Yan Liu*

Readability and adaptation of children's literary works from the perspective of ideational grammatical metaphor

<https://doi.org/10.1515/jwl-2021-0020>

Received December 10, 2020; accepted July 18, 2021; published online October 1, 2021

Abstract: Widely studied in fields like education, psychology, and linguistics, readability can be defined as (a) reader's understanding of a reading text, (b) features of a text, or (c) the matching of a text to its reader. The existing research has been focused on the formulaic and multilevel discourse approaches, relatively neglecting others such as systemic functional linguistics oriented one. Moreover, contemporary reading materials pose a challenge for average children in many ways. This study examines readability and adaptation of children's literary works from the perspective of ideational grammatical metaphor inspired by systemic functional linguistics. Through case studies of metaphorical transferences involving zero, one, two, and three ideational grammatical metaphors used in the parallel excerpts in the original version of *Alice's Adventures in Wonderland* and its eight adapted ones published in China, it is concluded that addition, maintenance, revision, unpacking, and demetaphorization are five major strategies which are found to decrease, maintain, or increase readability of some parts in the adapted versions.

Keywords: adaptation; children's literary work; effects; ideational grammatical metaphor; readability; strategies of adaptation

1 Introduction

This study examines readability of a children's literary work and its adaptations from the viewpoint of systemic functional linguistics (hereafter SFL), specifically that of ideational grammatical metaphor (hereafter IGM, a type of grammatical metaphor, or GM). Readability study has its origin in the early 20th century when tools were invented to solve the problem involving immigrants in America whose native languages were English and could not read and write in it. It is against the

*Corresponding author: Yan Liu, School of Foreign Languages, Yunnan University, Kunming, China, E-mail: wyluiyan@ynu.edu.cn

backdrop that readability research emerged. As the first scholar who listed words according to frequency, Thorndike (1921) laid a foundation for readability study which uses word as a criterium (Liu 2020).

Through various definitions given by different scholars (e.g. Klare 1963; Lin 1995; Lorge 1944; Lv 2003), the essence of readability can be summarized as follows. First, it refers to the extent to which a text or reading material is understood by the reader. Second, it represents the quality or property of such a text or reading material. Third, it matches the text or reading material to the reader. “Understanding” is probably among the most central issues in interpreting readability. When it comes to dimensions of readability, Lassen’s (2003) distinction between *text internal* and *text external* is favored. Text internal factors (e.g. morphology and syntax) and text external ones (e.g. reader and context) are likely to influence readability.

At least three approaches to readability can be found: formulaic, multilevel discourse, and SFL approaches. The first denotes a set of traditional methods to measure, or forecast readability, accomplished through a variety of tools commonly called *readability formulas*. The second approach relates to McNamara (2013), who, while addressing the epistemic stance between the author and reader, draws upon *Coh-metrix*, an automated device to estimate “language and discourse that are aligned with multilevel theoretical frameworks of comprehension” (Graesser et al. 2011: 223), particularly the model of discourse comprehension (Kintsch and van Dijk 1978; van Dijk and Kintsch 1983). The third approach to readability is the SFL-oriented one inspired by Halliday and Hasan (1985), Halliday (1994), and Halliday and Matthiessen (2004, 2014), who see *language* as a semogenic system, and *language development* as a pivotal process in which language in its adult sense is evolved, generally from several microfunctions to three metafunctions, a process in which IGM is evolved.

There is a tendency that current reading materials, be they for educational or non-educational purposes, tend to demand no less efforts from readers. Apart from readers’ physical or psychological problems such as certain deficiencies or diseases, which prevent correct or proper comprehension, the unfriendly properties of reading materials such as verbosity and abundance in technical terms and IGMs are also conceivable causes. Accordingly, adapted versions of certain books like literary works are usually published to suit different readerships.

The goal of this article is to explore readability of the original version of a children’s literary work and that of its adaptations from the perspective of IGM. More specially, the aim is to address the following research questions:

- (1) What strategies are entailed as a children’s literary work, which contains or does not contain IGM, is reworded into different adapted versions for a

variety of readers ranging from novice English learners to students with more profound English reading skills?

- (2) How does the adaptation influence readability of the adapted versions?

2 Language development, GM, and readability

In this section, the relationship between three relevant theoretical aspects (i.e. language development, GM, and readability) will be elaborated on.

Beginning from an early life of a child, language development or ontogenesis denotes a process in which language in its adult sense comes into being. This concept is proposed by Halliday (2003a [1993]) in an attempt to distance itself from other similar prevalent concepts like acquisition, which is commonly related to children's procurement of structure, sounding as if language is something to be exchanged in a trade.

For Painter (2009), SFL deems acquisition as a dynamic process where a child, while communicating with other people in a specific context, is enabled to change his or her meaning potential completely. Instead of adopting the term language acquisition, Halliday (1975, 2003a [1993], 2003b [1993]) believes that when a small child comes by his mother tongue, what he does is nothing but learning how to mean (Painter 2009: 87). In the theoretical model *a language-based theory of learning*, Halliday (2003a [1993]) sticks to the view that through three phases of grammatical generalization, grammatical abstractness, and GM, humans become more adept in their semiotic advancement, which guarantees their capacity to cope with language in its adult sense, literacy, and disciplinary knowledge.

In Halliday's conceptualization, the adult language has been evolved with the three metafunctions: ideational, interpersonal, and textual, and language used by them is mature, abstract, and complex. However, prior to that, infants also make use of their own semiotic, which happens especially before they are two years old. In what way does this occur so that a small baby is enabled to grasp the adult language? In Halliday's model of language development, a general concern is to explain purposes of language use step by step, where function is regarded as a notion of great significance. The metafunctional unification in the construal of meaning in the adult linguistic system serves as a basis for the exploration of the inceptions of the functional organization in the infants' premature semiotic. Obviously, this model integrates the infant protolanguage and the adult language (Torr 2015: 246–247).

Using his son's early language development as an example, Halliday (1975) conducts a most thought-provoking longitudinal study in this field, separating the development into Phases I, II, and III. Phase I relates to the protolanguage, where six microfunctions are identified. In Phase II, there is a transition where the infant's protolanguage composed of created signs is forsaken stepwise, and then adult language with full metafunctions is used instead. Phase III is concerned with the emergence of language in its adult sense. By the end of the second year, the child is able to produce utterances which could not be simply identified as macrofunctions but as more mature metafunctions.

As noted by Halliday and Hasan (1985), when the language used by a senior child begins to deal with abstraction, he is likely to embark on incongruence and use metaphorical grammatical forms like use of a nominal group as if it were a process (Painter et al. 2007: 577). When the natural relations of semantics to lexicogrammar are disturbed in one way or another, the result will be a world construed as ideationally metaphorical so that it is harder to comprehend: the experiential meanings tend to be manifested in condensed grammatical forms which usually realize some elaborate meanings. This brings into being semantic junction where two senses are possible interpretations of the same grammatical form. For example, if a verbal group which commonly realizes a "process" meaning is now nominalized, it will produce a semantic complexity blending "process" with "thing", since a nominal group frequently manifests a "thing" meaning (Painter et al. 2007: 577). Since then, texts with IGM have been proved to be no less readable than those without it (e.g. Chen and Huang 2014; Lassen 2003).

IGM relates to incongruent mappings between meaning and wording, which functions as a trigger of semantic junction. According to Halliday and Matthiessen (1999) who make contributions to ideational semantics (Matthiessen et al. 2010: 115), some semantic units such as "figure", "sequence", "elements", and "relator" are proposed. Of these, a figure is the most essential concept, through which human experiences of various kinds are depicted as a configuration, composed of a process, relevant participants, and circumstances. Elements include not only the semantic units that make up the configuration of a figure (i.e. process, participant, and circumstance mentioned), but also those that relate to expansion, one category of the logico-semantic relations between figures. A sequence refers to a group of figures associated in one way or another. On congruent occasions, three semantic units (i.e. sequence, figure, and element) are said to be manifested separately in the three grammatical units (i.e. clause complex, clause, and group). This relationship has its basis on a table by Halliday and Matthiessen (1999: 227) on one hand, and their idea concerning the ideation base on the other hand.

As this one-to-one mapping between meaning and wording is distorted, IGM of some type will come into being. For example, if a sequence realized congruently as

a clause complex is realized by a single clause, then the clause will be construed as if it were a sequence. In an IGM, transference takes place at both wording and meaning: there is variation in grammatical class and functional structure, and in shifting choice of semantic elements. At the stratum of wording, the congruent and incongruent mappings work in transitivity, which makes it possible to analyze functional structure of the transitivity configuration (Taverniers 2003: 8).

3 Methodology

In conventional studies on readability, quantitatively measurable factors are selected to serve as variables of readability formulas, so quantitative method is favored. However, Fisher et al. (2012: 22) alert us to the deficiencies of readability formulas, which “offer us a level of quantitative analysis that is not readily apparent but should be augmented by the qualitative analyses that only a human reader can offer”. In addition, given the nature of our research purposes and questions, this article opts for a qualitative method. In an effort to provide plausible answers to the research questions, the qualitative method is believed to enable a more thorough interpretation of the complexity involving readability as far as IGM is concerned. More specifically case study is adopted.

Collected to address the research questions, the data are the original English version of *Alice’s Adventures in Wonderland* and its eight English adaptations published in China. As a children’s literary classic, the original story was written by Charles Lutwidge Dodgson (1832–1898), an English writer, mathematician, logician, and photographer whose pseudonym Lewis Carroll would sound the bell. As “a work of childhood whimsy and nonsense and as a satirical examination of the nature of language, Victorian morality, and the vagaries of the English legal system” (Walker 2001: 4), the story has a major plot where Alice, a girl of six, undergoes a series of bizarre, fantastic, and illogical events. Furthermore, the adapted versions are tilted the same, similarly, or differently by the publishers in China.

For the sake of simplicity, the names of all the versions are shortened as follows: “OV” for the original version, and “ADPV1” to “ADPV8” for the eight adapted ones. These versions are targeted at distinct readers, ranging from students at universities and vocational colleges, to teenagers, grade 1 for middle school students, grades 3, 4, 8, and 9, and children (Table 1).

Concerning the data, a group of researchers (c.f. Chen and Huang 2014; Huang and Liu 2015) were engaged in data collection and transcription. The original data were in photocopies, which were further transcribed on Microsoft

Table 1: Data collected for the research (adapted from Chen and Huang 2014: 85; Huang and Liu 2015: 3).

Version	Author/ adaptor	Name of the book	Date of publication	Publishers	Target readers specified by the publisher
OV	Lewis Carroll	<i>Alice's Adventures in Wonderland</i>	2008 [1865]	Tobar Limited	Students of universities and vocational colleges
ADPV1	Racheal Williams	<i>Alice's Adventures in Wonderland</i>	2004	Aviation Industry Press	Students of universities and vocational colleges
ADPV2	Gaia lerace	<i>Alice's Adventures in Wonderland</i>	2004	East China Univer- sity Press	Teenagers
ADPV3	Jeniffer Bassett	<i>Alice's Adventures in Wonderland</i>	2006	Foreign Language Teaching and Research Press	Grades 8 and 9
ADPV4	Mary Tomalin	<i>Alice in Wonderland</i>	2006	World Publishing Corporation	Grade 8
ADPV5	David Foulds	<i>Alice's Adventures in Wonderland</i>	1998	Shanghai Foreign Language Educa- tion Press	Grade 1 for middle school students
ADPV6	D. K. Swan	<i>Alice in Wonderland</i>	2007	The Commercial Press	Grade 1 for middle school students
ADPV7	Joshua Snyder et al.	<i>Alice in Wonderland</i>	2009	Foreign Language Teaching and Research Press	Grades 3 and 4
ADPV8	Joanne Swan	<i>Alice in Wonderland</i>	2010	Foreign Language Teaching and Research Press	Children

Word. The OV and the ADPVs selected for the present study are the same as those used by them.

Then, case studies are drawn on. First, certain parallel excerpts in the OV and ADPVs, which are totally different from those used by Chen and Huang (2014), Huang and Liu (2015), and Liu (2019), are analyzed into relevant grammatical features (e.g. clause complex and clause) and semantic features (e.g. figure, process, and thing) in accordance with the GM theory. The data selected for the case studies are a chapter entitled “Who Stole the Tarts?” in the OV, and their parallel parts in the ADPVs. Then, the analysis is conducted with regard to metaphorical transferences of zero, one, two, and three IGMs used in parallel excerpts in the OV, and its eight ADPVs. Only certain corresponding portions are used since they are

an epitome of the possible factors taxing some reading efforts in the versions. Along the path, the analysis and findings are obtained, so that the research questions could be addressed.

4 Analysis and findings

As demonstrated earlier in reviewing the developmental studies, the emergence of GM poses as key to scientific knowledge typical of upper secondary schooling. Yet, IGM differs to some extent, now that it does not occur as regularly as the interpersonal counterpart, and its occurrences are restricted to pedagogic, scientific, bureaucratic, and legal fields. The reviewed developmental studies reveal that small children also have contacts with IGM, because there are chances of encountering written language; but it is not until they go to secondary school where different subjects are taught that IGM poses a real challenge to interpretation.

In this section, attention is paid to the addressing of the two research questions, relating to the strategies used in the adaptation process on the one hand, and the impact of IGM on readability in the ADPVs on the other hand. Five strategies have been found in the adaptation process: addition, maintenance, revision, unpacking, and demetaphorization, which will be illustrated combined with their effects on readability of their parallel sentences in the ADPVs.

In “Who Stole the Tarts?” in the OV, IGMs are commonly occurring phenomena. The aim here is to see how the incongruent mappings between ideational meaning and wording influence readability. In an IGM, shifts take place at both strata of wording and meaning: at the stratum of wording there is transition of both grammatical classes and grammatical functions, whereas at the stratum of meaning, transition occurs in semantic elements. Taking all this into account, Halliday and Matthiessen (1999: 246–248) supply altogether 13 categories of GM, some of which contain more delicate subcategories. In the analysis, the shift in wording and meaning will be probed through considering readability involving the adaptation of zero IGM, one IGM, two IGMs, and three IGMs.

4.1 Readability involving the adaptation of zero IGM

In this subsection, the strategy used, i.e. addition, in the adaptation process is to be illustrated by concentrating on two cases in which zero IGM is used in the OV; and then their effects on readability in the ADPVs will be investigated.

Case study 1: Concerned with the title, the example occurs at the beginning of the analyzed chapter in the OV of the story, which is represented in the sentence below.

(1) ||| Who Stole the Tarts? ||| (OV: 96)

The title is composed of a single clause, which is interrogative in mood. Ideationally speaking, the verb in the clause (i.e. *Stole*) acts as Process in a material process, with *Who* and *the Tarts* as Participants: Actor and Goal respectively. The process construes a figure in semantics, within which two participants are associated with one another. Clearly the explained relation of lexicogrammar to the ideational semantics is one of congruence.

As the title is transferred to the ADPVs, variations emerge. For most of the ADPVs, the titles maintain the same functional structure as that in the OV, and this is visible in the two sentences below.

- (1) a. ||| Who Stole the Tarts? ||| (ADPV2: 102; ADPV3: 31; ADPV7: 72;
52; ADPV5: 44; ADPV6: ADPV8: 26)
b. ||| Who Took the Tarts? ||| (ADPV4: 31)

With regard to transitivity, (1a) and (1b) share an identical functional structure, but differ in the choices of the lexical verbs serving the purpose of Process. Whatever the distinction is, the sameness in their transitivity guarantees their similar congruent mappings, and the same level of readability.

However, this relationship is twisted a little bit in the ADPV1 where the heading is modified into the ensuing nominal group:

(1) c. | The Thief [of Tarts] | (ADPV1: 125)

The, *Thief*, and *of Tarts* function separately as Deictic, Thing, and Qualifier in the nominal group, which, as a whole, congruently construes a thing. However, there is something to note. Compared with (1), (1a), and (1b), this instance involves some complexity in both wording and meaning, since the thing here is construed as if it were a figure. Congruently realizing a participant in semantics, Goal, one of the Participants in (1), has currently been transferred to the position of Qualifier in the nominal group, which congruently manifests qualifying expansion of the thing.

Therefore, the analysis discloses that as the metaphorical nominal group in (1c) is structured from the congruent clause in (1), (1a), and (1b), two steps can be observed down the lexicogrammatical rank scale from a clause to a group. Each step down is actually concerned with one type of IGM, so two types of IGM identified by Halliday and Matthiessen (1999: 246–248) are involved: 2i and 13i (a). The types of IGM that co-occur in a syntagmatic relationship are often termed syndromes. In each step down, an additional dimension of semantic junction is added,

making the metaphor in (1c) less readable than the non-metaphorical equivalences in (1), (1a), and (1d).

Case study 2: There is an occurrence which encloses an IGM of Type 9, where the semantic domain shifts from a sequence to a figure (Halliday and Matthiessen 1999: 247). However, this example occurs not in the OV, but in one of the ADPVs. In the OV, when Alice gets to know that the jurymen are keeping record of their names for ridiculous reason of forgetfulness after the trial, she sticks to the strong belief in the absurdity of their action, and expresses this idea in a noisy manner. Alarmed by that, the King puts on a pair of lenses, eager to find out about the source of the noise. What is mentioned is depicted in the following clause complex:

- (2) ||| “Stupid things!”|| Alice began in a loud, indignant voice,|| but she stopped hastily, <<for the White Rabbit cried out,>> “Silence in the court!”|| and the King put on his spectacles|| and looked anxiously round,|| to make out|| who was talking. ||| (OV: 97)

Obviously, the clause complex entails several IGMs, some of which have been or are to be analyzed. Particular importance has to be placed on the logico-semantic relations between the first five clauses and the sixth one. No other lexicogrammatical markers besides the structural conjunction *and* are found to serve as overt explanation of the reason for the King of Hearts to put on a pair of lenses, and look uneasily about until the last two clauses are arrived at. The King does all this, with an aim to locate the sources of the sound that he heard. From the way in which the sound is produced (i.e. *cried out*), inferences can be made that the sound is probably penetrating and intolerable to the extent that the King is somewhat stirred. Therefore, the logico-semantic relation is potentially one of causality, which is realized loosely in the paratactically related clauses.

The above analysis indicates presence of no observable IGM in (2), which relates to the logico-semantic relationship. Yet the incongruent mapping does occur as the clause complex in (2) is reworded as two paragraphs in (2a) in one of the ADPVs:

- (2) a. ||| “How stupid,” <<Alice said loudly.>> |||
||| “Silence in the court!” <<cried the White Rabbit>>. ||| This caused the King to put on his glasses|| and try to see|| who was talking. ||| (ADPV1: 101)

It has to be pointed out that no traceable parallel to (2a) can be found in any other ADPVs, but the clause pattern of the first clause in the second complex in paragraph 2 should be attended to, in order to better understand the semantic junction. The first clause in the second clause complex in paragraph 2 realizes only a process, where Process (i.e. *caused* [...] *to put on*) is composed of two parts: Process: α

causative (i.e. *caused*) and Process: β material (i.e. *to put on*). That is to say, Process in it is realized by the causative verbal group complex (i.e. *caused [...] to put on*), which consists of the two discontinuous but hypotactically related verbal groups (i.e. *caused* and *to put on*), where the first is enhanced by the second. More specifically, the sense of agency in enhancement is perceivable, since the first clause in the second complex in paragraph 2 include three participants: the word *This* constitutes Initiator in transitivity, and Agent in ergativity, the word group *The King* acts as Actor in transitivity and Agent in ergativity, and the word group *his glasses* constitutes Goal in transitivity and Medium in ergativity. Thus, the two additional participants, Agents, are related in the ergative pattern of the first clause.

In other words, the first clause in the second clause complex in paragraph 2 in (2a) congruently manifests a figure in which the sense of causation is construed compactly: the cause is realized by Initiator or Agent, the effect is embodied by Actor or Medium, and the cause and effect are manifested in the hypotactic verbal group complex of the causative subcategory. In sum, the initial clause in the second clause complex in paragraph 2 has the lowest readability since there are no parallel parts in the OV and any other ADPVs.

4.2 Readability involving the adaptation of one IGM

In this subsection, attention is called first to how certain strategies (i.e. maintenance and unpacking) are utilized as one IGM in the OV is adapted, and then to what influence they have on readability in the corresponding parts in the ADPVs. For this purpose, one case will be illustrated.

Case study: The most frequent metaphorical realizations are concerned with a single type of IGM, especially Type 1, in which metaphor is associated with transforming the semantic domain of an individual figure into that of an element. The following example stems from the OV.

Just before the trial of the Knave of Hearts, there is time when Alice has a fancy for some tarts on the table in the court of justice, but she guesses that no people will send her any food. Thus, she tries to see whether she can recognize who are at present. She makes out the King, who is believed to be the judge; and the jurymen, who are mocked by her for keeping record of their names in case of forgetfulness. While laughing at them, Alice utters something loudly and scornfully, which is regarded by the White Rabbit as nothing but noises. To quench this uproar, the Rabbit makes loud sounds in a painful way as he says:

- (3) ||| “Silence in the court! ” ||| (OV: 97)

The example contains a one-noun nominal group (i.e. the noun *Silence*) and a prepositional phrase (i.e. *in the court*). The nominal group serves as Thing congruently realizing a thing in semantics, and it has the prepositional phrase that goes after it, but this is not Qualifier in the nominal group but Circumstance in a process which is partially elliptical. Therefore, the nominal group and the prepositional phrase must play some role in the transitivity configuration. The following is a possible congruent rendering.

- (3') ||| (Keep your) silence in the court! |||

(3') makes it possible for the substituted part in (3) to be visible: the elliptical verbal group is made up of a single lexical verb *Keep* as Process, and congruently realizes a process in semantics; and the nominal group *your silence* is structured as Deictic + Thing, and manifests a thing in semantics.

As (3) is adapted, some of ADPVs keep the same or similar functional structure, and use nominal groups, so here the strategy of maintenance makes sure that the same readability is kept.

This point is visible in (3a) and (3b).

- (3) a. ||| “Silence in the court! [...]” ||| (ADPV1: 126; ADPV5: 45)
 b. ||| <<Then the White Rabbit called out loudly,>> “Silence! [...]” |||
 (ADPV3: 52)

Contrastively, other ADPVs make use of adjectives, which can be seen in (3c).

- (3) c. ||| <<Suddenly, the White Rabbit cried,>> “Quiet please!” ||| (ADPV4: 31; ADV7: 30)

Being elliptical, the second clause in (3c) can find an approximation, which is an imperative clause standing for a relational process with Attribute *quiet*, but without an explicit addressee *you* as Carrier.

- (3) c'. ||| Be quiet in the court, please! |||

Semantically, the clause in (3') realizes a figure with process and thing. However, even (3c') can be seen as having the following variant:

- (3) c''. ||| Be/Keep silent in the court, please! |||

From the above analysis, the nominal group in (3) is obviously metaphorical compared with the ones in (3c') and (3c''). Grammatically, the nominal group (i.e. *silence*) serving as Thing in (3) has its origin in the adjective (i.e. *quiet/silent*) acting as Attribute in (3c). Semantically, what congruently realizes quality in (3c)

metaphorically manifests thing in (3). In other words, thing in (3) is construed as if it were quality.

If the complexity in the meaning of a GM is to be entangled, what needs to be done is not merely to concentrate on the metaphorical realization, but to discern both the congruent and metaphorical lexicogrammatical choices and analyze them in similar ways as has been presented above. The underlying motivation lies in Halliday's (1994: 353) position that "a piece of wording that is metaphorical has as it were an additional dimension of meaning: [i]t 'means' both metaphorically and congruently".

In the way in which GM is analyzed by Halliday and Matthiessen (1999), a pair of transferences are depicted as relevant, including shift of both grammatical classes and that of grammatical functions at the stratum of lexicogrammar; and transitions of semantic elements from congruent to metaphorical. When such a couple of shifts take place, a layer of semantic junction emerges, which is accompanied by the birth of a type of IGM.

With regards to IGM in (3) that occurs in the OV, the adapted ones (3a) in the ADPV1 and ADPV5, and (3b) in ADPV3, also pose as some difficulty for their target readers, because of the semantic junction. Yet, those like (3c) in the ADPV4 are most readable, since the IGMs have been unpacked, so that the metaphorical effect is completely exhausted, and more congruent realizations are identifiable.

4.3 Readability involving the adaptation of two IGMs

Some of the sentences selected as data in the OV contain two IGMs. This subsection focuses on two case studies in which some strategies (i.e. maintenance, revision, unpacking, and demetaphorization) used in the adaptation process and their effects on readability in the ADPVs will be investigated.

Case study: There is a case in which two types of IGM, i.e. Type 1 for the word *fear* and Type 2a for the word *reply*, which will be approached one by one.

Initially, focus on the word *fear*. In the OV, when Alice becomes interested in what the jurymen are keeping record of just before the trial starts, she asks the Gryphon, another character in the story, who responds in the following way:

- (4) ||| "They're putting down their names," <<the Gryphon whispered in reply,>> "for fear they should forget them [before the end of the trial]." ||| (OV: 97)

Constitutive of three clauses, the instance subsumes in it a structural conjunction *for fear*, which is made of a preposition and a noun. It is believed that the noun *fear*

involves some metaphorical transference. With the aim of verification of this point, a possibly more congruent rendering (4') is provided for the last clause in (4):

- (4') ||| [...] for they are fearful|| that they should forget them [before the end of the trial].” |||

Grammatically, an adjective *fearful* realizing Attribute in an intensive relational process in (4') derives from the noun *fear* manifesting Thing in the one-noun nominal group *fear* in (4). Semantically speaking, the thing realized by the noun in (4) has its origin in the quality realized by the adjective in (4'). The result of this is one layer of semantic junction.

Obviously, the noun *fear* is intriguing, since it constitutes the conjunction group *for fear that*, where the grammatical item *that* is optional. For some conjunction groups, Halliday and Matthiessen (2014: 423) take the attitude that “these can be treated as single elements without further analysis”. Yet, the conjunction group in (4) above is argued to be concerned with the first type of IGM, which occurs not between a figure and another one or between a figure and an element, but between a sequence and a figure. This makes the matter worse since it is even more complex to analyze the example here than those exemplified by Halliday and Matthiessen (2014).

As (4) above undergoes adaptation, two strategies are used here in adapting the works. First, through maintenance, the IGM is partially kept when it occurs in (4a), which is constitutive of four non-enclosed clauses, of which the second one (i.e. “*They are frightened*”) stands for an intensive relational process. The three words in the process are functionally structured as Carrier + Process + Attribute.

- (4) a. ||| “They are writing down their names,” <he Gryphon replied.>> |||
 “They are frightened|| they might forget them|| before the court ends.”
 ||| (ADPV5: 30)

Transparently, the words indicative of transitivity in the first clause in (4') (i.e. *for they are fearful*) are functionally structured in the same way. (4a) and (4') differ in their selections of the adjectives serving the purposes of Attribute: *fearful* in the former case and *frightened* in the latter, which entails a synonymous relationship. From *fearful* in (4') to *fear* in (4), the transference is metaphorical because of the semantic junction. However, from *frightened* in (4a) to *fear* in (4), the metaphorical effect has not been totally lost, but become weaker: the two words are easily recalled just on synonymous grounds. It might as well be said that (4a) has reserved some metaphorical nature of (4), so is partially metaphorical. It is just due to the identical functional structure and the partial metaphorical effect that (4a) enjoys slightly higher readability than (4).

Second, through revision regarding slight rewording of the metaphorical conjunction group *for fear* in (4) into a synonymous but congruent conjunctional group *in case* in (4b), the metaphorical effect in (4) is also drained in (4b), so that higher readability is ensured.

- (4) b. ||| “They’re writing down their names,” <<the Gryphon whispered,>> “in case they forget them|| when the trial begins.” ||| ADPV1: 127)

The final two clauses in this example can also have such a rendering as all the clauses in (4'), or the last three clauses in (4a). Grammatically, the movement from (4) to (4b), or from (4') to (4b), involves changes in both grammatical classes and functional structures, and semantically, this triggers shifts in the semantic elements. To some extent, they can be seen as realizations of the agnate meanings. Yet, the noun *fear* in the conjunction group in (4) has loose and fuzzy links to the noun *case* in the conjunction group in (4b). Thus, although both (4b) and (4) are metaphorical in one way or another, this metaphorical effect in the former instance is slightly lower than that in the latter. It is because of this that readability diminishes, as (4) is reworded as (4b).

After the manner of the word *fear*'s adaptation in (4) is discussed, focus on the adaptation of the word *reply* in (4), which, for the purpose of analytical convenience, is restated here as (5).

- (5) ||| “They’re putting down their names,” <<the Gryphon whispered [in reply],>> “for fear they should forget them [before the end of the trial].” ||| (OV: 97)

There are further examples associated with Type 2a of IGM in (5). In the OV, before saying something, Alice catches sight of 12 jurymen seated in the jury-box. At that time they are engaged in taking notes of something that makes her inquisitive. When she asks what on earth they are writing down, she gets the answer from the Gryphon, another character in the story.

In the clause complex in (5), the enclosed clause (i.e. the Gryphon whispered [in reply]) is of particular relevance. Here a clause consists of a nominal group *the Gryphon*, the verbal group *whispered*, and a prepositional phrase *in reply*, which realize Actor, Process, and Circumstance respectively. In the prepositional group, the nominal group is a noun *reply*, which acts as Thing in it. Congruently, the noun *reply* construes thing in meaning, but the one in the third clause in (5) involves the type of IGM, which can be unpacked in the following manner:

- (5') ||| The Gryphon whispered, || as he replies || [...] >> |||

From the enclosed clause in (5') (i.e. *as he replies*) to the one in (5), a clause nexus is rendered into a single clause. Obviously, the underlined verb in (5'), which

functions as Process in the process, congruently manifests event in semantics, so has now been transcategorized into a noun *reply* in (5) acting as Thing, which denotes the metaphorical realization of thing in semantics. To put it simply, an event is construed in the disguises of a thing.

The IGM in the second clause in (5) is rewritten through two strategies: it is either unpacked or demetaphorized. On one occasion, the agnate verb form substitutes the nominalized verb in (5), which is the case in (5a) below.

- (5) a. ||| “They are writing down their names,” <<the Gryphon replied.>> |||
 “They are frightened|| they might forget them|| before the court ends.”
 ||| (ADPV5)

In such a desired congruent realization as (5'), hypotaxis is entailed, where the independent clause contains the verb *whispered*, and the dependent includes the verb *replies*. Yet, in (5a) in the ADPV5, only *replied* is maintained, which has deleted the semantic junction involved in (5). Thus, the ADPV5 is more readable than the OV with reference to only this particular instance of IGM.

Another strategy through which the IGM in (5) is reworded is demetaphorization, i.e. to simply get rid of the metaphor-related words, groups, phrases, or clauses.¹ This occurs in the ADPV1 as follows:

- (5) b. ||| “They’re writing down their names,” <<the Gryphon whispered,>>
 “in case they forget them|| when the trial begins.” (ADPV1: 45)

Here, only the verb *whispered* indicative of Process in a verbal process is kept, so that the metaphorical effect in (5) is removed. However, due to the conversations that go continually, readers are also likely to conclude that this turn uttered by the Gryphon functions as some kind of reply to a previous one. This demetaphorization also promotes the local readability of the ADPV1.

4.4 Readability involving the adaptation three IGMs

Besides metaphorical realizations centering around zero, one, and two IGMS, there are also cases where three metaphors in the OV are rendered in some ways. This subsection deals with one case in which the strategies used in the adaptation process and their influence on readability will be illustrated.

Case study: One limited instance is visible in the OV: three IGMs are involved, where one type of IGM is used once only, but the other type twice. This occurs in the

¹ Demetaphorization is not an equivalent to congruence, which approaches IGM by giving a totally or partly congruent rendering.

OV when Alice makes responses in a special way to the jurymen's ridiculous act of taking quick notes of their own names, owing to the apprehension that they will be oblivious of them later than the trial of the Knave of the Hearts.

(6) ||| "Stupid things!" <<Alice began in a loud, indignant voice [...] >> ||| (OV: 97)

In the second clause in (6), the prepositional phrase (i.e. *in a loud, indignant vice*) as a whole serves as Circumstance, which denotes the way in which Alice reacts to the laughable act. The nominal group (i.e. *a loud, indignant voice*) has the following functional structure: Deictic + Epithet + Epithet + Thing, which are realized grammatically as one determiner, two adjectives, and a noun. More commonly, the manner could nonetheless be expressed by relevant adverbs which have been transcategorized from the adjectives.

(6') ||| "Stupid things!" <<Alice began speaking loudly and indignantly [...] >> |||

From (6') to (6), two types of IGM but three layers of semantic junction are concentrated in the same syndrome: 2i + 13ii + 13ii. The adverbs *loudly* and *indignantly* serving as two Manners in (6) are converted into the adjectives *loud* and *indignant* functioning as two Epithets in the nominal group in (6'), and the verbal group *began speaking*, acting as process/event in the figure in (6'), is converted into a relevant noun *voice* functioning as thing in (6).

The grammatical shift here also goes with semantic shift, so Manners congruently realized by the two adverbs in (6') are incongruently realized by two adjectives in (6), and the process/event congruently realized by the verbal group *began speaking* in (6') is incongruently realized by the noun *voice* in (6).

However, as (6) is adapted, the metaphorical effects are either diminished or even deleted, which results in distinct levels of readability. In the ADPV1, (6) is reworded as the following clause complex:

(6) a. ||| "How stupid," <<Alice said loudly.>> ||| (ADPV1: 127)

This is a projection nexus, with an elliptical projected clause and a projecting clause. Our concentration will be on the second one, which looks more analogous to the proposed congruent realization in (6') than the metaphorical realization in (6), now that Circumstance here is not realized by a prepositional phrase, but by an adverbial group composed of an agnate adverb *loudly*. Indeed, (6a) here is also a congruent realization. Overall, the Circumstances in (6') and (6a) are not nevertheless identical, since the one in the former has two adverbs (i.e. *loudly* and *indignantly*), whereas the one in the latter contains only one (i.e. *loudly*).

With (6a) as the starting point, it is difficult to immediately arrive at a metaphorical realization like (6). However, it takes less efforts to get a realization as (6a') beneath:

- (6) a'. ||| “Stupid things!” <<Alice began speaking loudly.>> |||

Analogous to the metaphorical process from (6') to (6), the one from (6a') to (6a) entails only two types of IGM: 2i + 13ii.

As the metaphorical clause in (6) is moving toward the clause in (6a'), the path from (6a') to (6a) is to a large extent similar. However, despite their close association with the same two types of IGM, they involve different layers of junction: there are three layers in the former and two in the latter. To put it simply, the transference from (6) to (6a) is more complicated than that from (6') to (6a), since it is associated partly with metaphORIZATION and partly with the unpacking of certain IGM; and the result is a congruent realization of two of the three IGMs. Therefore, since it takes more reading efforts for average readers to unpack the metaphors in (6) than the ones in (6a), the former instance is less readable than the latter.

There is another strategy to approach the metaphorical realization in (6) as it is adapted. This is demetaphorization, which finds its expression in two of the ADPVs where the IGM-related word is totally removed.

- (6) b. ||| “How stupid,” <<Alice began>>. ||| (ADPV5: 45)
 c. ||| “How foolish they are!” <<Alice said>>. ||| (ADPV7: 28)

In these two examples, the projecting clauses are rid of an adverb or a prepositional phrase, which prevents the emergence of a Circumstance, and of the IGMs as well. The transformation from (6) to (6b) and (6c) is concerned with loss of information, but with reference to IGM, (6b) and (6c) boast higher level of readability than (6).

5 Discussion and conclusion

Since the research has almost come to an end, this section is intended to draw a natural conclusion. Research questions raised are to be answered, and the limitations of the study and suggestions for future research need to be provided.

As for the first research question, the strategies used have been found when the chosen literary work, the OV, which contains or does not contain IGM, is reworded into eight ADPVs for a variety of readers ranging from primary school students to university and vocational college students. The five strategies are addition, maintenance, revision, unpacking, and demetaphorization. Addition means to add certain type or types of IGM in some or all of the ADPVs; maintenance refers to keeping either a relevant type or types of IGM or a congruent realization in certain or all of the ADPVs; revision refers to the occasion on which the IGM or IGMs in the OV undergo slight rewording in the ADPVs; unpacking suggests

giving a totally or partly congruent realization to an IGM in the ADPVs; and demetaphorization is the total removal of IGM-related words, groups, or phrases in the ADPVs.

Concerning the second research question, case studies have been done by considering readability as instances with zero, one, two, and three IGMs in the OV are rendered into distinct ADPVs. It is found that the five strategies of the adaptation have exerted distinct levels of influence on readability. Through addition, at least one IGM is produced, which makes for lower readability; through maintenance, the same level of readability is ensured. Through revision, the IGM or IGMs in the OV are reworded, which could contribute to a lower, the same, or higher readability; yet in one of the cases, higher readability emerges. Through unpacking, lower readability is ensured. Through demetaphorization, which differs from an unpacked or congruent rendering, a realization without IGM occurs, giving rise to lower readability.

Although the present study has some strengths, it is not without any faults. The most obvious one is concerned with one of the adopted methods, i.e. case study, through which only some parallel excerpts have been drawn on and analyzed in line with the IGM theory, and thus no panoramic view has been given in terms of the adaptation of the whole novel of *Alice's Adventures in Wonderland* into different versions for varied groups of readers who have different levels of formal education and English reading capacity. Another limitation relates to the scope of the study grounded mainly in the text-internal dimension, ignoring the text-external one. An additional drawback lies in the fact that interpersonal and textual GMs, which are also likely significant contributors, have been overlooked in the study.

Correspondingly, future research could be enacted in at least three manners. First, the adopted methods could be broadened to include others so that readability of the whole OV and all parts of the ADPVs can be approached, and more strategies of adaptation could be discerned in addition to addition, maintenance, revision, unpacking, and demetaphorization. Second, besides the text internal dimension, future studies can include the text external dimension. For instance, the real readers' reception of the ADPVs could be probed into, and in the case, research methods such as questionnaires or interviews can be added. Third, some researchers could enlarge their scope to cover the way in which interpersonal and textual GMs are associated with readability of the OV and ADPVs.

Research funding: This research is supported by the Social Science Youth Foundation of Yunnan University (grant number 16YNUHSS015) and the Research Program for Instructors at the School of Foreign Languages, Yunnan University.

Appendix

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