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Ecology for children: Examples from popularizing texts in English and Italian

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ABSTRACT

This contribution aims to compare how information is conveyed in texts for children dealing with ecology in English and Italian. Starting from findings in the relevant literature, the aim of this work is to ascertain whether popularizing Italian texts, despite being influenced by the Anglophone tradition and market, are still more informative and often less engaging than their English-speaking counterparts. To this purpose, three texts for each language are analyzed and the two sets are compared and contrasted to evidence which popularizing strategies are used and which linguistic and stylistic devices are exploited.

Keywords: popularization, children, ecology, edutainment.

1. Introduction

In this contribution, I aim to compare how information about currently-relevant topics within the domain of ecology is conveyed to an audience of children of different ages, in both English and Italian and how "expert discourse [is re-contextualized to] meet the needs, tastes and background encyclopaedia of lay readers" (Cappelli – Masi 2019: 126). Similar to tourist guides for children[1], for example, the way scientific informative texts destined for an audience of young readers are organized depends on the cultural mores of a specific lingua-culture. Previous studies on how cultural orientation influences the presentation of knowledge (Hall 1990;

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[1]   The two genres, despite topic differences, share, in fact, a similar informative aim.

Hofstede 1991, 2001; Katan 2006; Manca 2012, 2016, 2017) have indicated that English texts, in line with the features of *Low Context Cultures* (Hall 1990; Katan 1999), tend towards simplicity and reader-friendliness, and, especially if destined for children, they aim at edutainment. Italian texts for young readers, on the other hand, despite a noticeable influence of the Anglophone tradition and market[2], are still richly informative and often less engaging (cf., *inter alia*, Diani 2015, 2018; Cappelli – Masi 2019; Diani – Sezzi 2019, 2020; Bruti – Manca 2019 and the contributions by Denti – Diani, Manca – Spinzi, Peruzzo in this issue).

To ascertain whether or not these trends are still verified or show signs of changes instead, I chose to analyze three books in English, *The Adventures of a Plastic Bottle: A Story about Recycling* by Alison Inches (2009), *The Everything Kids' Environment Book* by Sheri Amsel (2007) and *Generation Green: The Ultimate Teen Guide to Living an Eco-Friendly Life*[3] by Linda and Tosh Sivertsen (2008). They are addressed to three different age groups and, consequently, the theme of ecology is treated in three different ways, both in terms of the content and the language used. These three texts clearly show that the dissemination strategies of such a complex topic depend on the type of audience the author is addressing. *The Adventures of a Plastic Bottle*, destined for preschool children, as we shall see, makes use of narration, phonetic fabric and full-page illustrations to convey information; *The Everything Kids' Environment Book*, for middle-grade readers, uses an articulated organization in paragraphs, subparagraphs and boxes and includes games, activities and experiments; finally, *Generation Green*, a text for teenagers, employs a conversational style and several typical features of teen talk.

In order to compare and contrast popularization for children in the same domain, I chose three comparable books for children in Italian: *L'ecologia spiegata ai bambini* ['Ecology explained to children'] by Marco Rizzo (2017), *L'ecologia siamo noi* ['Ecology is us'] by Marco Paci (2009) and *L'ecologia spiegata ai ragazzi* ['Ecology explained to teenagers'] by Giuseppe Brillante (2010).

The contribution is organized as follows. After reviewing the relevant literature on the aims and strategies of popularization for children, I present my research questions and methodology and describe the corpus in some

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[2] As Cappelli and Masi (2019: 127) claim, at first, Italian tourist guides for children consisted mainly of translations from English. Gradually, the subgenre started to develop under the influence of the full-fledged English tradition.

[3] I wish to thank Greta Antonioni, who translated into Italian extracts from these books and commented on them in her dissertation.

detail. Afterwards, I comment on the English texts' main features and compare them with their Italian counterparts. Some concluding remarks follow.

2. Nonfiction for children and popularization: Aims and strategies

Information or nonfiction texts for children still lag behind compared to fiction in English-speaking countries, but even more so in Italy, where these texts were for a long time only translated from English. Yet, as observed in Bruti and Manca (2019), data available for the Italian book market are quite promising in this respect, with nonfiction titles having become more numerous in recent times, despite the supremacy of fiction. The domains where nonfiction seems to thrive are nature, science/technology and thought/society.

Writing for children makes it necessary to mould the text differently, for both content and language. Texts need to be cognitively adequate for the particular stage of the development of the reader (or the listener, if the text is to be read aloud by parents). Apart from that, informative books need to be accurate in the information that is given, and also orderly in the way they are structured, for example moving from simpler to more developed concepts and processes. A study by Bianchi (2018) has recently highlighted how the changes that language undergoes in this process are usually tackled in studies on language acquisition but not in relation to popularization for children (see Bianchi 2018 and Bruti – Manca 2019 for an account of the linguistic strategies that are to be implemented when adapting texts for children).

Popularization itself is a concept that has been at the core of reflection lately and has undergone critical re-evaluation (Anesa – Fage Butler 2015 for a useful background). Two aspects that have been highlighted as crucial are the fact that "popularization is a matter of degree" (Hilgartner 1990: 528), meaning that the dividing line between experts/specialists and lay people is gradual more than discrete. This is not true in the case of children, who are really the best example of lay readers, veritable *tabulae rasae*. The second issue is that, as Calsamiglia and van Dijk (2004) argue in a seminal study, popularization is a co-constructive process that entails several changes in the roles taken by the actors involved. This becomes especially relevant in texts for children, where readers are often engaged in a series of practical activities in which the information learned is put to use. As rightly pointed

out by Diani and Sezzi (2020: 284), adding fun activities, such as games and hands-on tasks, "helps to develop 'learning by doing'. This can boost children's motivation and desire to learn, as well as increase awareness and experiential knowledge" (cf. also Buckingham – Scanlon 2004).

Diani and Sezzi (2019, 2020) claim that the strategies employed in texts created to disseminate knowledge for children are the same that are used when re-contextualizing a text originally written for specialists for an audience of lay readers. In fact, similarly to nonspecialists in a specific discipline, children, when compared to adults, are in a different stage of cognitive development and possess a more limited background knowledge. For this reason, recasting the content affects lexico-syntactic choices as well as discourse strategies. In addition to the changes that "translate" specialized knowledge into more graspable language (Calsamiglia – van Dijk 2004;[4] Garzone 2006; Gotti 2013), nonfiction books for children also skillfully exploit the potentialities of multimodal communication to teach by entertaining (Maci 2014; Diani – Sezzi 2020).

3. Research questions, methodology and data description

Firstly, given that the purpose of texts on ecology is to inform and raise awareness of the environment and the various policies adopted by different countries for its protection, the most significant research question I aim to answer concerns the popularizing strategies used in relation to the age of the addressee. The distinct cognitive development of the addressee may well influence his/her understanding of complex lexicon and syntax, in particular of specialized vocabulary and concepts. Since informative texts aim to provide readers with specific domain knowledge, which may become an asset in young people's future professional lives (Colman 2007), authors might employ different strategies to make the text easier to understand and process.

Secondly, starting from the hypothesis, already proven for different genres popularized for children (Cappelli – Masi 2019; Bruti – Manca 2019), that the information books market in Italian is developing rapidly but is still in its infancy in comparison with the Anglophone, I would like to compare

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[4]   The model by Calsamiglia and van Dijk (2004), which is followed in the analysis, includes the following strategies: definition, denomination, exemplification, and analogy and, on a more general level, a tendency to simplification.

and contrast the main popularizing strategies at work across languages and culture. Such an investigation aims to shed some light on different communicative strategies at work in the data set and, more specifically, to ascertain whether books on ecology in Italian are more informational than entertaining. Another corollary of this question is to evaluate whether the 'constraints' of the genre, e.g., instructional/informative, are more stringent than those imposed by the lingua-culture.

The methodological framework adopted in this study draws from discourse analysis and cross-cultural studies. More precisely, it relies on previous studies that indicate the preferred re-contextualization verbal and non-verbal strategies to make content accessible for less skilled recipients (Calsamiglia – Van Dijk 2004; Garzone 2006; Gotti 2013). As hinted at above and shown in the analysis, children represent a peculiar case of lay readers, in that they might lack crucial background knowledge and can rely on less developed resources to process information in texts. As a consequence, the analysis also focuses on the multimodal affordances of the texts under investigation, e.g., the use of images and layout and their interplay with the verbal code (Kress – van Leeuwen 2001). Finally, since the focus is a comparison of texts in English and Italian, this contribution also draws on works that describe cross-cultural textualization patterns (cf., *inter alia*, Manca 2012; Diani 2018; Cappelli – Masi 2019; Bruti – Manca 2019).

The Adventures of a Plastic Bottle (from now on abbreviated as *APB*) is a picture book for children aged 4 to 6 years in the form of a journal narrated by the protagonist, a plastic bottle. This character communicates by means of a journal and reports daily on its adventures, i.e., the process of transformation from "an oozing blob of crude oil" to a plastic bottle, and then, finally, a fleece jumper worn by an astronaut during his space journey. The prevalent form of disclosure is therefore narration but the information on the various stages of the metamorphosis of the bottle is granted considerable space. There is also a glossary, at the end of the book, that explains with simple words some of the specific terms of ecology which appear in the text and are highlighted in bold.

As a picture book, visual code undoubtedly plays a key role. The illustrations, masterfully created by Pete Whitehead, occupy the entire page and the colours are brilliant. The text is a feature of the pictures themselves and, at times, is inserted in balloons. Noteworthy is the font used, which imitates handwriting, as if the bottle had actually written the journal in its own hand. This calligraphy, as well as being very attractive to a child, is also a bearer of meaning.

The author, Alison Inches, is a Californian writer who has published more than 80 children's books, both fiction and edutainment. She is also the author of *The Adventures of an Aluminum Can* and *I Can Save the Earth*.

The Everything Kids' Environment Book (from now on abbreviated as *EKEB*), for middle-grade readers (children aged 7/8 to about 12 years) is part of a series of books called *The Everything Kids' Books* aimed at providing young readers with information about many topics. Each book deals with a particular field of study, such as physics and chemistry (*The Everything Kids' Science Experiment Book*), mathematics (*The Everything Kids' Math Puzzles Book*), but also cooking (*The Everything Kids' Cookbook*), and sports (*The Everything Kids' Soccer Book*). The theme of the text is the environment and aims at teaching children the different habitats that exist on Earth and the importance of protecting them all. The book is well-organized into chapters, which in turn are divided into paragraphs and subparagraphs, each of which is preceded by titles and subtitles. These explanatory sections alternate with games such as crosswords, join the dots and inserts in which more detailed information ("Did You Know"), experiments ("Environmental Experiment") and activities ("TryThis", or "What Can Be Done?") are presented to demonstrate what is happening globally on a small scale, thus trying to raise awareness among young readers. The specialized terms, which may be unknown to children, are explained both in a glossary at the end of the book, and in the text in special explanatory boxes entitled: "Words to know". The first two chapters describe the planet in general and the various habitats that can be found at different latitudes, while the following six chapters explore topics that have already been introduced (air and water pollution, recycling and so on) in more detail. The last two propose concrete actions to be put into practice at school, home, and travelling to lead a 'greener' life and thus reduce the environmental impact. The author, Sheri Amsel, is a New York writer, illustrator and scientist. With a degree in botany and zoology and a master's degree in anatomy, she has written more than 20 essays on the subject of the environment, nature and the human body.

Generation Green: The Ultimate Teen Guide to Living an Eco-Friendly Life (from now on abbreviated as *GG*) is a popular text for teenagers. It is meant to be an authentic guide to teach teenagers how to undertake an eco-sustainable lifestyle. As for the organization of the contents, the text is divided into nine chapters plus an introduction and a final section entitled "resources". The first chapter gives an overview of the main environmental problems (climate change, reduced fossil fuel reserves, water shortages, loss of topsoil,

desertification, the collapse of marine ecosystems, electromagnetic pollution and increased waste). The other sections provide numerous indications on how to behave in every area of daily life (at school, during meals, when going out with friends, etc.) and how to live in a 'green' way. Each chapter is followed by interviews with young people who are more or less famous and involved in environmental causes. In this book, too, there are boxes with interesting information about the subject dealt with in the corresponding paragraph. The authors, Linda and Tosh Sivertsen, are mother and son. Linda is a famous environmentalist, journalist and author; Tosh, seventeen in 2008 (the date of release of the book), is an actor who has been raised in a 'green' way. Tosh authors the introduction to the book in the first person singular, whereas the rest of the book uses the first person plural.

In order to carry out a comparison with popularization for children in Italian on the same topic (ecology), I looked for comparable examples. The books I chose are addressed, more or less, to the same audience groups as the American texts. They are: *L'ecologia spiegata ai bambini* ['Ecology explained to children'] by Marco Rizzo (2017), from now on abbreviated as *ESB*), a picture book for children aged 5 to 8; *L'ecologia siamo noi* ['Ecology is us'] by Marco Paci (2009), from now on abbreviated as *ESN*, which is destined for middle grade readers aged 7/8 to 12; and *L'ecologia spiegata ai ragazzi* ['Ecology explained to teenagers'] by Giuseppe Brillante (2010), from now on abbreviated as *ESR*, a book for adolescents.

ESB is an illustrated book for young readers in the first three classes of primary school. It addresses, therefore, an audience older than *ASP* (for children aged 4 to 6 years), as can be recognized both by the amount of text, slightly longer in the Italian book, and by the subject itself. While the English book has as its sole theme recycling, explained through the transformations that lead to the 'birth' of the plastic bottle, *ESB* addresses several environmental problems such as air and hydrological pollution, global warming and even illegal disposal of toxic waste. However, this does not detract from the fact that the book can be read by parents or teachers to even younger children who will be enlivened by a text rich in dialogue and authentic figures.

It is the story of a fox called Sandy, who, together with her friend Ettore the pelican, makes a trip around the world and, in doing so, notices the enormous damage that the environment is suffering: forests are continually felled, glaciers melt, landfills increase, the air is increasingly polluted and the reef is disappearing. The conclusion is optimistic, however, as it makes the reader understand that not everything is lost and that if we all start to change

our lifestyles together, we can still save the planet. The dominant popular text type here too, as in *APB,* is narrative, as it is the story of a journey through which children are informed of environmental disasters. Contrary to the English text, however, the book by Rizzo does not include a glossary because the technical terms are fewer, and those few that there are (e.g., "discariche", 'landfills', "bracconieri", 'poachers', etc.) are explained in the text through dissemination strategies.

ESN is a book for middle grade readers, from 7/8 to about 12 years, the same age group as the readers of *EKEB*. It is an illustrated book, not a picture book, which is different from *ESB* and especially *APB*, because the text is preponderant, and the images are either decorative or illustrative but do not contribute to the meaning of the verbal text. It is, at the same time, a narrative information book (contrarily to *EKEB*, which is a nonfictional topic book) and employs the device of a question-and-answer dialogue between an old ecology professor and two children, Silvia and Giorgio. All young readers can easily identify with Silvia and Giorgio, two curious kids eager to learn more about the topic. Through their questions and the professor's comprehensive answers, the reader can acquire a great deal of knowledge about the environment and the damage that humans constantly cause. This format seems to be one of the structures preferred for dissemination in both English and Italian.

4. An analysis of texts on ecology across English and Italian

4.1 Title, layout and images of the English texts

The first relevant feature of the books to take into account is their titles, which are the first access key to the texts. The picture book, *APB*, makes reference to exploration and exciting activities and provides a clearer explanation in the subtitle. *EKEB* is a less engaging title, as it alludes to a book series and exploits a well-known format. Finally, *GG* offers an example of an alliterative title selecting potential addressees and providing an explanation in the subtitle. Cleverly the term "eco-friendly" is used instead of "ecological" because it is more engaging and reminds potential readers of a group of adjectives that are formed by exploiting the same component "-friendly".

In *APB*, which is a picture book, addressees are probably more 'listeners' than 'readers', and the bond between text and images is very strong. The pictures follow the comic strip format, but extra pictures are added that look like the ruled pages from a journal or actual photographs,

to obtain a realistic and documentary quality. A vast array of font types, sizes and colours are used for an overall effect of variety and attractiveness.

EB also employs illustrations, though their role is ancillary and entertaining, as a complement to the text. The book is provided with a very clear text architecture, with several sections and boxes to mark topic shifting or relevant topics (see 3 above).

GG adopts the colour green to highlight important text partitions: chapter and section titles are in green, as well as some footers and boxes with highlights and follow-ups. A feature of the text is that the interviews are printed on green pages, whose texture resembles that of a leaf, with the central rib and vein system.

4.2 Title, layout and images of the Italian texts

The titles of the Italian books are quite homogenous across age groups, all of them revolving around the term "ecologia": *L'ecologia spiegata ai bambini* [= *Ecology explained to children*], *L'ecologia siamo noi* [= *Ecology is us*] and *L'ecologia spiegata ai ragazzi* [= *Ecology explained to teenagers*]. *ESB* and *ESR* allude to the informative nature of the text by means of the adjective "spiegata" ('clarified'), thus classifying the book neatly into nonfictional genres, even though ESB is a narrative text. In this case, the title is misleading and probably not the best marketing strategy in that children are probably more attracted by stories than explanations. ESN is certainly a more involving title, in that it uses the inclusive personal pronoun "noi", 'us', encompassing both the author and the addressees in a joint venture for the benefit of the environment and the Earth.

As for the layout, *ESB*, which addresses slightly older readers than *APB*, contains, in fact, more text than pictures, which are lovely coloured-pencil drawings, partly interspersed in the text, and partly independent, as some completely occupy the space of two pages. Drawings are quite numerous and assist the narrative from cover to cover. *ESN* contains coloured pictures, usually every 2-3 pages, sometimes aligned with the text, other times occupying more space. Most are pictures, but some are diagrams, e.g., illustrating the distribution of different plant species over the five continents. *ESR*, despite a green-coloured cover, contains only black and white illustrations, which are in most cases graphic representations of events or processes, e.g., the greenhouse effect, the causes of desertification, clean energies, or diagrams containing data or percentages, e.g., how oil is employed, or the most polluted countries in the world.

4.3 Popularization strategies in the English texts

A preliminary observation on the genre of the English texts is in order. In terms of genre, they can all be described as 'impure' informative texts, as the aim they pursue is clearly edutainment. While *APB* is a mixture of facts and fiction, the latter in the form of a journal, *EB* contains an array of engaging activities such as role plays, crosswords, puzzles and several interactional tasks. This is, as shall be seen below (see 4.5), reflected in the structures used, among which are questions and imperatives aimed at engaging the audience. The older readership makes it possible to resort to puns, which like all instances of humorous and figurative language are not always accessible to younger children. *GG*, which is aimed at fully developed readers, is a fact book, written in first person narration and detailing the authors' personal experiences plus interviews. Being authored by a teenager and his mother, the book is also rich in teen talk and often tries to involve the audience by means of questions and imperatives, like *EB*.

In *APB*, popularization strategies are primarily visual rather than verbal, as images are meant to clarify any difficult term by making it visually accessible, but there is also a glossary of specialized words at the end of the text. The specialized terms contained in the glossary are written in capitals within the text. A couple of examples of this type of clarification are the following, which are respectively an instance of denomination (1) and explanation (2), in the form of a definition:

(1)   The changes I went through were called POLYMERIZATION.

(2)   Hey, Diary! Did you know that plastic comes from the Greek word plastikos? It means easy to mold or shape.

More frequently, though, there are instances of re-contextualization through metaphors and similes, as in (3), (4) and (5), which exploit figurative language to make difficult concepts accessible for young children.

(3)   I was sucked […] into the belly of a giant boat (= the tank).

(4)   […] especially designed to carry liquids – like a big, floating fish tank.

(5)   Then I oozed through an extruder where I was squeezed out into long, thin, strands like spaghetti.

In *EB*, most section titles contain questions that are subsequently answered, but special terms are granted their own space in separate boxes located to the left or right of the running text. They are easily recognizable, in that they always have the same layout: the title is in capitals, and just above it, there is a black and white caricature of Einstein with messy hair and a puzzled look. Difficult words are in bold capitals, each followed by a definition and, in some cases, additional details (e.g., the explanation of how the word "smog" was coined as a blend). A glossary follows at the end of the book.

As for popularization strategies proper, definitions can be contained in the sections mentioned above, or in the text (6). Denominations are quite frequent, on account of their instructive function (see 7 and 8), but re-contextualizations via metaphor (9) and exemplification (10) can also be found.

(6)   Marshes are open wetlands dotted with reeds, sedges and grass.

(7)   Many countries, like Costa Rica, have discovered how saving their rainforests can make them money! […] This is called ecotourism.

(8)   Over the last 250 million years the continents have broken up and drifted to where they are today. Scientists call this Continental drift.

(9)   The earth's gravity holds the air in an envelope around the planet that's about 6.5 miles thick. This is called our atmosphere.

(10)   Too much light can make seeing stars harder. […] For example, when the California Institute of Technology built its observatory on Palomar Mountain in the 1930s, the spot was chosen because it was so dark that the 200-inch telescope could see very faint, distant galaxies.

In *GG*, the main popularization strategies are definition (11), denomination 12), and exemplification (13). Re-contextualization via analogy is also resorted to, as in (14) and (15)

(11)   Global warming refers to the fact that worldwide temperatures are rising, both on land and sea, and are expected to continue to go up over time.

(12)   This atmosphere of ours allows our global temperatures to remain "just right" – what scientists call the Goldilocks Principle.

(13)   Think about all the relatively recent inventions you use every day that require electricity – your phone, iPod, TV […].

(14)   […] greenhouse gases in our atmosphere act like a blanket to trap the warm air from escaping into the great beyond.

(15)   Living on Earth will feel like being forced to stay under the heaviest down comforter while wearing flannel pyjamas and wool socks on the hottest summer night.

As was observed for *EB*, denomination is a convenient strategy when it is crucial to instruct readers and teach them the appropriate words to talk about a topic, an aim that is obviously less important with younger readers. Re-contextualization via analogy, as in 14 and 15, is a typical way of making something concrete by establishing parallelisms with items taken from people's everyday life.

4.4 Popularization strategies in the Italian texts

Differently from *APB*, Rizzo's book *ESB* does not include a glossary because the technical terms are fewer and the ones that are used (see "discariche", 'landfills', "bracconieri", 'poachers', already mentioned above, but also "raccolta differenziata", 'waste sorting') are explained in the text through various reformulating strategies. In particular, the strategies that can be observed in this Italian text are: denomination (quite widely used), as in (16), (17), (18) and (19), re-contextualization through analogy in (20) and (21), and explanation by means of description as in (21) and (22).

(16)   Sandy venne travolta all'improvviso da un'enorme ondata d'acqua di un brutto colore. L'acqua era sporca, arrivava dalla montagna e stava invadendo le vie della città. […] C'è stata un'alluvione e una frana.

(17)   Guarda qua, – disse Ettore – questa è la Foresta Amazzonica.

(18)   Gli umani mi hanno reso la vita facile: adesso separano la spazzatura… si chiama raccolta differenziata.

(19)   Sapete – spiegò – il mondo è pieno di posti così: li chiamano discariche.

(20)   [La foresta Amazzonica] è enorme, ma ogni tanto perde un pezzo grande quanto sei volte Roma.

(21)   Arrivarono al Polo Nord, un immenso deserto di ghiaccio.

(22)   I bracconieri! Sono dei cacciatori senza scrupoli! Vogliono diventare
         ricchi vendendo le ossa, le zanne e i corni di noi animali.

Popularization strategies in *ESN* are also widely used, as the professor tries
to make the two children understand the functioning of the environment by
using simple words, explanations through definitions and reformulations,
and denominations. There are also examples of generalizations, often made
by children, who thus show that they have understood their teacher's
lesson. Explanation by means of definition can be found in various passages.
In (23), the terms are accompanied by a definition in brackets; in (24), the
word "biosfera" is followed by the copula and a periphrasis and in (25), the
reformulation connective "that is" is inserted.

(23)   Erbivori (consumatori di piante), carnivori (consumatori di erbivori).

(24)   La biosfera è l'insieme delle zone della Terra, comprese l'acqua e l'aria,
         in cui esistono le condizioni essenziali per lo sviluppo della vita.

(25)   […] superorganismo cioè un grande organismo formato da tanti
         piccoli organismi.

Reformulation of concepts with simpler vocabulary is quite widespread
throughout the book. An example can be found in (26) below, where
the professor rephrases the concept of the food chain introducing the
reformulation by means of the connective "come dire che" ('as if to say that').

(26)   Come dire che ogni organismo riceve l'energia da una fonte e, a sua
         volta, è fonte di energia per un altro.

Denomination is also found, although not very pervasively, as can be seen
in (27) and (28):

(27)   Gli alberi, per svilupparsi, hanno bisogno di acqua, CO_2 e luce solare:
         il processo si chiama fotosintesi.

(28)   Queste piante, a differenza delle precedenti, non evitano il secco
         chiudendo "porte e finestre", cioè gli stomi.

Re-contextualization sometimes takes place, for example in (29), with an
analogy between an ecosystem and a car:

(29)   L'ecosistema è questo: un meccanismo complesso i cui ingranaggi
         sono rappresentati da componenti viventi, mentre i fattori non viventi
         sono la messa in moto e il lubrificante.

Generalization can also be found when children elaborate on what they have learned, as in (30), when Silvia, by means of induction, understands that, since a forest is a system and in a system each element is connected to the others, then all the elements in a forest must be connected:

(30)   Se è un sistema come dice lei, tutto deve essere collegato!

Finally, in *ESR*, popularization strategies are well-spread, such as definition in (31) and (32), denomination in (33) and exemplification in (34). Much less relevant, in comparison with books for younger children and with the English books, in particular, is the use of re-contextualization by means of metaphor (apart from a comparison between the environment and an apartment; Brillante 2010: 7), a fact which is compensated for by plentiful examples and by constant reference to precise data and historical and current information, which make concepts more relevant for readers.

(31)   La penicillina (un antibiotico molto usato perché in grado di sconfiggere diverse specie di batteri).

(32)   Gli esseri umani sono onnivori, cioè sono capaci di nutrirsi di una vasta varietà di alimenti.

(33)   […] il più piccolo cervo del mondo (il suo nome scientifico è *Muntiacus putaoensis*).

(34)   [Talking about the killing of endangered animals in order to get their fur] Il caso più emblematico è forse quello delle foche della Groenlandia.

4.5 Main linguistic features in the English texts

The linguistic texture in *APB* is quite limited but very skilfully conceived to be catchy and memorable. The means exploited the most is phono-symbolism, especially in the use of alliteration: "cranking and clattering", "floating fish tank", "squishy… squeezed" ("my little crumbs got nice and squishy" […] "a machine squeezed me". "Cranking" and "clattering" refer to the sounds made by a drill punching through the bottom of the ocean, whereas "fish tank" is used to explain the meaning of a less attractive vessel, a tanker; finally, "squeeze" and "squishy" both indicate the action and the property of pressing something firmly).

Interjections also contribute to reinforcing sound effects by appealing to the ear as well as to the eye by means of some well-spread interjections such as "hey", "huh", "wow" and "whee", and some less common ones, such as "tee-hee" and "cowabunga". The latter, for example, an exclamation of surprise and anger, is quite inventive and was first used in a TV programme for children in 1954, *The Howdy Doody Show*, and later employed by surfers in the 1960s as a shout of triumph. It was then spread worldwide in the 1990s by the Ninja Turtles.[5]

Lexis and syntax are both kept quite simple, the former with the adoption of colloquial terms, and only a few occasional technical terms (e.g., "mulch pile", meaning 'pacciame', 'concime'), the latter with a typical paratactic style, with very few logical connectives, and many passive structures, especially with verbs of action ("I was sucked", "I could be made").

EKEB is equally characterized by simple lexis and syntax, with a few distinctive traits. Although the text is much more articulated, sentences are not often connected by means of subordinators. Parataxis, in fact, dominates in this text, which also makes use of parallelism and repetition instead of substitution or endophoric references that are more difficult to process: "The living things include animals, plants, bacteria, algae, fungi, etc. The non-living things include rocks, mountains…", "This is called atmosphere. The atmosphere is very important in protecting us from things in space". Vocabulary, however simple, includes the use of vague terms, quite a popular feature in teen talk (see, among many, Tagliamonte 2006), especially in the choice of rather generic verbs, e.g., "his book will <u>tell</u> you about the environment", "the rainforest is famous for its biodiversity because it <u>has</u> so many different species". In these examples, "tell" and "have" have been preferred to the more specific and informative "inform" and "instruct" and "host" or "house". A certain tendency to employ involving features is mirrored in the use of puns, which make titles catchy and memorable (Morley 1996, 1998; Isani 2011), and intertextuality, which creates a certain complicity between the author and the recipients who recognize it. Examples of puns are, for instance, "Do you get my <u>drift</u>?" (where "drift" can be understood as 'the flow or velocity of a current' or, more plausibly, as the 'continental drift'); "Whose <u>fault</u> is that volcano?" (where again "fault" is polysemous and the reader needs to select either meaning 1, 'responsibility', or, more coherently here, meaning 2, 'crack'), and "hidden danger", which

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5   See https://www.urbandictionary.com/define.php?term=cowabunga, accessed February 2022.

refers to an iceberg, so the adjective "hidden" in this case does not mean 'unsuspected' but 'concealed' (under water). Finally, as is also quite typical in headlines, the section title "Water, water everywhere" alludes intertextually to S.T. Coleridge's *The Rime of the Ancient Mariner.* One of the positive aspects of intertextuality is that it is understood by the more accomplished readers, it allows the reader to feel connected and gratified at being able to 'decode' it, but, at the same time, it makes perfect sense even for children who do not grasp the literary connection.

GG is far more complex than both the other texts. The most striking feature is the informal tone, which manifests itself in the use of an extremely colloquial language, rich in slang, vague language, abbreviations, interjections or heightened expressions, all features of teen talk, probably ascribable to Tosh's (one of the two authors) voice (Tagliamonte 2006; Bruti 2023). This is a strategy to captivate the attention of young readers, who find many of their linguistic habits reflected in the text. Examples of slang terms include, among others, "blast", "shizz", "wacky", "psyched", "cool", "hippest", "go bat guano crazy", the latter meaning 'go crazy' but being reinforced by alluding to a vulgar expression. Another feature of youth language and of informal conversation is vague language, which is used among collocutors who share background information and are present in the same situation of utterance, being able to disambiguate when necessary. Apart from quite typical elements such as "stuff" and "kind of", there is also the term "gizmo", which indicates a usually small mechanical or electronic device ("Advertisers spend billions telling you their latest gizmo will make you happy"). The text also uses instances of initialisms, such as BFFS, TMI and abbreviations, such as "Grams". Still linked to the colloquial tone is also the presence of instances of deviant spellings, which is meant to represent sloppy pronunciation ("you might want to become for the rest of your rockin' and hopefully very long life"*)* and syntax, which does not necessarily indicate rusticity, but often hints at casual, informal conversation among peers ("If Mama Earth ain't happy, no one's happy"; "the environment is stressed out. Sure seems so"). In addition, as the text is quite dense, and might also be read by adults, it is also deeper in content and references, so culturemes and puns are often found. References to Mexican culture are particularly frequent (e.g., "burrito", "sweat lodge ceremonies", "consique", the latter two having to do with traditional tribal rituals of native American people), but there are also various other references to aspects of daily life (e.g., Greatest Generation = great depression and WWII, 60 minutes = a TV show, SAT = university admission, big game = baseball).

In addition, puns also appear, often involving some key term from the lexical domain of the environment: this is the case with the expression "to think outside the <u>sandbox"</u>, which alludes to the phrase "out of the box", meaning something creative and unusual, but here referring to the risk of desertification. The phrase "trash talk" is also used, in this text with its literal meaning, i.e., about rubbish, and not to the extended meaning of 'boastful comments'. Finally, the term "extra" triggers a pun in the sentence "You're earning <u>extra</u> credit when you support wind farms [...] it's not really <u>extra</u>, because you can't erase your impact", where "extra" has two different meanings, the first is an abbreviation of "extraordinary", the second means 'more than expected'.

4.6 Main linguistic features in the Italian texts

Rizzo's book *ESB* belongs to the narrative text type. In this book, text certainly dominates over illustrations, syntax is more complex and the register is less colloquial than in its English counterpart, in line with the Italian rhetorical tradition, which sees a clear separation between writing and orality (Bruti – Manca 2019). This tendency can also be seen in the presence of subjunctives ("se dovessero mandare via tutta questa spazzatura", 'if they had to take all this trash away', "non ha trovato nulla che la frenasse", 'didn't find anything that slows it down'), in the abundance of qualifying adjectives, elements that characterize the written language, but which are rare in spoken language ("possenti ali", 'strong wings', "vita delicatissima", 'most delicate life', "città antica ed elegante",' 'an ancient, elegant city') and by the almost total absence of interjections, fundamental, however, in the English picture book. The collocational patterns of adjective + noun are quite difficult, both for the choice of high-register terms (e.g., "possenti", 'strong') and for the low predictability of the combination, which is unusual (e.g., "vita delicatissima", 'most delicate life'). Both the English text and the Italian text rely on sound patterns that also make them suitable for reading aloud. In particular, in *ESB*, there are anaphoras ("volpi curiose / volpi fifone", 'curious foxes' / 'fearful foxes') and parallelisms ("scimmie e serpenti / ragni e armadilli / giaguari e pipistrelli", 'monkeys and snakes / spiders and armadillos / jaguars and bats') while in *APB* there are many alliterations and phonosymbolic effects.

The text for slightly older children, *ESN*, is even richer in text than in pictures, because they are cognitively more developed and do not need pictures to fully understand the topics. The genre is hybrid, as the narrative

type is interwoven with the informative one, differently from *EKEB*, which is a non-narrative topic book. Despite the fact that the Italian text is in the form of a dialogue, it is by no means more informal than its English counterpart. There are, in fact, no phonosymbolic patterns, so, presumably, it is meant for autonomous and silent reading. On the syntactic level, the book reaches a trade-off between para- and hypotaxis, and also employs several instances of parallelism, which is a very useful cohesive device: "in modo da spiegare cosa stia accadendo al progresso tecnologico, che ci permette di valutare le nostre condizioni di salute […]; che ci consente di raggiungere qualsiasi posto […]; che con un computer ci fa entrare all'istante in una rete di informazione" ('in order to explain what is happening to technological progress, which allows us to assess our state of health […]; which allows us to reach any place […]; which, with a computer, gives us immediate access to an information network').

Overall, however, sentences are longer in comparison with the English text. Vocabulary is also more formal, as very few exclamatory and colloquial expressions are employed (e.g., "già che ci siamo", 'while we're at it', "stai a vedere che", 'you watch', "affamata da morire", 'starving to death'), whereas, instead, several very precise and formal expressions are used (e.g., "accrescimento", 'growth', "apice", 'apex', "componente", 'component'), together with some patterns that are typical of written registers (e.g., "in modo da spiegare cosa stia accadendo", 'in order to explain what is happening', "emette un grido di stupore", 'emits a cry of wonder').

The book for the 'oldest' age group, *ESR*, does not contain any feature that might appeal in particular to an audience of adolescents, the ideal readership for this text. The genre adopts a format typical of informative texts, i.e., a question-answer structure (cf. "Che cos'è il cibo di Frankenstein?", 'What is Frankenstein's food?'). Although a few colloquial expressions are used ("Facciamo un salto", 'Let's pop into', "ecco", 'here', "insomma", 'well'), the register is quite high, with numerous subjunctives ("se la casa non venisse mai pulita", 'if the house were never cleaned', "se nessuno pulisse", 'if nobody cleaned'), and rather formal terms, often nominalizations, which are more typical of written styles ("innalzamento", 'rise', "controbilanciare", 'counterbalance', "accorgimenti", 'measures', "liquami", 'slurries'). On the other hand, in order to involve the audience, this text also largely employs engagement markers (Hyland 2005) such as direct address pronouns ("voi" in the main text and "tu" in sections with practical advice to live a 'greener' life), questions in titles, imperatives ("immaginate la scena", 'imagine the scene', "comincia a prendere i mezzi pubblici", 'start taking public transportation'…)

and inclusive first personal plural forms ("Facciamo un salto", 'Let's pop into', "guardiamone", 'let's have a look at one',"spostiamoci", 'let's move', "i nostri nonni", 'our grandparents').

Even though the language used in *GG* is extremely 'spoken', recalling the tone and mode of a conversation between young people, there are in ESR some attempts at colloquialization: first of all, there are many engagement markers, in particular, *tu/voi* pronouns in the sections with suggestions ("la <u>tua</u> missione contro la deforestazione", 'your mission against deforestation'), imperatives ("<u>comincia</u> a prendere i mezzi pubblici", 'start taking public transportation', "non <u>sprecare</u> inutilmente", 'don't waste') and inclusive second person plural ("spostiamo<u>ci</u>", 'let's move', "i <u>nostri</u> nonni", 'our grandparents') that reduce the author/reader distance. Secondly, although lexis is mainly formal, there is an expression that provides humorous relief in the text, thus catering for the desire of young people to be amused while reading: "una mucca <u>con le sue puzzette e i suoi ruttini</u> produce chili di metano ogni giorno" ('a cow, with its farts [plus diminutive] and burps [plus diminutive] produces kilos of methane every day')] (see Bruti – Manca 2019: 189 for an almost identical example in an English text). Twenty years ago, such a reference in the scatological sphere would not have been possible in Italian books for children, but luckily it is now recognized, in both literary works and nonfiction, that young readers' "interest [is] piqued by disgust" (Lichtig 2016, referring to Roald Dahl) and they are attracted "by filthsome details, including the so-called 'potty humour', all of which were for instance skilfully concocted in Roald Dahl's tales" (Bruti – Manca 2019: 200).

5. Conclusion

The analysis of the six books, three in English and three in Italian, although limited, has shown that their common aim is to provide children of different ages with information on a specific subject. This purpose is achieved mainly by means of popularizing strategies, which are especially geared toward making specialized terminology and concepts accessible to the intended reader.

In terms of popularization strategies, the English texts integrate old and new information well by highlighting what is new and linking it with what is already known, but also by exploiting graphic resources, such as text partitions, expanding boxes, do-it-yourself sections (experiments, try this) and the like, and a glossary, either within the text or at the end (words in capitals in *APB* and a glossary at the end; boxes entitled "Words you know"

in *EKEB* plus a glossary at the end). *GG* aims at an older public and exploits different means: although it is a highly conative text, suggesting, explaining, convincing the reader of what is advisable to do for the environment, it is also interspersed with some personal anecdotes regarding the authors themselves, and employs colloquial and teen talk. No special sections or new words are provided, nor is a glossary.

Re-contextualization as similes or metaphors is a strategy that cuts across age groups, being beneficial for everyone, while denomination is more common in both *EKEB* and *GG*, because it is meant to teach useful terminology.

There are no glossaries or boxes in the Italian texts to highlight important vocabulary. In *ESB,* important and difficult words appear in bold text; in *ESN,* they appear in italics, while in *ESR,* they are not singled out at all. In addition, in the Italian text, multimodal and typographic resources are less exploited: apart from illustrations, text partitions are not as clearly highlighted as in the English ones, which use boxes, sections, figures, and a vast array of different typefaces. *ESN* has a final section suggesting a few further activities, which are integrated within the main texts in *ESR,* indicated by a different font.

Re-contextualization via metaphor or analogy seems to be less resorted to in Italian texts. Many reformulations characterize ESN in particular, with simpler vocabulary announced by reformulation connectives, typical of formal, written Italian, and by generalizations drawn by the child-protagonists.

The verbal texture of the English texts for a younger audience relies very much on phono-symbolism and expressive language (e.g., interjections), occasional puns and instances of vague language, which reduce the number of specialized terms. In contrast, the text for adolescents is rich in calls to the reader, colloquialisms and teen talk. In the Italian text, the register is largely more formal, across all age groups, because of the use of more complex syntactic and lexical patterns (e.g., the use of subjunctives and highly formal collocations are already used at the primary school level).

Overall, it can be argued that, although a certain awareness of multimodal affordances is present in the Italian texts, they still seem to favour a clear "formative function" (Cappelli – Masi 2019: 156), not so much because of the greater accuracy of the text, but because of the limited amount of space assigned to multimodal resources. The path towards edutainment seems to have been travelled only half-way, with the preoccupation still being placed on the verbal text. The results for children's tourist guides, perhaps

because of their more practical nature, also showed a marked turn towards edutainment in Italian (Cappelli – Masi 2019), while the current investigation for texts on ecology, on the other hand, seems to show that cultural tendencies and orientation towards either doing or being, respectively associated with English-speaking and Italian cultures (Hofstede 2001), are very much ingrained. The English texts analyzed here aim to teach by describing facts verbally and visually and by stimulating experiential knowledge and action, whereas the Italian sample displays a preference for detailing notions, couching them in a rather formal style, with only occasional incursions into experimentation. Overall, it seems that in Italian texts destined for children, the movement towards a more pragmatic way of instructing is slow, with still some distance to cover.

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