Typological differences in morphemic-syllabic word structure in English and Chinese

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The article considers typological features of morphemic-syllabic word structure in the analytical English and isolating Chinese languages. Due to the linear nature of the signifying language signs, differences in the form of denotative language units primarily concern their length, i.e. their syllabic spread. The author makes a strong case for the study of morphemic-syllabic word organisation in differentiating semiological word classes of words and individual parts of speech, and identifies the most common models of morphemic-syllabic structure as applied to 'words in general', as well as to semiological classes of words and individual parts of speech in the languages studied. Depending on the semiological function they perform, and subject to the degree of their lexicality and grammaticality, denominating words (notional words proper) are more complex and longer than their non-denominating counterparts – deictic/ pronominal (pronouns) and linking (form) words. The paper traces the number one principle of language signs, the linear nature of the signifying component, acting as a restrainer of the second major principle – the arbitrariness of the language sign – in differentiating various verbal signs: longer polysyllabic models are assigned to denominating signs, while shorter models are associated with pronominal and linking signs. The author also considers the relevancy of the functional-stylistic factor. In general, the findings presented in the paper may prove beneficial in establishing the patterns of regular dependence of the units of morphological and phonetic segmentation, as well as in developing systemic typological classification of languages.

KEYWORDS: *semiological word classes, notional words, pronominal words, form words, morphemic-syllabic structure*

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1. INTRODUCTION

As is well known, the essence of language lies in its articulateness (Humboldt, 1985). Primary language segmentation involves making a distinction between its two facets – the sound and the meaning – which interconnectedness sets in motion the very process of segmentation in both areas. Double hierarchical segmentation revealed by Baudouin de Courtenay (1972) implies two types of segmentation – 'morphological' (or semasiologically morphological) whereby denotative units are identified within the content plane, and 'phonetic' whereby pronounced units are affiliated with the acoustic dimension of language functioning. The correlation of lexical and grammatical phenomena is a typical feature of any language: it presents its typological determinant, defines its grammatical trends, and

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affects the nature and degree of differentiation of the various word classes within this language (Römer, 2009). The mechanisms underlying the interaction of units belonging to different levels (in particular, the phonological and morphological ones) are currently the focus of particularly intense scrutiny in the realm of language studies.

Yet, since the categorical nature of this interaction appears to lack targeted examination, its typological specifics have not yet been the subject of intensive study (Bybee, 2003).

Modern typological research is based not only on the categorisation of concepts, but also largely relies on the method of grammatical sentence construction and explanation of syntactic relations (Matthews & Matthews, 2007), as well as on statistical methods establishing mainly the frequency of various (mostly phonetic) elements, which are interpreted as typological characteristics of languages (Fenk et al., 2006).
Researchers also consider morphological features that are taken as a basis for establishing a coherent typology of languages (Bane, 2008; Anderson, 2015).

Since the word is distinguished by the unity of outer and inner form, this obviously implies contingency of its syllabic and morphemic structures. Due to the denotative nature of morphemes, the unity of syllabic and morphemic word organisation is primarily determined by the morphemic structure. Although syllabic word structure does acquire a somewhat autonomous status with the development of grammatical forms, it will always be defined by the morphemic structure.

The correlation of the word's morphemic structure and its syllabic organisation is essential to language as a coherent system characterised by double hierarchical segmentation. Identifying the peculiarities of this correlation in languages of different types will unravel the interaction of phonetic and content planes, because each language produces specific models of systematised morphemic-syllabic structure.

In addition, semiological classes of words and parts of speech exploit their own sets of morphemic-syllabic models, which define the relevance of their typological examination against the backdrop of two languages belonging to different types – in this case, analytical English and isolating Chinese.

This aspect also acquires importance whenever it comes to the native English or Chinese speakers studying English or Chinese as foreign languages. Besides, this linguistic phenomenon is of considerable significance for students for whom both of these languages are foreign languages (i.e. in cases when the students already speak English

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and begin to study Chinese as their primary foreign language). In this regard, successful analysis of the models of morphemic-syllabic word organisation will imply teaching students to identify word boundaries, establish the word's part-of-speech affiliation, and define the main morphemic and syllabic models.

With the students of non-linguistic universities, such practice can be useful in mastering linguistic competence and encouraging the students to further formalise straightforward utterances in a foreign language.

2. MATERIAL AND METHODS

Study materials include excerpts from research articles and fairy tales of similar volume (561-568 words per excerpt): in English – *Homonyms and English Form-Class Analysis* by Levin (1960), *The Green Lady Wonder Tales* by Briggs and Tongue (1965); in Chinese – 生死 恋 (*The Everlasting Love*) by Hua (1998).

The choice of these languages proceeds from their typological similarity associated with the agglutinate technique of morpheme composition and their more or less pronounced degree of analyticity.

Research material comprised a research article (in English) and fairy tales (in English and Chinese), which is mainly due to their vivid stylistic

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dissimilarity: the scientific style uses standard codified vocabulary, while the style of fairy tales is largely associated with colloquial language. Accordingly, by comparing the data retrieved from the texts of different genres, one can conduct a more in-depth typological analysis of languages and trace internal linguistic patterns revealing 'simultaneous application of two or three morphological principles' (Baudouin de Courtenay, 1972, p. 114-115).

The analysed texts were reduced to words (word forms), and morphemes (morphs) to be further subjected to quantitative-typological and statistical analysis.

Morphemic segmentation was carried out in a strictly synchronous alignment. English words were segmented following Greenberg's (1960) quadrate method, including the cases of a severely limited number of appropriate word forms, as was the case of English pronouns:

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who (nominative case) – *whom* (objective case)
they (nominative case) – *them* (objective case)
he (nominative case) – *him* (objective case)

whereby the suffix of the objective case *–m* is allocated.

As pertains inflectional affixes of the English language which had survived the decline of inflectional morphology, cumulative affixes (multivalent, combining more than one grammatical meaning) are only marked by three indicators, which are 3rd person, singular, and the present tense of the *–s* indicative. 'Inflection' in the English language refers to accidence and inflectional affixes. The term 'inflection' has been retained, because along with the standard means used to express grammatical meanings, there are also non-standard tools, which is basically common to inflectional languages. For example, in the inflectional category of number, singular is also expressed through the *–um, -us, -on* flections, and instead of resorting to standard *–s/-z/-iz*, plural forms employ *–a, -e, -en*, as well as internal alternations, apophonies (Bauer et al., 2013; Strauss, 1980). In addition to external objectively expressed morphemes and zero inflectional affixes, the present study also considers internal flections, or 'aphononies'.

Morphemic segmentation of Chinese words relied on Greenberg's (1960) quadrate method, the method of residual separability, and research findings introduced by Solntsev (1995), and Yi's (1990) Chinese-Russian Dictionary.

Syllabic segmentation of English texts was carried out in accordance with the following dictionaries and research works: *Oxford Advanced Learner's Dictionary of Current English with Chinese Translation* (Cowie & Hornbty, 1993); *Consonant Cluster, Consonant Sequence and the Syllable* (Pulgram, 1965); *The Phonology of English* (Hammond, 1999); *Syllable Structure and the Distribution of Phonemes in English Syllables* (Kressler & Treiman, 1997).

Since syllabic and morphemic boundaries often tend to coincide, syllabic segmentation in Chinese is commonly a rather straightforward process. In this study, syllable analysis relied on the following research works: *Syllable Structure in the National Chinese Language* (Dragunov & Dragunova, 1995), System of Chinese Syllables (Moskalev, 1964), *On*

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the Issue of Syllable and Phoneme (Rumyantsev, 2007) and *Introduction to the Theory of Isolating Languages* (Solntsev, 1995).

Following Rumyantsev (2007), segmental organisation of morphemes and words is analysed in view of the acoustic-phonemic structure of the Chinese language.

The quantitative-typological analysis was conducted based on the method of quantitative morphological indices proposed by Greenberg (1960) in furtherance of Sapir's (1985) typological method. The paper also considers the alternated approach to the definition of a word and the additional index of lexical/grammatical intensity introduced in *Quantitative typology of languages of Asia and Africa* (Kasevich & Yakhontov, 1982).

Along with the morphemic (morph) organisation, the formula of morphemic-syllabic word structure (word form) comprises the length of each morpheme (morph) within syllables due to the linear nature of the signifying language signs and the morpheme's (morph's) role in differentiating various types of word signs. In this formula, morpheme (morph) length is indicated by the corresponding subscript digit *0, 1, 2, 3, 4* placed to the right of the letter symbol designating the morpheme (morph).

The number of these models, their structure and frequency of use vary not only from language to language, but also from one part of speech to another, thus acquiring typological significance. This significance is all the more considerable, seeing that morphemic-syllabic structure of a word somewhat accumulates the patterns characterising this word not only in terms of its expression, but also in terms of its content, which is due to the nature of both the words, and the morphemes exposing them.

3. STUDY AND RESULTS

3.1 The English language

3.1.1 Word proper

English article registered 54 morphemic-syllabic (morph-syllabic) word models as opposed to 16 models registered in the fairy tale. This means that on average one model incorporates 10 and 35 words in the article and in the fairy tale, respectively.

The most common models found in the article and amounting to 73,0% of all the morphemic-syllabic word models found in the English article are listed in Table 1 below.

Table 1

The most frequent morphemic-syllabic word models (the English article)

MORPHEMIC-SYLLABIC WORD	RELATIVE FREQUENCY	EXAMPLE
R_1	47.0%	(long [loŋ])
$R_1I(ø)$	8.1%	(type [taɪp])
R_1S	7.9%	(was [woz])
R_1I0	6,2%	(forms [fo:m/z])
R_1D_1	2.3%	(wealthy [wel-θ/ɪ])
R_2	2.1%	(other [ʌ-ð*ə*])
$R_2I(ø)$	2.1%	(differ [dɪ-fə])
$P_1R_1D_1I_1$	2.1%	(recurrences [rɪ+k ʌ-r/ən-s/ɪz])
$R_1D_1I(ø)$	1.6%	(meaning [mɪ: -n/ɪŋ])
$P_1R_1I(ø)$	1.6%	(regard [re+gard])
$P_2R_1I_0$	1.2%	(homophones [hɒ-mə +foən/z])
$R_1D_1\ D_1$	1.1%	(structural [strʌk-tʃ/ə-r/əl])
$P_1R_1I_1$	1.1%	(discloses [dɪs+klou-z/ɪz])
P_1R_1	1.1%	(alone [ə +loun])

**Hereinafter the following designations apply: R – root morpheme, I – inflection, Ii – inner inflection, S – suppletive form, D – derivational suffix, S* – inflectional suffix, P – prefix, (ø) – zero inflection, '-' denotes morphic juncture, '/' denotes syllable boundary, '+' denotes inflection of morphic juncture with syllable boundary*

Other models occur with a frequency of less than 1%. In this study, *homo-* is qualified as a prefix following *The Oxford Advanced Learner's Dictionary of Current English* (Cowie & Hornby, 1993).

Fairy tale analysis allowed to distinguish 9 models (with a frequency of more than 1%) covering 95.5% of all the morphemic-syllabic word models found in the English fairy folktale and including (see Table 2):

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Table 2

The most frequent morphemic-syllabic word models (the English fairy tale)

MORPHEMIC-SYLLABIC WORD	RELATIVE FREQUENCY	EXAMPLE
R_1	52.9%	(now [nau])
$R_1I(ø)$	18.9%	(girl [gɜ:l])
R_1I_0	6.5%	(tells [tel/s])
R_2	6.0%	(steady [ste-d/ɪ])
R_1Ii	5.8%	(took [tʊ:k])
R_1D_1	3.4%	(service [sɜ:-v/ɪs])
R_1D_1	1.2%	(keyhole [kɪ+houl])
R_1R_2	1.1%	(Green Lady [gri:n/leɪ-dɪ])

In both texts root models, i.e. models including only root morpheme, head the list with the frequency of at least 5%, and with the exception of R_2 in the fairy tale, these are monosyllabic models. In the article, morphemic-syllabic models contain up to four morphemes (morphs) and up to four syllables, while the models found in the fairy tale comprise up to two morphemes and no more than three syllables. These models include: root models R_1, R_2, root model with the explicitly expressed non-syllabic flection R_1I_0, root model formed through stem composition P_1R_1, suffixal models R_1D_1, $R_1S^*_1$, $R_1D_1D_1$, prefix model P_1R_1, prefix-suffixal model $P_1R_1D_1I_1$. Notably, the last two models were only found in the article.

3.1.2 Notional and form words

Notional and form words differ drastically, particularly in terms of the number of models of morphemic-syllabic organisation. Notional words incorporated all of the models found in both types of text. Form words incorporated 4 and 7 models in the article and fairy tale, respectively (these were also registered among notional words). The bulk of form words is covered by the basic model R_1 (81.8% in the article and 89.7% in the fairy tale). While the R_1 model appears more frequently used in both form and notional words (24.2% and 33.7%, respectively), it is less frequently encountered in notional words than in form words (3.4 times in the article and 2.7 times in the fairy tale). Similarly, to the *word proper*, the next most

frequently encountered notional words model in both texts is $R_1I(ø)$, and the difference in frequency is due to the variety of models in the article and their selectivity in the fairy tale, which is why the $R_1I(ø)$ model is 2.2 times less frequently used in articles as compared to fairy tales (13.4% and 28.8%, respectively). The model R_1I_0 ranks third in the list of models covering notional words in both texts, and the frequency of use registered here is pretty much the same (10.2% and 9.4%). With form words, the second most frequently used model is R_1S, which is mostly presented in form verbs (15.1% in the article and 5.2% in the fairy tale). The distribution of the R_1 model in both word categories reflect the typical word structure and the most typical syllable structure of the root morpheme and gives credence to the analytical nature of the English language, because in this model, the syllable boundaries and morpheme boundaries coincide. The analytical nature of the English language is also highlighted by the models $R_1I(ø)$ and R_1Ii. Although the R_1I_0 model with the explicitly expressed flection does rank among frequently registered models, its frequency of use is not so great.

3.1.3 Notional words proper and pronominal words

Notional words proper and pronominal words also differ in the number of morphemic-syllabic models. Notional words proper in the article are represented by 51 models, in the fairy tale – by 15 models; pronouns are represented by 7 and 6 models in the article and the fairy tale, respectively. The models R_2 (9,2%), R_1R_2 (2,6%), R_1R_1 (1.3%) found in the article, as well as models R_1R_0 (3.2%) found in the fairy tale, were only encountered in pronouns. The rest of the models are used in notional words proper in both types of text.

The $R_1I(ø)$ model revealed the greatest frequency of use in both types of text registered in notional words proper (17.2% in the article vs 38.5% in the fairy tale). Pronouns most frequently resorted to the basic R_1 root model with an approximately the same frequency of use in both types of text (71.1% in the article vs 81.7% in the fairy tale). With notional words proper, the second place is taken up by the R_1 and R_1I_0 models in the article (10.9% each), and the R_1 model in the fairy tale (17.6%). With pronouns, the second place is taken up by the R_2 model in the article (9.2%), and the R_1Ii model in the fairy tale (11.8%).

With notional words proper, the third place is taken up by the R_1D_1 model in the article (4.9%), and the R_1I_0 model in the fairy tale (12.2%). With pronouns, the third place is taken up by the R_1I_0 model in the article (7.9%), and the R_1R_0 model in the fairy tale (3.2%).

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3.1.4 Individual notional parts of speech

Individual notional parts of speech differ in both the total number of morphemic-syllabic models, and the number of models encountered only in this part of speech, i.e. typical of this part of speech. The most indicative examples in this respect are nouns, verbs, and adjectives.

Nouns were marked with 31 morphemic-syllabic models in the article, while as little as 9 models were found in fairy tales. 22 of the registered models are not encountered in other parts of speech. Such models found specifically in nouns include both multi-morphemic words, where each morpheme is represented by a single syllable ($P_1R_1D_1I_1$ as in *utterances* [ʌ+tə-r/ ən-s/ɪz]), and words of simple morphemic structure containing a significant number of syllables ($R_3I(ø)$ as in *animal* [æ-nɪ-məl]). Nouns found in both texts were frequently deploying the $R_1I(ø)$ model: 23.1% in the article (e.g., *man* [mæn]) and 56.1% in the fairy tale (e.g., girl [gɜ:l]). The next most frequent model encountered in the article (9.9%) is $P_1R_1D_1I_1$ (e.g., *recurrences* [rɪ+kʌ-r/ən-s/ɪz]), while the same position in the fairy tale (13.4%) is taken up by the R_1 model (e.g., *harm* [ha:m]). The next three models found in the article – $R_2I(ø)$, R_1I_0, $R_1D_1I(ø)$ – reveal the same frequency of use of 7.4% (e.g., *basis* [beɪ-sɪz], *forms* [fo:m/z], *morpheme* [mo:-f/i:m]); in the fairy tale, these are the R_2 (9.2%) and R_1D_1 (7,1%) models (e.g., *fortune* [fo:-tʃən], *service* [sɜ:-v/ɪs]). One of the rather popular models (5.8%) registered in the article is the $P_2R_1I_0$ model (e.g., *homonyms* [hɒ-mə+nɪm/z]); in the fairy tale – models R_1R_2 (5,1%) and $R_2I(ø)$ (5.1%) (e.g., *Green Lady* [gri:n/leɪ-dɪ], *father* [fa:-ðə]).

According to the study, verbs generally deploy fewer models with 13 models registered in the article and only 6 models registered in the fairy tale. Seven on the models found in the article are only encountered in verbs: $R_1S^*_1$ (2.8%, e.g., *saying* [sei-j/iŋ] Participle I of the verb *to say*), $R_2D_1I_0$ (1,4%, e.g., *evidenced* [e-vɪ-d/ ens/t] Participle II of the verb *to evidence*), $P_1R_2I(ø)$ (6.9%, e.g., *indicate* [ɪn+dɪ-keɪt]), P_1R_1I0 (5,6%, e.g. *assigned* [ə+saɪn/d] Particile II of the verb *to assign*), $P_1R_1S^*_1$ (5.6% , e.g. *depending* [dɪ+pen-d/ɪŋ] Participle I of the verb *to depend*), $P_1R_2I_1$ (1,4%, e.g., constituted [kən+stɪ-tju-t/ɪd] Participle II of the verb *to constitute*), $P_1R_2S^*_1$ (1,4%, e.g., *constituting* [kən+stɪ-tju-t/ɪŋ] Paticiple I of the verb *to constitute*).

The most frequent model found in the article is the R_1Ii model (26.3%, e.g., tells [tel/z]), in the fairy tale – the $R_1I(ø)$ model (50.0%, e.g., *do* [du]). The next most frequent model in the article is $R_1I(ø)$ (25.0%, e.g., *have* [hæv]), in the fairy tale – R_1I0 (29.8%, e.g., *liked* [laɪk/t]). The third place is taken

up by the $P_1R_1I(ø)$ model in the article (9.7%, e.g., *approach* [ə+proutʃ]), and the R_1Ii in the fairy tale (12.5%, e.g., *came* [keɪm]). In addition, more or less frequently used models encountered in the article include: $P_1R_1I(ø)$ (6.9%, e.g., *consider* [kon+sɪ-də]), R_1I_0, $P_1R_1I_1$, $P_1R_1S^*_1$ (5.6% each, e.g., *tells* [tel/z], *described* [dɪs+kraɪb/d], *discloses* [dɪs+klou-z/ɪz], *occurring* [ə+kɜ:-r/ɪŋ]).

Adjectives have 13 models of morphemic-syllabic organisation in the article and 6 models in the fairy tale. 6 of the models found in the article and 3 of the models found in the fairy tale are only registered in adjectives. The adjective is the only part of speech in the article with the most frequent model classified as a suffixal model, rather than a root model – R_1D_1 (22.0%, e.g., *wealthy* [wel-θ/ɪ]). The most frequent model encountered in the fairy tale is the R_2 model (38.6%, e.g., *little* [lɪ-tl̥]). The R_1 model ranks second in both types of text (19.5%, e.g., *own* [oun]; 36.4%, e.g., *good* [gud]). Some specific models were also found in the article, among which are the $R_1D_1D_1$ model (14.6%, e.g., *phonemic* [fə-n/ɪ-m/ɪk]), the $R_2D_1D_0$ model (9.8%, e.g., *identical* [aɪ-den-t/ɪk/l]), the $P_1R_1D_1$ model (9.8%, e.g., *defective* [dɪ+fek-t/ɪv]). The R_1D_1 was registered in the fairy tale (18.2%, e.g., *dirty* [dɜ:-t/ɪ]).

Adverbs have 7 models in the article and 4 models in the fairy tale, of which only one model found in the article is encountered in adverbs only. This is a multi-syllabic model $R_1D_1D_1D_0D_1$ (4.5%, e.g., *phonemically* [fə-n/ɪ-m/ɪk+l/ɪ]). The most frequent model is the R_1 model: 45.5% in the article (e.g., *now* [nau]) and 67.9% in the fairy tale (e.g., *far* [fa:]). The next popular models are the P_1R_1 model in the article (18.2%, e.g., perhaps [pə+hæps]), and the R_2 and R_1D_1 models in the fairy tale (14.3%, e.g., *very* [ve-ry], *softly* [sof-t/ly]).

Numerals is the only part of speech incorporating a single model – R_1 – in both types of text (e.g., *one* [wʌn], *two* [tu:]).

Comparing the models encountered in the article, one can trace the following patterns. Nouns and numerals differ from the rest of the parts of speech in the number of the morphemic-syllabic models, as they incorporate the maximum and the minimum set of models (31 and 1 against 13 in verbs and adjectives, 7 in adverbs). The most frequently used models in all parts of speech (with the exception of adjectives) are root models R_11, $R_1I(ø)$ and R_1Ii. Adjectives are the only part of speech in the R_1D_1 model, as the most frequently used model. In the fairy tale (just like in the article), all parts of speech are marked by the prevailing K_1 root model in the unchangeable parts of speech, and the prevailing $R_1I(ø)$ model in

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the changeable basic parts of speech.

3.1.5 Functional-stylistic features

Both types of text reveal similar patterns in the use of the R_1 model. This is the most frequently used model within the main word classes – notional and form words. In both types of text, individual semiological classes are differentiated by the number of morphemic-syllabic models: while the greatest number of models can be found in notional words proper, such models are much less vividly represented in pronouns and form words. Both types of text are similar in that the lists of morphemic-syllabic models found in individual notional parts of speech is headed by the R_1 model. The main differences primarily relate to the number of models. Predictably, articles incorporated more models, and these also turned out to be more varied. Articles comprised 3.4 times more models as compared to the fairy tale (54 vs 16 models). The most basic and popular model (R_1 model) in form words was used with the same frequency in both types of text. In notional words, this frequency is higher than in the fairy tale, which is due to the diffusion of notional words structured on the basis of the most common morphemic organisation pattern in the fairy tale. Some more complex morphemic-syllabic models were encountered in the article, and these are ranked among the frequently used models ($P_1R_1D_1I_1$ and $P_1R_1D_1D_1$).

3.2 The Chinese language

3.2.1 Word proper

The Chinese fairy tale incorporated 12 morph-syllabic word models, with an average of 52 words per one model. The most widely encountered models include the R_1 root model, the R_1R_1 root model formed through stem composition, $R_1R_1S_1$ and R_1S_1 suffixal models *(Hereinafter the following designations apply: R – root morpheme, S – suffix, Af* – semi-affix, as such affix still preserves its lexical meaning, it is not fully grammatical affix)*. They cover 93.1% of words. For example, R_1 – 远 *yuan*^{2} 'far', R_1R_1 – 高兴 *gao*^{1}+ *xing*^{4} 'joyful', R_1S_1 – 孩子 *hai*^{1}+*zi* 'child', $R_1R_1S_1$ – 知道 了 *hi*^{1}+*dao*^{4}+*le* 'knew'. Obviously, these models contain up to two morphemes (morphs) and are no more than three syllables long.

3.2.2 Notional and form words

Notional and form words differ in the number of models of morphemic-syllabic organisation: notional words employ the total of 12 models, while form words are only formed using 3 models. The bulk of form words is covered by the basic R_1 model (84,0%), the R_1R_1 model was registered with 13.7% of words, and only 2.3% of words use the R_1S_1 model. The R_1 model is most widely used in both notional and form words, although notional words are 1.7 times less likely to use it (49.2%). The R_1R_1 model ranks second (29.4%) in

notional words, followed by the R_1S_1 and $R_1R_1S_1$ models (5.8% each).

3.2.3 Notional words proper and pronominal words

Notional words proper and pronominal words also differ in the number of morphemic-syllabic models: notional words proper deploy 12 models, while pronominal words are only formed using 4 models. The R_1 model takes up the leading position in terms of the frequency of use with both notional words proper and pronominal words, the only difference being that notional words proper use this model to form less than half of the words (45.4%), while pronominal words use it to form over two thirds of the words (74.5%), which is a 1.6 times higher rate of usage. The second most frequent model in notional words proper is the R_1R_1 model (32.5%), in pronouns – the R_1 and R_1S_1 models (9.1% each). The third place in notional words proper is taken up by the $R_1R_1S_1$ suffixal model (6.6%), while with pronouns this place is taken up by the R_2 model (7.3%). Thus, among the models shared by pronouns and notional words proper, the basic R_1 model and the suffixal R_1S_1 model prevail in pronouns, and the R_1R_1 model prevails in notional words proper. The $R_1R_1S_1$ model, which is quite frequently encountered in notional words proper, is missing in pronouns. While the basic R_1 model appears less frequently in notional words proper as compared to other semiological classes, the R_1R_1 model prevails in notional words proper as compared to form words and especially pronouns. The frequency of use of the R_1R_1 model is reduced in the specified sequence from 32.5% down to 13.7% and 9.1%. Obviously, among the suffixal models, the $R_1R_1S_1$ model was only registered with notional words proper, and simpler R_1S_1 turned out more popular with pronouns (9.1%).

3.2.4 Individual notional parts of speech

Individual notional parts of speech differ in the nature and usage of the most commonly encountered morphemic-syllabic models.

Among the 7 models registered in the study and attributed to nouns, the most widely used are the R_1 model (40.2%, e.g., 年 *nian*^{2} 'year'), the R_1R_1 model (36.9%, 11 e.g., 男人 *nan*^{2}+*ren*^{2} 'man'), the $R_1R_1R_1$ model (6.7%, 祝英台 *zhu*^{4}-*ying*^{1}-*tai*^{2}) 'Zhu Ying Tai – a proper name', and the R_2 model (6.1%, e.g., 东西 *dong*^{1}-*xi* 'thing').

In verbs represented by 9 models, half of the words is covered by the basic R_1 model (51.2%, e.g., 有 *you*^{1} 'to have'), and many words are attributed to the R_1R_1 model (26.4%, e.g., 喜欢 *xi*^{3}+*huan*^{1} 'to like'). Suffixal models R_1S_1 (9.6%,

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e.g., 来了 lai^2+le 'has arrived') and $R_1R_1S_1$ (6.4%, e.g., 提出了 ti^2+chu^1+le 'has come up with') also make the list of more or less frequently used models.

According to the study, adverbs are covered by 4 models, two of which appear the most widely used. These models are the R_1 model (49.0%, e.g., / 在 zai^4 'again') and the R_1R_1 model (42.9%, e.g., 随便 *sui*^{2}+*bian*^{4} 'free'). Adjectives represented by 4 models in the text are largely attributed to the following models: $R_1R_1S_1$ (35.7%, e.g., 闻名的 *wen*^{2}+*ming*^{2}+*de* 'famous'), R_1 (28.6%, e.g., 1 久 *jiu*^{3} 'old') and R_1R_1 (21.4%, 美丽 *mei*^{3}+*li*^{4} 'beautiful'). Numerals only deploy two models: R_1 (84.6%, e.g., 百 *bai*^{3} 'hundred') and R_1R_1 (15.4%, e.g., 十六 *shi*^{2}+*liu*^{4} 'sixteen').

Thus, the R_1 root model is equally frequently encountered in nouns, verbs and adverbs, but is most widely used in numerals. The R_1R_1 model reveals the highest relative frequency in adverbs followed by nouns, and an almost equal frequency in verbs and adjectives. Suffixal models are most widely encountered in associative parts of speech as compared with nouns, and both suffixal models are more frequently used in adjectives. The R_2 model registered in nouns and adverbs is more typical of nouns. The models with semi-affixes – $R_1Af^*_1$, $R_1R_1Af^*_1$, $R_1S_1Af^*_1$ – were registered only with verbs, with the exception of the $Af^*_1R_1$ model registered only with nouns.

4. CONCLUSION

Seeing that morphemic word organisation tends to be rather simple, the number of morphemic-syllabic models found in fairy tales in both languages appears approximately the same: 16 models in English vs 12 models in Chinese. English texts of different functional styles tend to deploy varied models of morphemic organisation in the article and, as a consequence, articles commonly incorporate 3.4 times as many models of morphemic-syllabic organisation as compared to fairy tales (54 vs 16 models).

In fairy tales, the number of morphemic-syllabic models is approximately the same in form words and pronouns. The least in number were the morphemic-syllabic models noted in form words and pronouns in the Chinese language – 3 and 4 models, respectively. In English, the number of models increases up to 7 and 6. The quantity of morphemic-syllabic models increases with the augmentation of the notional component: they are represented in greater numbers in notional words proper as compared to pronouns and form words (2-2.5 more in English (15 models), 3 times more in Chinese (12 models).

The English article revealed an even greater gap in the number of models – 4 models in form words

and 7 models in pronouns vs 51 models in notional words.

Apparently, the universal nature of the connection between the function of the word sign and the diversity of its structure is manifested in the morphemic-syllabic models. Thus, form words and pronouns, presented as a more or less closed list, reveal a far lesser number of morphemic-syllabic models as compared to notional words proper. Notably, in English the quantity of morphemic-syllabic and morphemic models found in form words is approximately the same, while the number of morphemic-syllabic models found in notional words proper by far exceeds the number of morphemic models. This obviously has to do with the degree of lexical/grammatical intensity of word classes, which, in turn, affects the correlation of morphemic and syllabic structures.

Thus, having compared notional words proper (characterising signs), pronominal words (deictic signs) and form words (linking signs), we have established that the greater the word's grammatical intensity, the more likely are its morphs (and pre-eminently roots) to be expressed by a single syllable. This pattern works for both languages. Thus, in English and Chinese, the R_1 model is most widely encountered in pronouns and form words (and not in notional words proper, although it is rather frequently used in Chinese) performing the supportive-demonstrative and linking functions.

Comparing the frequency of use of the basic R_1 model, we note the following: in English – 83.1%/89.7% in form words, 71.1%/81.7% in pronouns, and 10.9%/18.0% in notional words proper; in Chinese – 85.7% in form words, 74.5% in pronouns, and 45.7% in notional words proper. Apparently, in terms of the number of models incorporating syllable-length roots, form words override notional words in both languages, although, obviously, in case of the English language the focus is shifted to the explicit flexional trend implying 'explicit differentiation of subject and dependency', lexical and grammatical phenomena by 'giving each of them their own expression' (Humboldt, 1997, p. 104).

In English, the gap between notional and form words is much more pronounced as compared to the isolating Chinese, where the equivalency of the morpheme and the word appears to be pretty common among notional words proper as well.

Differentiation of basic semiological classes does not only rely on the number of models in different word classes, the frequency of models encountered in all classes, but is also contingent upon the morphemic-syllabic models typical of form words and/ or pronouns and missing in notional words proper. Such models include: in the English article – models R_2 and R_1R_1 registered only with pronouns and form words (total frequency of 13.6%), model R_1R_2 was only

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registered with pronouns (2.6%); in the English fairy tale – R_1R_0 with pronouns and form words (total frequency of 4.2%). Chinese form words and pronouns use the same models encountered in notional words proper, the only difference being the frequency. So, a less explicit differentiation of these word classes in the Chinese language can be traced in their morphemic-syllabic organisation.

Therefore, the morphemic-syllabic word structure reveals some peculiar features in both languages, and both the analytical English and the isolating Chinese allow for a more or less discrete differentiation of word classes based on this parameter. Despite the differences in the degree of word class division, both languages basically reveal similar trends. Models with complex morphemic-syllabic organisation are attributed to notional words proper, while models of basic structure are more often found in pronouns and form words.

The tendency to distinguish between individual notional parts of speech (first of all, nouns and verbs) is pretty much pronounced in both English and Chinese, although it is implemented differently. English nouns are essentially characterised as the most lexically intensive part of speech, which is why their models of morphemic-syllabic organisation are rather varied. Morphemic-syllabic structure of verbs is less complex in both languages, which is due to the predicative function, which is primarily realised outside word boundaries using form words in both languages.

Thus, this study illustrates that the second principle of the sign – the linear nature of the signifying component – restricts the functioning of the first principle – arbitrariness of the language sign.

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