of authors or researchers and enhance their understanding (Basturkmen & Randow, 2014; Hyland, 2009; Stapleton & Wu, 2012). The well-organized academic text may be achieved through a more structurally elaborated writing, indicated by the longer sentences, longer 't-units', and a greater use of subordinate clauses (Biber & Gray, 2010). Considering this, the use of conjunctive adverbials as an element of connection between statements, such as *however*, *in addition*, and *therefore*, in writing has been mentioned repeatedly as a characteristic of language proficiency and reflection of development in

writing produced by both native and non-native English speakers (Goldman & Murray, 1992; Johnson, 1992, Lorenz, 1997).

It is not surprising that the use of conjunctive adverbials as the sentence connectors, or generally, discourse connectors has been major concern, especially in NNES (Non-Native English Speakers) writing. Several studies relate the use of conjunctive adverbials with the linguistic background of the authors and propose some approaches that are useful for teaching the proper use of these sentence connectors. For example, Crewe (1990) focuses on examining the misuse and overuse of logical connectives that become two major problems in ESL undergraduate writing. His study introduces some problems rooting the misuse and overuse of connectives, such as textbook advice and stylistic variation, and result in some pedagogical approaches that are useful for teaching logical connectives. In line with the study, Granger and Tyson (1996) observed how connectors are used in NS (Native Speaker) and NNS (Non-

Native Speaker) essays, and found that the case of overuse and underuse of connectors are mostly in NNS essays.

In the area of conjunctive adverbials use in research articles, some studies, such as Dueñas (2009) and Gholami, Ilghami, Hossein, and Tahoori (2012), focus on the comparison of distribution of conjunctive adverbials in different corpora. Dueñas (2009) observed logical markers in business research articles from three corpora written in English (L1 and L2) and Spanish (L1), and found that there is no significant difference between the use of additive, contrastive, and consecutive markers in English and Spanish RAs, resulting in no transfer process from L1 (Spanish) to L2 (English). Meanwhile, Gholami, Ilghami, Hossein, and Tahoori (2012) observed the distribution from the discipline perspective. They compared the distribution of ‘conjunctions’ in two disciplines: biomedicine and applied linguistics, and found that biomedical articles might be more cohesive than applied linguistics articles.

Other studies on the use of conjunctive adverbials in research articles observed not only the distribution of the individual conjunctive adverbials, but also whether certain conjunctive adverbials are used properly. For example, Chen (2006) conducted quantitative and qualitative study of the use of conjunctive adverbials (CAs) in advanced Taiwanese EFL learners’ papers and prestige international articles. Her findings show that Taiwanese students overuse connectors in word-level, and the use of certain conjunctive adverbials, such as *besides* and *therefore*, are used inappropriately. Another study by Rojanavarakul and Jaroongkhongdach (2017) compared twenty Thai research articles and twenty international research articles in the field of applied linguistics to discover the validity of the claim that Thai researchers have a lack of logical thinking. The results show that among conjunctive adverbials belonging to causal class, *because*, *thus*, and *therefore* are the top three connectors used in both corpora, and there was no difference in the number

of logical and illogical cases between the two corpora.

In view of the above, the study focuses on the use of conjunctive adverbials in research articles from two journals with different indexing levels: international and national indexed journals. Specifically, this research was conducted to investigate:

1. The classes of conjunctive adverbials occur in the research articles indexed in international and national indexation; and
2. Whether the most dominant conjunctive adverbial(s) is/are used correctly in the research articles indexed in international and national indexation

## **METHODOLOGY**

### *Selection of Corpora*

The data were in the form of research articles collected from two journals with different indexation levels: one journal indexed in international indexation and one journal indexed in national indexation. Although they are

different in terms of indexation levels, both journals are open-accessed, meaning that the archives are accessible for everyone. This made the process of data collection was easier because the data are already computerized in the form of PDF (Portable Document Format). The similarity of both journals is also in terms of the area they comprise. Both journals are in the area of linguistics and literature, comprising the topics lingering on not only linguistics and literature, but also language education.

There were thirty English research articles taken from both journals, with specification of fifteen articles from journal with international indexation and fifteen articles from the national indexed journal. These numbers of articles taken from both sources were collected purposively in regards to published year of the research articles and the nationality of authors. For sample data from the journal indexed in international indexation, the chosen research articles were ranging from 2014 until 2018, and were written by Indonesian authors. Meanwhile, the

sample data from the journal indexed in national indexation were taken from 2015 until 2018, and were written in English by Indonesian authors.

Based on these considerations in selecting which articles can be the samples for the research, the data collection came into a specification for each corpus as follows.

**Table 1. Specification of the sample data**

Specification Corpus	INT	NAT
Total articles	15	15
Corpus size (in words)	93,702 words	68,110 words
Total words (30 articles)	161,812 words	

*Stage of Analysis*

**Classes of CAs in both corpora:** The thirty selected articles from two corpora that have been given codes: INT-01 until INT-15 for INT data and NAT-01 until NAT-15 for NAT data, were inserted into Laurence Anthony’s concordance program (AntConc) which is able to investigate almost any language patterns (Krieger, 2003). AntConc

concordance program also has the capability of spotting a list of words in one search. Therefore, a search of forty conjunctive adverbials was easy in just one-time search. These forty conjunctive adverbials are taken from the list by Celce-Murcia and Larsen-Freeman (1999), which are classified into four classes according to the function: additive, adversative, causal, and sequential class.

The search results did not immediately become the starting point of the investigation towards the use of conjunctive adverbials. These results should go through elimination process; that is, to eliminate the conjunctive adverbials that function as ‘non-connectors’. Once the search results were ‘clear’ from the non-connectors, the clean results from each corpus were classed according to the function of the adverbials, namely additive, adversative, causal and sequential. The result of the frequency of occurrence was in percentage.

**Deep analysis of the most dominant CA:** The investigation was conducted by breaking the sentences into S1 as the referencing sentence

and S2 as the subordinate sentence following the conjunctive adverbials. The full excerpt was divided into two parts: S1 and S2. S1 is the code for information precedes the occurrence of conjunctive adverbial, and S2 is the information that is brought by the conjunctive adverbials. To see the big number in how the most dominant conjunctive adverbial is used, the collection of the result of the prior analysis was required in order to draw the answer. The results of the prior analysis are shown in the form of numbers in the table as follows.

**RESULTS**

*Classes of CAs in both corpora*

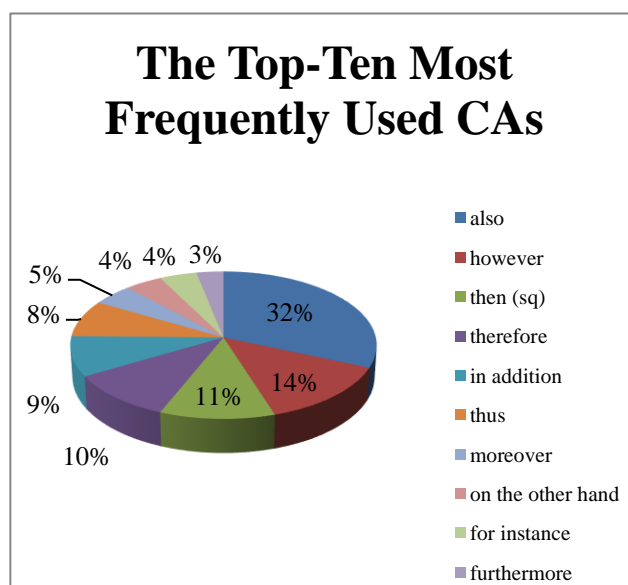
A total of 1380 conjunctive adverbials were identified from the thirty research articles. These conjunctive adverbials are shown based on classes as follows.

**Table 2. The overall result**

Rank	Class of CAs	Percentage (%)
1	Additive	49.4
2	Adversative	19.1
3	Causal	16.8
4	Sequential	14.6

From the table, it can be seen that the conjunctive adverbials from additive class dominate the conjunctive adverbial occurrences in both corpora by reaching up to fifty percent of hits. This number is far beyond the second class, adversative class that only appears approximately one per five of the whole occurrences. This glaring difference between the first and second rank in overall numbers proves that there is a strong tendency to add information rather than counter the information. The following chart represents the top ten of the most frequently used conjunctive adverbials in whole corpus (INT and NAT).

**Figure 1. The top-ten most frequently used conjunctive adverbials in chart**



One important point to take into account from the table is how additive class dominates the top-ten most frequently used CAs in the whole corpus. Five out of ten CAs, namely *also*, *in addition*, *moreover*, *for instance*, and *furthermore* show big numbers of occurrence for both corpora. Meanwhile, adversative and causal classes, as the holders of second and third rank in the whole corpus, are represented only by two CAs for each, namely *however* and *on the other hand* for adversative class and *therefore* and *thus* for causal class.

Below is the detailed distribution of these classes along with the top-ten of most frequently used conjunctive adverbials in each corpus.

**INT corpus:** The overall finding of conjunctive adverbial occurrence in the whole corpus leads to the distribution of these numbers in INT and NAT. The results from the internationally indexed articles corpus are shown in the table below.

**Table 3. The class distribution in INT corpus**

Rank	Class of CAs	Percentage
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		(%)
1	Additive	49.4
2	Adversative	20.7
3	Causal	16.2
4	Sequential	13.7

The same tendency with the overall finding is shown in the distribution of class occurrences in INT corpus. From 735 conjunctive adverbials found in INT data, the additive class holds the first rank with almost halves of the whole occurrences. Similar to the overall finding, adversative class comes after additive class, with 20.7 percent of occurrences. This finding shows that the articles in INT corpus tend to add information rather than to counter the preceding information.

In terms of the conjunctive adverbials distribution in INT corpus, the top ten of the most frequent conjunctive adverbials are shown in the table as follows.

**Table 4. The top-ten most frequently used CAs in INT corpus**

Rank	Conjunctive Adverbial	Percentage (%)
1	<i>Also</i>	26.8

2	<i>however</i>	12.1
3	<i>therefore</i>	8.8
4	<i>in addition</i>	8.3
5	<i>then</i> ( <i>sequential</i> )	8.2
6	<i>Thus</i>	6.3
7	<i>on the other</i> <i>hand</i>	3.4
8	<i>furthermore</i>	3.3
9	<i>in other words</i>	3.3
10	<i>moreover</i>	2.6

It can be seen that conjunctive adverbial *also* is the representative of additive class that adds to the glaring number of additive class occurrences. This adverbial reaches up to 26.8 percent from the total of 735 occurrences of conjunctive adverbials in INT corpus. This number is higher than the second most frequently used conjunctive adverbial, *however*, with the number that does not even reach the halves of the hits of *also*. It is also worth mentioning that from the list of top-ten most frequently used conjunctive adverbials, the adverbials that belong to the additive class dominate the table, namely *also*, *in addition*, *furthermore*, *in other words*, and *moreover*. Meanwhile, the

conjunctive adverbials from adversative and causal classes place two representatives in the list. From these findings, it is clear why additive class has such a glaring percentage compared to other classes in the overall finding in INT corpus.

**NAT corpus:** The result of INT corpus is slightly different with what was identified in NAT corpus. The overall finding still shows that additive class leads the list of the most frequently used conjunctive adverbials, but the classes following it are in different arrangement as in INT corpus. This can be seen in the table as follows.

**Table 5. The class distribution in NAT corpus**

<b>Rank</b>	<b>Class of CAs</b>	<b>Percentage (%)</b>
1	Additive	48.8
2	Causal	17.7
3	Adversative	17.6
4	Sequential	15.9

From the total of 637 conjunctive adverbials found in the corpus, the class following the additive class as the lead is causal class which reaches



17.7 percent of occurrences. This number is only 0.1 percent more frequent than the adversative class in the third place. This finding shows that the articles in NAT corpus have a little tendency to explore cause-and-effect information rather than the articles in INT corpus. However, both corpora have similarity, that is, to show additive relations more than the other relations.

To see the detailed distribution of each conjunctive adverbial from these classes, the list is shown as follows.

**Table 17. The top-ten most frequently used CAs in NAT corpus**

<b>Rank</b>	<b>Conjunctive Adverbial</b>	<b>Percentage (%)</b>
1	<i>Also</i>	25.4
2	<i>then</i> ( <i>sequential</i> )	10.4
3	<i>however</i>	10.2
4	<i>therefore</i>	8.3
5	<i>Thus</i>	7.4
6	<i>in addition</i>	6.0
7	<i>moreover</i>	5.5
8	<i>for instance</i>	4.6
9	<i>on the other hand</i>	3.9

10	<i>besides</i>	3.3
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The table above shows that the conjunctive adverbial *also* is in the first rank of the most frequently used conjunctive adverbials in NAT corpus. This finding is the same as the one in INT data, only differs in the percentage of occurrences. Meanwhile, the second rank in NAT corpus is conjunctive adverbial *then* signaling a sequential relation, with a glaring difference to the first rank as it only reaches 10.4 percent of occurrence. Conjunctive adverbial *however*, which ranks in second place in INT corpus, is in third place in terms of frequency of occurrences in NAT corpus, with only 0.2 percent difference with the second place.

*The use of conjunctive adverbial also in both corpora*

As the most dominant conjunctive adverbial, the use of conjunctive adverbial *also* is interesting to be underlined because this adverbial has a glaring number in comparison to other individual CAs

occurring in the whole corpus. The correct use of this conjunctive adverbial makes it easier to see the additive relation that this adverbial built; on the other hand, if the adverbial is used incorrectly, this will arise some problems, such as overuse. The use of conjunctive adverbial *also* in both corpora can be summarized in the table as follows.

**Table 18. The use of conjunctive adverbial *also***

Corpus	Correctly Used	Incorrectly Used
INT	82.7%	17.3%
NAT	73.5%	26.5%

From the analysis of occurrence of conjunctive adverbial *also*, it was found that this adverbial is mostly used correctly in both corpora, with the account of using it to add information to the preceding information. Although the use of conjunctive adverbial *also* is mostly correct, there are several cases of redundancy found in INT and NAT data. This case happens when the use of conjunctive adverbial *also* overlaps with another conjunctive adverbial

from additive class, and even, from other classes, resulting in the overuse of conjunctive adverbial. The table below shows the cases of the redundancy of conjunctive adverbial *also* in the whole corpus.

**Table 21. The redundancy of conjunctive adverbial *also* with other CAs**

Corpus	Additive Classes	Adversative Class	Causal Class	Sequential Class
INT	21	9	4	0
NAT	30	4	7	2

From the table above, it can be seen that the conjunctive adverbial *also* mostly appears together with the conjunctive adverbials from additive class in a sentence. This makes the relation seem redundant, as there is a repetition of relation there.

**DISCUSSION**

*Classes of CAs in both corpora*

The findings of the current study suggest that the research articles

both in journal indexed in international level and national level have the tendency to involve new information rather than to counter, to infer, and to make a sequential relationship among information. This is seen from the results that show additive class as the most dominant class in both corpora. According to Celce-Murcia and Larsen-Freeman (2016), the possible reason for this glaring number is because the additive class is considered “not as complex as other semantic groups” (p. 558). Authors may find the use of *also*, *furthermore*, or *in addition* easier to apply as they function as the signals for adding information to the preceding sentences other than causal, adversative, and sequential classes.

***Inappropriate register:*** The current study confirms what Celce-Murcia and Larsen-Freeman (1999a, 2016b) state as “inappropriate register”. The result of the study shows that conjunctive adverbial *also* is used dominantly in both INT and NAT corpus, where in fact, conjunctive adverbial *also* is considered as less formal than conjunctive adverbial *in addition*,

*moreover*, and *furthermore*. In a formal register like academic prose, the conjunctive adverbials used must be the formal ones, yet the dominance of conjunctive adverbial *also* in the whole corpus contradicts this statement.

Another case of informal conjunctive adverbials that occur in academic prose is *besides*. The case in this study is in line with the study by Chen (2006) and contradicts the study by Yeung (2009) who found that there is no *besides* used in research articles corpora. Although in this study, its use cannot be compared to conjunctive adverbial *also* that dominates the whole corpus, the use of *besides* as informal conjunctive adverbial that occurs in a formal register still needs to be underlined because it ranks the eleventh out of forty conjunctive adverbials being searched. The use of *besides* in the whole corpus can be seen from the examples of excerpts from both corpora as follows.

**[Exc. 1] Excerpt from INT-05 — *besides***

*Using sociological data related to political behavior, the research*

have concluded that the Internet users tended to feel more free and autonomous in expressing their ideas or opinions compared to the use of conventional media. **Besides**, the Internet offered a “stage” for less dominant actors to use technology without being controlled by the dominant actors. Meanwhile, Hoed’s study (2014) showed that democratization in virtual world encouraged changes in the structure from “top down” to “dialogue”.

**[Exc. 2] Excerpt from INT-01 — besides**

*In general, Middle High German was divided into three periods, namely Early Middle High German occurred (1050 - 1170), Middle High German (1300-1350) and Late Middle High German (until 1450) (Jacob, 2010). These periods were differed from each other based on the theme of literature, which developed within each period. Until the year of 1170 the literature was written brought up the theme of God, whilst another theme written down within*

*the year after 1170. Those were including political and social theme since wars occurred during that period. **Besides**, German along with Latin was used to write those manuscripts and replaced French since beforehand French was used frequently to write a manuscript, though so was German.*

These two excerpts above show the use of conjunctive adverbial *besides* to bring more information on the topic being talked in the preceding sentences. However, in order to make these two sentences more appropriate for formal register, the use of conjunctive adverbial *besides* should be revised to other conjunctive adverbials signaling for additive relation, such as *in addition* and *furthermore*.

The case of inappropriate register found in the current study, then, contradicts the findings of Biber, Conrad, and Leech (2002) about conjunctive adverbials used in academic prose, especially in additive class. In Biber, Conrad, and Leech’s (2002) study, it was found that the

conjunctive adverbial *furthermore*, *in addition*, *for example*, *for instance*, *e.g.*, *i.e.*, and *that is* are the most frequently used conjunctive adverbials in academic prose; meanwhile, in the current study, the top-ten most frequently used conjunctive adverbials in the whole corpus containing conjunctive adverbial *also* and *moreover*.

*The use of conjunctive adverbial also in both corpora*

Related to the significant number of additive class occurrence in the whole corpus, it was found that conjunctive adverbial *also* monopolizes the greater part of the percentage of occurrence of additive class adverbials. Most of the uses of this conjunctive adverbial are correct; it is used as a marker for simple addition, a signal that the upcoming information is still related to the preceding information. This is in line with what Celce-Murcia and Larsen-Freeman (1999) state that the conjunctive adverbial *also* functions to connect two identical subjects in two clauses. Such a function can be

seen in one of the concordance lines below.

**[Exc. 3] Excerpt from NAT-04 – Correct Use**

*Besides saving word space, this technique is likely to be valuable for aiding consumers to memorise the product and arousing people's curiosity (Liu, 2012). For example, advertisement 6 only exercises two words which can be easily remembered by the reader and may still achieve promotional goals. This **also** tends to raise people's desire to know more about the product as the audience may also wonder what the company actually means by 'go further' and then search for more information which my result in trying to purchase the product.*

From the excerpt, it can be noticed that the information following the conjunctive adverbial *also* discusses another benefit of the technique of fewer words advertising, that is: *raise people's desire to know more about the product [...]*. This benefit adds to the prior benefit stated in the preceding sentence: *easily*

*remembered and may still achieve promotional goals. These two sentences connected by also can be seen as correct because the subjects are identical.*

**Overuse:** The current study confirms most of the points in Crewe's (1990) study concerning the errors in using logical connectives. Among many problems addressed in the study, the current study underlines the problem with overusing conjunctive adverbials. The overuse of conjunctive adverbials may be related to the misconception that the more, the better (Crewe, 1990). Related to the current study, the redundancy of using the conjunctive adverbial *also* may be one of the cases in overuse, such as one of the excerpts as follows.

**[Exc. 4] Excerpt from INT-04 – Incorrect Use**

*The TT focused more attention on 'when' the event took place, rather than 'who did the event. In addition, moving the time circumstance to the theme position emphasized the important role of time in presenting an event. Thus, the shift taking place in the*

*example in (3) was the shift from an unmarked to a marked theme. In addition, the theme markedness shift can **also** be realized in the shift from a marked theme to an unmarked theme as in (4).*

From the excerpt above, the use of conjunctive adverbial *also* is overused as the sentence already contains *in addition*, one of the signals that there is already an additive relation in the sentence. It is seen that the writer wishes to emphasize the point of adding information to the preceding sentences that talks about theme markedness shift; however, this emphasis (s)he is trying to make only results in redundancy of additive class in the sentence. Thus, it is highly recommended to omit one of the conjunctive adverbial (either *in addition* or *also*) to make the sentence better.

The case of overusing the conjunctive adverbials in the study does not stop only by seeing concordance lines followed by conjunctive adverbial *also*. In Crewe (1990), he mentions some authentic examples where the writers attempt to

make connection in every sentence. Such a case was found in the study as follows.

**[Exc. 5] Excerpt from NAT-10**

*Table 4 shows that there are 81 words using wazan fa'ala which had been translated using the transitive form with the affixation "me-kan". This study **also** shows that the prefix Men- movement has a very broad and productive in Indonesian. The same study ever conducted **also** about prefixes "Men-" which examines the topic unergative and unaccusative (Nomoto and Soh, 2009a; 2009b; 2011). Studies on anatomy is **also** giving out new repertoire in researching prefix profound Indonesian or Malay language.*

This is a clear example where the author wishes to show that every sentence is interconnected with each other by using conjunctive adverbial *also*. However, this kind of use is considered as overuse, as it has a high possibility that there is no information added to the previous sentence.

## CONCLUSIONS

This study has examined the use of conjunctive adverbials (CAs) in journals with different indexation levels to answer the question whether the scientific quality reflects in how the article is written seeing from the conjunctive adverbial use lenses. The study first provided the theoretical background to the subject matter dealing with linguistic issues, such as coherence and cohesion, the term conjunction and its terminology clarification, and conjunctive adverbials. Using these frameworks and previous studies as guidelines, the study took fifteen research articles from each corpus as samples to be analyzed using a qualitative approach. From the analysis, it can be concluded that the use of conjunctive adverbials in research articles indexed in international and national database share more similarities rather than differences.

Highlighting the problems of inappropriate register and overuse in the current study, it is highly recommended for authors to develop the awareness concerning the proper use of conjunctive adverbials in order

to bring logical connection among ideas. The learning process to understand deeply about the proper functions of each adverbial along with the register they belong to should start from reading more than one grammar book in order to find other insights. Furthermore, underlining the practical suggestions from Crewe (1990), the suggestions to increase the critical awareness of conjunctive adverbials in writing, especially in academic prose, come in three ways: (1) reduction, (2) paraphrase, and (3) explication. These ways, along with the deep learning of the semantical function of each conjunctive adverbial, hopefully will help authors to produce a good writing.

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