

# An Analysis of Shields in Abstracts from Academic Papers

Jie Chen<sup>1</sup> and Yi Zhang<sup>2</sup>

<sup>1,2</sup>School of Foreign Studies, Northwestern Polytechnical University,  
City: Xi'an, China, Postal code: 710129  
E-mail: chenjie810358141@163.com

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## Abstract

The aim of this paper is to explore the features of shields as well as reasons for these features in abstracts. 60 abstracts were selected from the *Modern Language Journal* from 2016 to 2018 as the research sample. Mainly based on Prince's classification of hedges and employing computer software AntConc 3.2.0 and manual sorting, this study showed that shields have the following features in abstracts: firstly, the overall frequency of shields in 60 abstracts is 3.2%; secondly, plausibilities take up 21.2%, and attributions occupy 78.8% in shields; thirdly, the top five plausibility shields are *we+verb*, *can(could)*, *may*, *will*, *I+verb*, and the top five attribution shields are *sb/sth finds*, *shows*, *demonstrates*, *believes*, and *implies*. As to the reasons for the different frequencies between attributions shields and plausibility shields, the first reason is the intention of reducing the probability of refutation, the second reason is reducing author's responsibility.

**Keywords:** hedges, shields, abstract

## 1. Introduction

It is generally believed that academic paper is an important scientific research article used for the distribution of knowledge. Therefore, writers of academic paper should focus more on the accuracy of its language. Essentially, the abstract is a highly condensed paper. Its function should be to enable readers to understand the main information reflected in the academic papers as accurately as possible, such as new topics, new ideas, new methods and new discoveries (Feng & Zhou, 2007). Moreover, the abstract requires accuracy, preciseness, and conciseness of the use of words (Hyland, 1994). From this point of view, the language in abstracts of academic papers should avoid ambiguity as far as possible. However, the vagueness of language is one of the attributions or features of human language which cannot be denied. Due to various limitations, such as the limitations of human perceptive ability, intricate internal psychology and external environment conditions (Zeng & Hu, 2005), the writers of academic articles often resort to the use of hedges when they cannot provide the most accurate information.

The term Hedges was first proposed by Zadeh in 1971. The linguistic hedges he talked about in the article referred to those words that “limit the degree of ambiguity of vague words”, such as “highly”, “slightly” and other adverbs with modifier effect.

Lakoff later further defined hedges as the “words whose meaning implicitly involves fuzziness--words whose job it is to make things fuzzier or less fuzzy” (1972). Hyland (1998) also put forward his concepts of hedges in his book where hedges refer to “any linguistic means used to indicate either: (a) lack of commitment to the truth value of an accompanying proposition; (b) a desire not to express that commitment categorically.”

As a matter of fact, many linguistic researchers have made extensive studies on hedges in these years. For instance, the functions of hedges in scientific and technological writing (Markanen & Schrder, 1997); English news (Zhu, 2012:35-39); cross-cultural communication (Guo, 2004:89-92); classroom English teaching (Luo, 2000:223-225), and literature creation (Wang, 2001:81-85). A detailed analysis on hedges has been made in various fields. However, studies on its sub-types in abstracts of English academic papers are still not abundant, especially the shield. Therefore, this paper make efforts to probe into how academic writers use shield in abstracts. In order to reach this goal, this paper attempts to use the combination of statistics and description, and take the foreign academic English journal *The Modern Language Journal* as the research sample.

## 2. Methodology

### 2.1 Research Corpus

This study chooses 60 English abstracts from the *Modern Language Journal* from 2017 to 2018, amounting to 11490 English words altogether. Reasons for choosing this journal mainly take its academic influence into consideration. This journal’s influence factor is 3.762 which confirms that this journal has a certain authority in this field.

## 2.2 Operational Definition of Hedges

There are various classifications of hedges among linguistics, and this paper tries to sort these taxonomies into three parts: grammatical categorization; semantic categorization and pragmatic categorization. Considering the practical operability, this paper chooses the pragmatic categorization.

Specifically speaking, Prince and his colleagues established the foot-stone of the pragmatic classification. In 1982, they began to study hedges from the perspective of doctor-patient terms. In the first place, Prince divided hedges into approximators and shields. Approximators refer to some kind of words that to some extent can change the original meaning of a proposition. In other words, they can affect the authenticity and scope of the proposition. On the contrary, shields do not affect the truth conditions of the proposition, but reflect the speaker's attitude towards the content of the topic. Both of them can be further classified into two sub-types. Approximators can be divided into "adaptors" and "rounders", and shields can be sorted to plausibility shields and attribution shields.

Adaptors are words that can reveal the authenticity of the discourse. Rounders refer to those words that can affect the scope of original discourse. They are often used when the speaker thinks it is impossible or unnecessary to give the precise number or term.

Plausibility shields refer to the speaker's direct surmise of things, or the speaker's attitude or evaluation of things. Attribution shields means that the speaker quotes the opinions or statements from others and indirectly expresses the speaker's own opinions or views. Table 1 shows the pragmatic classification in detail.

**Table 1 Pragmatic classification of hedges (Cited from Prince 1982)**

| Hedges        | Language Surface |   |
|---------------|------------------|---|
| Approximators | Adaptors         | kind of, somewhat, more or less, very, quite, almost, entirely, sort of, etc.   |
|               | Rounders         | about, over, approximately, around, nearly, roughly, essentially, at least, less than, etc.                                 |
| Shields       | Plausibilities   | I think, I believe, I assume, seem, as far as I know, as far as I can tell, I'm afraid, I suppose, to my knowledge, etc.    |
|               | Attributions     | according to, it is said that..., someone said that..., the probability will be... it is assumed that..., as is known, etc. |

Comparatively speaking, there are also some problems existing in Prince's classification of hedges. For instance, this classification is used more widely in colloquial language rather than in research articles. Therefore, this paper combines the classification basis of other scholars (He 1985, Liu & Hu & Du, 2016) and forms into following kind of taxonomy.

**Table 2 Operational definition of hedges**

| Hedges        | Language Surface |  |
|---------------|------------------|--|
| Approximators | Adaptors         | kind of, somewhat, more or less, very, quite, almost, in a sense, sort of, etc.                                    |
|               | Rounders         | about, over, approximately, around, nearly, roughly, at least, less than etc.                                      |
| Shields       | Plausibilities   | I/ we + believe, suggest, speculate, assume, suppose, propose, possibly, likely, presumably; all modal verbs, etc. |
|               | Attributions     | non-first person nouns+believe, suggest, speculate, suppose, propose, etc.   |

### 2.3 Research Questions

Considering the current research gap exists in present study of shields, this paper mainly deals with the following questions:

1. What are the features of shields used in 60 abstracts of English academic papers?
2. What are the reasons for the different frequencies between attribution shields and plausibility shields?

### 2.4 Research Instruments

It is difficult for computer to pick out all shields considering the influence of context. Thus manual sorting is inevitable in this process to overcome the disadvantages of computer scanning. And in this research, manual sorting is the major instrument. First of all, based on the operational definition of hedges, the shields in the 60 abstracts were identified, annotated, and classified. For the sake of accuracy and convenience, computer scanning, Antconc 3.2.0 will be used as a checking and complimentary part to re-assure the accuracy of statistics. This software mainly has eight functions: Concordance, Concordance Plot, File View, Cluster, N-Grams, Collocates, Word List and Keyword List. This paper only employs Concordance and Concordance Plot as a supplement for the manual sorting.

### 2.5 Research Procedures

As mentioned before, this research article mainly adopts computer scanning and manual sorting to classify shields and count relevant statistics. In this process, firstly, the paper will count the overall frequency of shields used in abstracts, and the formula is the total frequency of shields/the total number of words; secondly, find out the top five most frequently-used attribution shields and plausibility shields, and the formula is the frequency of the top five most frequently-used attribution and plausibility shields/ the frequency of shields, such as the frequency of “may”/ the frequency of plausibility shields. Concrete data will be shown in latter part.

### 3. Results and Discussion

#### 3.1 The Features of Shields used in 60 Abstracts

In order to acquire a basic understanding of a concrete situation of shields used in abstracts, the overall frequency of shields is counted, and the corresponding frequencies of its two sub-types, plausibility shields and attribution shields are presented in Table 3.

**Table 3 Frequencies of attribution shields and plausibility shields**

| Hedges  |               | Frequency | Percentage |
|---------|---------------|-----------|------------|
| Shields | Plausibilites | 79        | 21.2%      |
|         | Attributions  | 293       | 78.8%      |
| Total   |               | 372       | 100%       |

This paper chooses 60 abstracts from the *Modern Language Journal* and the total number of words in these abstracts is 11490, so the overall frequency of shields used in abstracts is 3.2% ( $372/11490=3.2\%$ ). In addition, from the above statistics, the paper also finds that plausibility shields take up 21.2%, attribution shields occupy 78.8% in shields, implying that the frequency of attributions is far more than plausibilities. Moreover, with an aim of obtaining an explicit understanding of the specific use of shields in abstracts, the frequencies of the top five plausibility shields and attribution shields are offered in Table 4.

**Table 4 Frequencies of top five plausibility shields**

| Plausibility shields       | Frequency | Percentage |
|----------------------------|-----------|------------|
| we+verb                    | 27        | 34.2%      |
| can(could)                 | 15        | 19.0%      |
| may                        | 11        | 13.9%      |
| will                       | 9         | 11.4%      |
| I+verb                     | 5         | 6.3%       |
| other plausibility shields | 12        | 15.2%      |
| Total                      | 79        | 100%       |

As previously shown in Table 3, plausibility shields account for 21.2% in the shields, and the relevant top five plausibility shields are respectively *we+verb* (34.2%), *can or could* (19.0%), *may* (13.9%), *will* (11.4%), *I+verb* (6.3%). Based on above statistics, we can clearly find the difference between *we...* and *I...*. It is very obviously that authors prefer to use *we...* rather than *I...*. Besides, in using modal verbs, scholars are more in favor of the *can, may, will*, especially the *can*.

Accordingly, the frequencies of the top five attribution shields are illustrated in Table 5.

**Table 5 Frequencies of top five attribution shields**

| Attribution shields       | Frequency | Percentage |
|---------------------------|-----------|------------|
| sb/sth finds              | 22        | 7.5%       |
| sb/sth shows              | 21        | 7.2%       |
| sb/sth demonstrates       | 14        | 4.8%       |
| sb/sth believes           | 9         | 3.1%       |
| sb/sth implies            | 7         | 2.4%       |
| Other attribution shields | 220       | 75.0%      |
| Total                     | 293       | 100%       |

It can be found from the table 5 that the top five attribution shields are all in the form of sb/sth..., such as *sb/sth finds/shows/demonstrates* rather than some compound hedges like *according to one's estimate, it is said that*. Therefore, it is possible for us to conclude that scholars are more inclined to use some simple but refined attribution shields instead of some long but common attribution shields.

### 3.2 Reasons for Different Frequencies Between Attribution Shields and Plausibility Shields

#### 3.2.1 Reducing the Probability of Refutation

When author presents his personal propositions in abstracts, he often needs to consider two situations, one is that whether his language expressions show the objectivity and preciseness of an abstract, the other is that whether his viewpoints can be accepted by the readers. Plausibility shields indicate the writer's confidence in the truth of a proposition. They "acknowledge subjective uncertainties and are motivated by the writer's desire to explicitly convey an assessment of the reliability of propositional validity" (Hyland, 1996). The principal motivation for plausibility shield is a desire to clarify the state of knowledge rather than protection against overstatement. Acknowledgment of factual uncertainties predominates over attempts to disguise the author's opinion. Plausibility shields are most commonly expressed by epistemic modal verbs, epistemic adjectives, nouns and adverb; and words in the form of *we/I+verb*. Meanwhile, *Modern Language Journal*, different from some scientific journals, is a linguistic journal. Therefore, the author, to some extent, assumes much more risks of being criticized and questioned by the readers for his readers pay more attention to the accuracy and preciseness of his language expressions. Attribution shields enable writers to refer to speculative possibilities while at the same time guard against possible criticism, they are therefore often associated with "higher-level claims than plausibility shields" (Hyland, 1996). It aims to shield the writer from the consequences of opposition by limiting personal commitment. These hedges thus diminish the author's presence in the text rather than increase the precision of claims. These hedges help minimize the author's personal involvement and thereby reduce the probability of refutation and limit the damage which may incurred from categorical commitments. Put it simply,

attribution shields highlight the protection of the author, whereas plausibility shields, in some way, emphasize the author's confidence in his personal point of view. For example:

*Example 1:*

***I suggest*** (plausibility shields) therefore that...must be causally linked to QB site occupation.

*Example 2:*

This ***study implies***(attribution shields) that the extent to which the endophyte might effect ... under field conditions could also depend considerably upon other interacting factors.

The first example indicates the writer's confidence in the certainty of his knowledge, while the second indicates the difficulties of using a limited language to describe the variability of natural phenomena. Both of the examples embody the authors' attitudes towards their research subjects. The difference is "the match between propositional content and what reality is believed to be like, and on subjective grounds, relating to acceptable levels of self-assertion, deference, and willingness to debate" (Channell, 2000). In writing an abstract, the author seems to be more cautious and prudent in selecting the proper words for the abstract is a refined content of the paper and he often faces more risks of being refuted and criticized by the reader.

### 3.2.2 Reducing Author's Responsibility

From the above statistics, the plausibility shields take up 21.2%, while attribution shields account for 78.8%. The proportion of above two hedging devices differs greatly.

The chief reason is the author's intention of reducing responsibility. Specifically speaking, attribution shields mainly play a protective role, which "serve as an insurance in helping writers protect their reputations" (Nash, 1990). Attribution shields can blur the relationship between the author and the proposition, and the most prominent sign of such hedges is the "absence of author" (Hyland, 1997). Therefore, impersonal expressions are often used to alleviate the author's responsibility, such as *the data suggest, the result show*. Whereas plausibility shields emphasis more on the importance of manifesting author's respect for readers. Contrary to attribution shields, the prominent mark of these hedges is a "reference to the writer" (Hyland, 1997), such as *I infer, we conclude*.

As a matter of fact, the above two functions both contribute to the writing of research articles. However, in academic writing, the intention of the author is to put forward a new idea on the basis of existing knowledge, which undoubtedly risks being criticized or denied. Compared with the plausibility shields, the attribution shields leaves more room for the author's own words and helps him avoid readers' criticism and blame when his statement is wrong or not consistent with his readers, so to the greatest extent, protect the author's face and reduce his responsibility. For example:

*Example 3:*

The ***findings reveal*** (attribution shields) that researcher identity work and the co-constructed nature of interviews result in qualitatively different interview data

*Example 4:*

***We reveal*** (plausibility shields) possibilities for team-based research projects that aim to understand cases from multiple, integrated perspectives on different scales of analysis...

Comparing “*the findings reveal*” and “*we reveal*”, it seems that the former may help the author undertake fewer responsibilities when questioned by readers. “*The findings reveal*” not only weakens the strength of speech acts, but also protects the author from direct criticism. Moreover, it also helps minimize the writer’s personal involvement and thereby reduce the probability of refutation. Furthermore, this allows writers to “anticipate and discountenance negative reactions to the knowledge claims being advance” (Swales, 1990).

#### 4. Conclusion

Through the analysis of the shields, this study firstly finds some features of shields in abstracts. The overall frequency of shields in 60 abstracts is 3.2%. In terms of the corresponding frequencies of its two sub-types, plausibilities take up 21.2%, and attributions occupy 78.8% in shields. Secondly, as to the reasons for different frequencies between attribution shields and plausibility shields, one is the author’s intention of reducing the probability of refutation, the other is reducing author’s responsibility. In general, the use of attribution shields can help reduce author’s possible criticisms and responsibilities, especially when his statements contradict others, while plausibility shields are dwarfed by attribution shields in this function. Moreover, it is also suggested that we should try to use the attribution shields, such as *this research reveals/shows/indicates* instead of some plausibility shields, like *I find, I conclude* for it may seem to be subjective.

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