

SOME ASPECTS OF THE TEXTUAL FUNCTION OF THE ARTICLE IN THE TEXTS OF ZOOLOGY

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Introductory

Traditionally, three major functions of the article are pointed out: grammatical, semantic and textual. By the grammatical function is meant the use of the article as a marker of the noun. By the semantic function is meant the use of the article as the marker of semantically differentiated nouns (Valeika, 1983, 12). By the textual function is meant the use of the article as a means for the creation of a coherent text. The present study is concerned with a science text; hence we will focus our attention on cases of the textual function of the article.

The category of definiteness in English is expressed through the article and is represented in a two member-opposeme: "indefinite" and "definite". The indefiniteness is usually expressed by the indefinite article, zero article and indefinite quantifiers, whereas definiteness is expressed by the definite article, demonstrative pronouns and personal pronouns. In this opposition the indefinite article is the weak member, whereas the definite article is the strong member of the opposition.

The indefinite markers usually signal new information. The definite markers, the definite article in particular, signal the information already presented. However, the fact that the indefinite article presents new information and the definite article presents old information should not be taken for granted since many linguists have noted that the definite article can occur as a marker of new information and the indefinite article as a marker of given information (Shevekova, 1980, 115); however, more often than not, the inde-

finite article signals new information and functions as the rheme of the sentence, whereas the noun with the definite article signals old or given information and functions as the theme of the sentence.

The specific characteristics of the scientific text – precision and explicitness – are achieved through the chain-parallel link of the communicative units of the text – the theme and the rheme. The analysis of zoology texts has proved the statement that the mixed type of the chain-parallel link pattern of the theme-rheme sequence is preserved. The typical structure of the communicative pattern of the syntactic whole is as follows: the topic sentence of the syntactic whole opens with the theme, or old information, which is represented by the noun phrase with the definite article or some other definite quantifier. The definite article or the demonstrative pronoun function anaphorically and point back to the linguistic unit in the previous syntactic whole by joining them together. The new information of the topic sentence is represented by a noun phrase with an indefinite marker – the indefinite or the zero article. It is interesting to note that the occurrence of the zero article in the rhematic noun phrase is predominant in the texts analysed, and this is in conformity with the typical lexis of the scientific texts – the abundance of abstract nouns. The supporting sentences of the syntactic whole open with a thematic noun phrase modified by the definite article or the demonstrative pronoun *this* functioning anaphorically and pointing back to the rhematic noun phrase of the topic sentence. The concluding sentence of the syntactic whole also preserves the chain link pattern. It is noteworthy that the thematic noun phrase of the topic sentence of the syntactic whole is usually modified by the definite article, whereas the thematic noun phrase of the concluding sentence is usually modified by the demonstrative pronoun *this*. In some cases the chain link of the theme-rheme sequence is intertwined with the parallel link pattern.

Such being the case, both members of the opposition are co-operative members of a coherent text; however, their contribution to the creation of the cohesive text is different. As noted by Valeika (1983, 18), “the indefinite article (a or its zero variant) signals novelty of information. But once novel information is introduced, the communicative role of the article has been played.” The function of the definite article is different. The definite article

indicates that the item it modifies is specific, and that the information about this item is available. It may be present in the linguistic environment or in the extralinguistic world. The definite article can refer to a situation outside language (the generalised exophoric use); it can refer to general knowledge (cultural reference), and it can refer to the linguistic unit within the same text (textual reference). Since the aim of this paper is to analyse the role of the article in the creation of a coherent science text, in what follows we will focus our attention on its textual function.

The anaphoric function of the definite article

The definite article has little content; it merely serves as a referential deictic, i.e. it signals the definiteness of the noun it modifies. Although it does not indicate the exact place of the referent, it creates a link between the sentence in which it is used and the one in which the referent occurs, i.e. the definite article functions anaphorically if the referent is identifiable in the preceding text. As the number of antecedent nouns is not restricted, the noun with the definite article can be used repeatedly throughout the paragraph.

Consider:

1. 1. *The use of attenuated strains of Eimeria spp. would overcome some of the difficulties inherent in vaccination with virulent strains. A vaccine based upon attenuated strain of seven species of Eimeria is now undergoing field trials in the UK and other countries. The parasites included in the vaccine are referred to as 'precocious' because they complete their life cycle more quickly than wild type strains and have a reduced ability to multiply in the bird. <...>. The vaccine has been administered via the drinking water to over 300.000 birds between five and nine days of age and has proved to be effective in preventing coccidiosis. Advantages of the vaccine are that it poses no threat to the environment <...>.*

It will be interesting to see if the vaccine will provide protection against all the strains of coccidia likely to be encountered <...>.

The foregoing text illustrates the recurrent use of the noun with the anaphoric definite article. Each mention of the definite noun vaccine has bac-

ward reference to the first mention of the noun a vaccine and to all the other mentions of the noun vaccine. The fourth mention of the definite noun vaccine occurs in a different paragraph and serves as an effective cohesive device that joins two paragraphs, establishing a cohesive tie through the prior mention of the linguistic element.

The prior mention of the linguistic element determines the occurrence of the definite quantifier which in its turn refers back to the linguistic element establishing a link between them. Both items of reference – the referent and the referring phrase – are usually co-referential and are linguistically encoded as synonyms or near synonyms. The anaphoric article does not necessarily refer to the previous noun; it can refer to the verb in the previous sentence.

Consider:

1. 2. *The relationship of the fowl to its environment can be defined in physiological terms. The definition refers to the way that the individual bird within one generation, adapts to the changing, possibly harmful, environments that are different from those in which it, or its predecessors, were raised.*

In the passage above the link is created between the verb phrase can be defined and the noun phrase the definition. The verb phrase represents part of the rheme of the first sentence, whereas the noun phrase the definition represents the theme of the second sentence. The cited passage exemplifies the capability of the definite article to refer to the verb phrase as well as to the noun phrase.

The distance between the referent and the referring phrase is called a referential distance. A referential distance is an important aspect of reference since it reveals the capacity of the referring element, in this case the capacity of the definite article to preserve definiteness in the text. There are two patterns: proximate and distal. Wallace L. Chafe (1976, 40) presents an example from Authur Koestler's 'The case of the midwife toad'. In this text definiteness is preserved on more than 105 pages. Hence, Wallace L. Chafe (1976, 41) concludes that "<...> definiteness can be preserved indefinitely if the eventual context in which the referent is reintroduced is narrow enough to make the referent identifiable." However, the situation

is a little different in the texts of scientific journals. First, the texts analysed are shorter in length, hence the distance between the definite noun and its referent cannot be as long as in texts of fiction. However, the length of the text is not the most important reason for the prevailing use of the proximate reference pattern. One of the most important features of a scientific text, as has already been pointed out, is precision. The distal reference pattern makes it possible to interrupt the psychological associative tie between the referent and the definite noun; therefore, it may cause some difficulties in decoding the text. To avoid this, the proximate reference pattern is used. In the case of the distal reference pattern the psychological tie between the antecedent and the definite noun is preserved by mentioning the same idea which is encoded by a different linguistic element. To quote Valeika (1983, 15), "if the definite noun has to be used at some distance, at least some aspects of the antecedent noun should be mentioned in the text – to keep the notion alive in the addressee's memory. In a well-formed text, repetition of the antecedent noun is generally avoided. The place of the noun is often taken by another noun, i.e. a noun semantically or functionally related to it."

The data obtained show that the anaphoric use of the definite article accounts for 35–40 per cent of all referential occurrences of the article. It is a relatively low index and it disproves the traditional point of view that the anaphoric function of the definite article is predominant.

The most problematic aspect of data analysis is the determination of the exact function of the definite article since in some cases it can function both anaphorically and cataphorically. Gutwinsky (1974, 65) indicates that "we have to exercise extra caution in classifying an instance of *the* as anaphoric, especially as three functions of the definite article – cataphoric, anaphoric and homophoric – are not mutually exclusive." Thus in 5 per cent of the occurrences the definite article has a double function, i.e. it functions either anaphorically and cataphorically or anaphorically and homophorically (reference to general knowledge).

On the one hand, the frequency of occurrence of the definite article functioning anaphorically is lower as compared to its cataphoric function; on the other hand, its contribution to the integrity of the texts analysed is indisputable.

The relatively infrequent use of the definite article in an anaphoric function can be explained in accordance with the fact that other, more efficient means of verbal pointing are used instead. Lyons (1969, 279) points out that “the third person pronouns, demonstrative pronouns, the definite article ‘include’ the feature ‘definite’: from this point of view the man, this man, that man contrast with a man <...>. The traditional separation of the articles, the personal pronouns and the demonstrative pronouns obscures these relationships.” That is why the demonstrative pronoun this and the definite article are often interchangeable in the texts analysed. Both of them share the semantic component of definiteness. To quote Wallace L. Chafe (1976, 39), “<...> there is an overt surface marking of definite status, the definite article”. He also indicates that “words like this and that include the status of definiteness in what they convey, but they also include an indication of why the speaker expects the addressee to be able to identify the referent: its closeness to the speaker or to this point in the discourse, the distance from the one or the other, or the like.”

Since the data of the texts analysed were drawn from scientific texts, the occurrence of the demonstrative pronouns this and that indicates the proximity to the point in the text; however, in the majority of cases noun phrases modified by the demonstrative this referred to the linguistic element identifiable in the immediately preceding sentence as well as in non-immediately preceding sentences, whereas that referred to a linguistic element within the same sentence boundaries.

Although both the definite article and the demonstrative pronoun this share the same status of definiteness, they influence the noun they modify in a different way. To quote Kramsky (1972, 33), “it seems that the article influences the noun somehow from the inside. That is to say it influences the noun directly in its very essence, whereas the demonstrative merely points from the outside without substantially affecting the noun”.

We agree that the demonstrative pronoun has no power of influencing the noun in its very essence; therefore, it has the power of directional pointing, i.e. it not only indicates the proximity between the place of its occurrence and the place of the referent, but it forces the reader to direct his/her attention to

the prior information. This capacity of the demonstrative pronoun is the most effective and contributing to the cohesion of the texts analysed.

Having taken into account the points of similarity between the definite article and the demonstrative pronoun this, we can easily assume their interchangeability.

Consider:

1. 3. *The following recommendations for a standardized method of sensory analysis has been elaborated by Working Group of the European Federation of the WPSA. The method was formulated by Bente Staerk. Members of the Working Group have contributed background information and the method has been discussed and agreed at the meetings of the group. This method is recommended for use in investigations of the influence of different factors on the quality of the bird's meat, but this is not applicable to consumer acceptability trials. The method covers <...>.*

In the fourth sentences of the paragraph the definite article is substituted for by the demonstrative pronoun without damage to the texture: in both cases the identity of reference is maintained. Even though both of them point backwards to the same referent, their pointing differs in quality. First, the definite article functions as an unmarked reference item, whereas the demonstrative pronoun functions as a marked reference item. Secondly, the demonstrative pronoun raises the item it modifies to the focus of the reader's attention on a new, larger scale by contrasting this item to the one mentioned previously. The demonstrative this can also signal a shift of focus, as was noted by McCarthy (1994, 272), "this certainly seems regularly to function as a signal that the entity is to be understood as raised to current focus <...> for the purpose of making either a comparison or contrast with another new or re-activated focus, for the purpose of evaluation." The definite article obviously cannot function either as a focus raising or focus shifting element.

To sum up the differences and similarities between the definite article and the demonstrative pronoun, the following tendencies should be pointed out:

1. Both the definite article and the demonstrative pronoun can function as modifying elements of the noun. However, the definite article differs from

the demonstrative pronoun in one important respect – the definite article does not have the additional power of serving alone.

2. The identity of reference between the noun they modify and the referent is maintained. The noun phrase they refer to is encoded by lexically the same linguistic element or by a synonym or near synonym. However, the definite article tends to refer to the identical linguistic element, whereas the demonstrative this can refer to a synonym or near synonym more frequently.

3. The referential distance is usually proximal. Both the noun phrase with the definite article and the demonstrative pronoun refer to the noun phrase in the immediately preceding sentence. However, the noun phrase with the demonstrative pronoun refers to the extended text, whereas the noun phrase with the definite article does not. The structural division of the text into syntactic wholes is not an obstacle for the referential items the and this to occur. They can cross boundaries of the syntactic whole, hence the definite article is preferred at the beginning of the topic sentence of the syntactic whole, whereas the demonstrative pronoun is preferred at the beginning of the concluding sentence of the syntactic whole.

4. The number of the occurrences of the same referring item is not restricted. Both patterns can occur repeatedly or singly; however, the definite article tends to be used repeatedly more often than the demonstrative pronoun.

5. The communicative function of the items in the text is similar. The demonstrative pronoun and the definite article function within the nominal group that forms the theme of the sentence and represent known or given information.

The functional differences of the two items determine the different frequency of their occurrence in the analysed text of zoology. 1000 pages of the science text on zoology were analysed. The following results were obtained: the anaphoric function of the demonstrative pronoun this together with its plural form these cover 74 per cent, whereas the definite article covers only 26 per cent of their anaphoric occurrences. However, on closer inspection of the data, we must admit that some authors give preference to the demonstrative pronouns rather than to the definite article out of stylistic considerations. Assuming that the same or similar options were open to every author,

the difference between the and this choices can be seen as reflecting a considerable difference in the authors' style. However, style cannot influence the general tendency towards the frequent use of the demonstrative pronoun since the evidence was drawn from 96 texts written by different authors, which ensured the reliability of the results.

From what has been said it can be inferred that the anaphoric article contributes to the cohesion of a scientific text although not to the same extent as the demonstrative pronoun this does. The comparatively inert flow of the text is intensified by raising some linguistic entities to current focus. Hence, the demonstrative pronoun this is preferred in many instances. It forms the backbone of the syntactic whole and the text in general.

The cataphoric function of the definite article

As has been noted above, the cataphoric definite article predominates in the science texts. 55–60 per cent of its textual occurrences are cataphoric. All cataphoric occurrences are structurally presupposed since the tie between the noun phrase with the definite article and its referent is close and the referential distance does not exceed one sentence boundaries.

Example 1.1 demonstrates the anaphoric function of the definite article; however, the noun parasites is modified by the definite article functioning cataphorically with respect to the noun the vaccine. This cataphoric function is predetermined structurally. Even though it directs the reader's attention to the information forward in the text, the structural dependence and the short referential distance diminishes its cohesive power. On the other hand, we must admit that the cataphoric article serves as a device of language economy since it does not require prior mention of the referent.

The most typical pattern in which the cataphoric definite article is used is the complex noun phrase, which consists of two nouns, one of which being modified by the definite article and the other by the demonstrative pronoun this. As a result of this, double pointing occurs: the definite article points forward to the second noun of the noun phrase, whereas the demonstrative

functions anaphorically and refers to the preceding text. Moreover, double pointing within the complex noun phrase is not restricted to textual reference only. The demonstrative pronoun can also function exophorically. This goes to say that in a complex noun phrase consisting of two nouns the first noun is modified by the definite article functioning cataphorically, whereas the modifier of the second is the demonstrative pronoun or the definite article, both of which refer to the linguistic element in the preceding text or to the referent existing outside language.

The double referential directionality of the complex noun phrase is not new since the definite article alone can express anaphoric, cataphoric and exophoric functions at the same time. As noted by Halliday and Hasan (1976, 73), “a given occurrence of the might have any two or even three functions at the same time.”

Consider:

1. 4. *Table 5 condenses the published data <...>. The results of both experiments are similar for most criteria.*

On the one hand, the definite article, as used with the noun results, functions anaphorically since it refers back to the noun phrase the published data; on the other hand, we can infer that the definite article in the cited instance functions cataphorically since it refers forward to the noun phrase both experiments. Although instances of a twofold or even threefold function cannot be ignored, the number of such occurrences is relatively low and they have almost no bearing on the cohesion of the text.

The samples for analysis and the method of data analysis

The scientific texts analysed were drawn from the journal “World’s Poultry Science Journal”. The texts were selected quite at random but from the point of view of stylistic characteristics they were typical pieces of scientific texts on zoology.

The mode – data analysis method was used. The results at nominal level counting frequency of occurrence of the linguistic elements – the definite article and the demonstrative pronoun this – were received.

Conclusion

The article, especially the definite article, is an important device for the creation of a cohesive scientific text. However, the most frequent textual function of the definite article is cataphoric, which serves as a means of language economy rather than a means of cohesion. The anaphoric definite article is often substituted for by other definite quantifiers such as the demonstrative pronoun this. The comparatively low occurrence of the anaphoric article can be accounted for by the frequent use of the demonstrative pronoun this, which appears to be more efficient in creating a cohesive scientific text.

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KAI KURIE ARTIKELIO TEKSTINĖS FUNKCIJOS ASPEKTAI ZOOLOGINIUOSE TEKSTUOSE

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