UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Università degli Studi di Padova

Dipartimento di Studi Linguistici e Letterari

Corso di Laurea Magistrale in
Lingue Moderne per la Comunicazione e la Cooperazione Internazionale
Classe LM-38

Tesi di Laurea

A call for the environment: A bilingual corpus-driven analysis of creative language in online texts by WWF and Greenpeace

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Anno Accademico 2021 / 2022

Table of contents

INTRODUCTION

Every day, newspapers, television programs, radios, blogs, websites, and social networks contribute to the spread of news about the most varied topics all around the world. Especially in recent years, news about the environment has become widespread both in mainstream and online media due to the more and more evident effects that climate change has brought to natural habitats, wildlife and also to human health and well-being. The history of environmental communication can be traced back to the 1980s, when it was developed as a distinct field within the communication discipline with the purpose of providing a faithful representation of nature and enhancing our understanding of the environment. Clearly, in the communication and representation of the environment, language is essential to shape people's perception of nature and its related issues. For this reason, it needs to be crafted and exploited extensively to fulfil the desired purposes, which could be to persuade, warn, inform, or make people act. Titles, especially in news articles, play a crucial role as they are the first element (if not the only element) that readers are likely to read to decide whether they are going to read the rest of the text or not. As a result, a lot of effort is put in creating appealing and attention-seeking titles that can capture people's attention. This is done by adding unusual, original, and even unique associations of words, but also manipulations and language plays of well-known references or phrases. In a word, creativity. Throughout this dissertation, the term *creativity* will be understood as lexical creativity, i.e., a linguistic competence to combine and modify language at distinct levels to form novel words and expressions for a specific purpose (Langlotz 2016: 40-41). Precisely, this dissertation intends to examine the way in which lexical creativity is exploited in titles and subheadings of environment texts, and more specifically, which kinds of creative solutions they include and what their frequency is. The investigation focuses on different types of texts published in the websites of two international environmental organisations, namely, Greenpeace and WWF. The identified texts were collected to form a bilingual comparable corpus comprising texts in American/British English and Italian. More specifically, the texts were retrieved from the websites of Greenpeace UK, Greenpeace USA, Greenpeace Italia, WWF UK, WWF US, and WWF Italia.

This dissertation has been divided into four chapters. The first chapter will present a theoretical framework of corpus linguistics, i.e., the methodology that was developed to study language in context by using a corpus. Then, it will focus on the notion of corpus by outlining its main features, possible classifications, design criteria and how it could be useful in distinct disciplines. The second chapter will deal with another theoretical subject regarding the language used in environment texts. In order to do that, it will first define special languages and its features, along with the concept of popularisation, a necessary step to understand how science (and specifically, environmental issues) is communicated to lay people. After that, it examines the features of environment texts, with a particular focus on the possible types of lexical creativity and figurative language they contain. The third chapter will instead illustrate the corpus that was specifically compiled for this investigation by describing the selection criteria and how it was built in practice. After that, it will include the main features and statistics of the corpus thus created. Finally, the fourth chapter will strictly analyse the examples of lexical creativity encountered in the corpus, also considering their topic in relation to the topic of the text that comprises them, along with a comparison between the English and Italian sub-corpora, and between the Greenpeace and WWF sub-corpora. The analysis focused on the various examples of lexical creativity found in the titles and subheadings of the selected texts and followed the corpus-driven approach, whereby the corpus was interrogated without any prior assumption and all the conclusions were based on the examples found there. Therefore, it was possible to identify ten macro-categories of creative solutions throughout the corpus, which were described individually along with some examples drawn from the corpus itself to better explain each phenomenon.

CHAPTER 1

CORPUS LINGUISTICS: AN INTRODUCTION

This chapter is divided into three main sections. The first section deals with corpus linguistics and how this methodology has developed from the 18th century to the present time. The second section will examine specifically the notion of corpus and its major features. It then presents three basic notions that should guide the building of a corpus, i.e., representativeness, balance, and normalisation. In addition, it provides different classifications and types of corpora considering various aspects, such as the number of languages in the corpus and the types of texts included. It also describes annotated corpora and some types of annotation – i.e., part-of-speech (POS) tagging, lemmatisation, parsing, semantic annotation, and sentiment analysis – and it introduces the criteria for corpus building. Finally, the third section is concerned with the use of corpora for different purposes in different disciplines, namely, lexicography, terminological research, translation, and the teaching of languages and linguistics. Moreover, it provides a brief overview of the corpus-based and the corpus-driven approach, as well as a description of some software tools that are commonly used in the creation and analysis of corpora at distinct levels, and their main functions.

1.1 Corpus linguistics

Corpus linguistics, as defined by Peters and Picchi (1997: 250), is "that branch of linguistics which deals with the empirical study of large bodies of language." McEnery and Wilson (2001: 2) argue that corpus linguistics can be better described as a methodology that can be used in other areas of linguistics, as it does not require descriptions or explanations unlike syntax, semantics, and the like. A further definition is given by Bennett (2010: 2) who clarifies that corpus linguistics "approaches the study of language in use through corpora." In other words, it investigates language and how it is used by speakers through big amount of linguistic data collected in corpora, i.e., "large collection[s] of written or spoken texts that is used for language research" (Collins Dictionary).

1.1.1 From early corpus linguistics to computer corpora

Turning now to the evolution of corpus linguistics over time, lexicographers have shown interest in gathering examples of how language is used since the late 19th century, at first with the purpose of adding more information to the definitions of words in dictionaries (Bennett 2010: 2). Yet, as McEnery and Wilson (2001: 1) assert, at the beginning corpus linguistics was merely used in English linguistics and it did not enjoy great popularity among scholars.

The authors explain that the history of corpus linguistics can be divided into two periods: early corpus linguistics and corpus linguistics. *Early corpus linguistics* refers to "linguistics before the advent of Chomsky" (McEnery and Wilson 2001: 2), hence until the 1950s, although this term has been coined only in recent times. During this first phase, scholars used a corpus-based approach (cf. 1.3.1), i.e., a bottom-up study of corpora aimed to analyse language. An example of this is the compilation of corpora from recordings of children's locutions that were transcribed by their parents in diaries with the aim of investigating language acquisition (McEnery and Wilson 2001: 3).

The turning point in corpus linguistics corresponds to the criticism raised by the American linguist Noam Chomsky (mid-1950s). His criticisms against the use of corpora in linguistic studies concerned three main points. Firstly, he believed that corpora reproduce examples of language performance rather than competence[1], while the aim of linguistic is precisely that of outlining linguistic competence. Secondly, he argued that a corpus would only include a finite number of sentences whereas the number of utterances is infinite; therefore, corpora are incomplete and partial and cannot be the only source of explanation of languages. Finally, he considered that introspection must be taken into account when evaluating the grammaticality of a sentence and not disregarded entirely in favour of a complete and total reliance in corpora (McEnery and Wilson 2001: 12). As a consequence, the methodology of corpus linguistics used up to then was rejected by scholars who sustained instead a new introspection-based approach (McEnery and Wilson 2001: 12). Despite these and other criticisms, the corpus-based approach was not completely set aside by linguists in the following two decades, as certain topics still

[1] The term *competence* is used by Chomsky to refer to the "tacit, internalised knowledge of a language", whereas *performance* can be described as "the external evidence of language competence and its usage on particular occasions when, crucially, factors other than our linguistic competence may affect its form" (McEnery & Wilson 2001: 6).

needed to be covered and studied using the corpus methodology. It was then observed that the corpus approach has some advantages as they are a more reliable source for determining frequency of words and linguistic structures and form the basis to analyse language in a more systematic way (McEnery and Wilson 2001: 15).

A new era for corpus linguistics began in the 1980s, when this methodology was associated to modern technologies, especially computers (McEnery and Wilson 2001: 24). Some advantages of working with computers include the possibility of carrying out processes such as sorting, retrieving, searching for, and calculating a growing amount of linguistic data in a more efficient, time-saving, and cheaper way. As a first stage, corpora had to be converted in a format that could be read and processed by a computer and this was made possible through a procedure called tokenisation, which identifies the tokens (i.e., the smallest unit of corpora, which could correspond to a word form, a number, some punctuation, or even abbreviations) within a corpus.

Therefore, corpus linguistics was accepted again among linguists as a methodology to investigate language thanks to three factors: the availability of corpora in a machine-readable form; the awareness that corpora cannot be considered the only source of explication for languages; a growing interest in quantitative data (McEnery and Wilson 2001: 15).

The advances in technology have changed the development of this discipline, especially over the following decade, the 1990s, when the Internet spread and new software tools were invented. An increasing quantity of texts are available for every user in an electronic form and, as a consequence, corpora are now much bigger in size and, despite including millions of words, they can be easily managed and stored thanks to computers. This is what is known as 'corpora revolution', i.e., a boom in the creation, collection and management of data, texts and corpora through the new tools made available by computers. For this reason, Johansson (2000: 3) uses the term *computer corpora* to refer to this new development in corpus linguistics and defines it as

> collections of texts in machine-readable form […] used for a wide range of studies in grammar, lexis, discourse analysis, language variation, etc. […] in both synchronic and diachronic studies - and increasingly also in cross-linguistic research.

1.2 Corpora

This section focuses on the object of analysis of corpus linguistics, i.e., corpora. A corpus can be described as a large set of documents of various kinds, in one or more languages, which can be used in various disciplines to investigate languages at distinct levels for multiple purposes. Basically, a corpus aims at capturing language as it is used by speakers in different natural contexts, that is to say, the actual use of language in context. In practice, a corpus can be comprised of any text that presents real examples of naturally-occurring patterns of a given language, such as articles, textbooks, business meetings, class lectures, transcriptions of oral conversations, TV shows, telephone conversations, online magazines, essays, novels, academic papers. As Atkins et al. (1991: 13) consider, since "a corpus is a body of text assembled according to explicit design criteria […] for a specific purpose", it is not a fixed and unique entity. Biber et al. (1998: 246) agree that a corpus aims at representing a language or a variety of language, and consequently, its composition is based on what the compiler deems to be representative of that language or variety. The notion of representativeness in corpus linguistics is examined in the part that follows.

1.2.1 Representativeness, balance, normalisation

As mentioned earlier, one of Chomsky's criticisms to corpus-based approaches in linguistics was that a corpus cannot be considered a comprehensive representation of a certain language as it is composed of a finite set of words, sentences, and texts, whereas the number of sentences of a language is virtually infinite. This assumption was almost certainly true in Chomsky's time, when corpora were relatively small in size compared to the ones built nowadays because they had to be investigated manually and thus it was advisable that they were of a manageable size (McEnery and Wilson 2001: 78). Even nowadays, when the most advanced computers, software tools and technologies are available and corpora are composed of millions of words, they still remain a mere sample of a language and none of them include all the possible combinations of words, linguistic structures, and sentences of that language. However, it is still possible to use corpora to make generalisations about a language as a whole as they can be considered as representative of that language. *Representativeness* is defined by Biber (1993: 1) as "the extent to which a sample includes the full range of variability in a population." The author

then explains that although every selection of texts is in fact a sample, its representativeness depends on two aspects regarding the target population of that sample. These are the boundaries of population, i.e., the texts one wishes to include and to exclude from the population, and the hierarchical organisation, i.e., the text categories one wishes to include in the corpus, along with their definitions (Biber 1993: 1). Atkins et al. (1991: 7) argue that there are few problems about identifying the texts to be included in the corpus if the language of the texts to be sampled is highly specialised. By contrast, if the compiler aims at forming a general corpus, they should include texts of both reception and production of a language in order to assemble a corpus that could be pronounced representative of a language (Atkins et al. 1991: 8).

Other aspects to take into account when defining representativeness are the different distributions of linguistic features in different text types, the number of words per text sample and finally the number of texts per text type (Biber 1993: 1). Therefore, the concept of representativeness of a corpus is fluid and depends on the type of corpus one wishes to create and the kinds of linguistic research and queries to be carried out. Yet, it is extremely important to clearly define the population of the corpus, namely, establishing the boundaries of the texts to be studied and that will form the corpus, and this can be considered the first step in the process of compiling a corpus. As a final remark, McEnery and Wilson (2001: 30) consider that

> in building a corpus of a language variety, we are interested in a sample which is maximally representative of the variety under examination, that is, which provides us with as accurate a picture as possible of the tendencies of that variety, including their proportions.

The second notion that should be taken into consideration when designing a corpus is balance. According to Sinclair (2004: 14), a corpus is balanced when "the proportions of different kinds of text it contains should correspond with informed and intuitive judgements." The author adds that balance is also determined by the proportion of spoken language compared to written language texts and the degree of specialisation of the texts in the corpus. He admits that balance, just like representativeness, is not an easily attainable goal and actually it mostly depends on personal decisions. Yet, it should be one of the guiding principle for corpus building (Sinclair 2004: 14). Also Atkins et al. (1991: 14) agree that corpus balance relies mostly on intuition and there are not any scientific measures for it. Yet, they consider that balance cannot be achieved before building the

corpus, but only once it is built and thanks to the feedback of its users and information on its linguistic and extralinguistic features. Moreover, the authors (1991: 14) believe that balance is not a necessary prerequisite for corpus analysis. Rather, unbalances are acceptable as long as these are acknowledged by the research prior to corpus analysis so that the results of that examination can be taken into account even though they derive from an unbalanced corpus.

The final parameter, i.e. *normalisation*, is defined by Biber et al. (1998: 263) as "a way to adjust raw frequency counts from texts of different lengths so that they can be compared accurately." Normalisation is thus necessary when one wishes to establish the difference in the frequency of certain words or structures in texts or corpora having different length or size. Normalisation is achieved through specific calculation whereby "the raw frequency count should be divided by the number of words in the text, and then multiplied by whatever basis is chosen for norming", such as 1,000 or 500, depending on the length of the text (Biber et al. 1998: 263-264).

In short, representativeness, balance and normalisation are three notions that should guide linguists when they wish to create and investigate a corpus so that the results of such investigation could be pronounced valid and reliable. And the corpora that can be designed could be grouped according to different features and considering distinct aspects, something that is presented in the part that follows.

1.2.2 Types of corpora

One possible classification of corpora is introduced by Evans (2021: 1) who divided corpora into four types: general corpus, specialised corpus, parallel corpus, and comparable corpus. A general corpus is composed of a large variety of texts from different domains of both spoken and written language. It may be used to make comparisons about linguistic features with a more specialised corpus, and thus it could be considered as reference corpus. It seeks to offer a picture of a certain language that is as complete as possible. On the contrary, a specialised corpus contains specialised texts that belong to a specific domain of human activity or that refers to a certain topic. A parallel corpus consists of texts in two (or more) languages that are the translations of each other; to put it another way, it is formed by source texts and their corresponding translations into one (or more) target languages (Hartley 2009: 110). In addition, the texts are aligned so that

each term or sentence in a language is matched to its corresponding translation in the other language. Instead, a comparable corpus is formed by native texts in more languages that are selected with similar parameters (see 1.2.3), but they are not the translation of one another, hence they are not aligned.

Another distinction differentiates corpora according to the number of languages of the texts they include. Thus, on the one side, a monolingual corpus contains texts in only one language, and on the other side, a bilingual (or multilingual) corpus is composed of texts in two (or more) languages. From a historical point of view, monolingual corpora were the first to be built, whereas multilingual corpora constitute a more recent phenomenon, which dates back to the 1990s (McEnery and Hardie 2012: 19).

As far as parallel corpora are concerned, Johansson (2003: 20) identifies two sub-categories based on the direction of the translation: the unidirectional and the bidirectional model. The unidirectional model consists of original texts in one source language (e.g., English) and their translations into one target language (e.g., Italian), whereas the bidirectional model comprises original texts written in two source languages (e.g., English and Italian) and their translations into those two languages (e.g., from an English source text into an Italian target text, and from an Italian source text into an English target text). Moreover, Johansson (2007: 19) describes other two types of corpora: the star and the diamond model. On the one hand, the star model is formed by original texts in one source language (e.g., English) and their translations into two or more target languages (e.g., Italian, Spanish, and German). The author argues that even though it is possible to make comparisons across more languages using the star model, it is not always simple to distinguish between language differences and translation effects. On the other hand, the diamond model includes original texts written in three (or more) languages (e.g., English, Italian, and Spanish) and their combined translations into the other target languages (e.g., from English into Italian and Spanish, from Italian into English and Spanish, and from Spanish into Italian and English).

A further distinction concerns unannotated corpora, on the one side, and annotated corpora, on the other side. Unannotated corpora are basically formed by raw plain texts, whereas annotated corpora are "enhanced with various types of linguistic information" (McEnery and Wilson 2001: 32), i.e., every word of their texts is provided with a tag that carries some interpretative linguistic information, such as syntactic, morphological, and

semantic information. Annotated corpora are even more useful and include even more information than unannotated corpora because implicit information at distinct levels of language has been made explicit thanks to annotation, which simplifies and quickens the retrieval and analysis of the linguistic information present in the corpus (McEnery and Wilson 2001: 32).

There could be several types of annotations depending on distinct levels of linguistic features but the most common are: part-of-speech (POS) tagging, lemmatisation, parsing, semantic annotation, and sentiment analysis. POS tagging can be defined as the process of assigning to each word of a corpus a tag coding the correspondent part of speech (e.g., noun, verb, adjective, adverb) in a certain language. One of the advantages of POS tagging is that it helps to disambiguate homographs, i.e., words with the same spelling but different in meaning, and distinguish between the noun and the verb sense of a word (McEnery and Wilson 2001: 46). This type of corpus annotation is indeed quite common as it can be performed automatically by a computer since the correct part of speech for a certain word can be quite successfully predicted from its context (McEnery and Wilson 2001: 50). A software tool that attaches the corresponding part of speech to every word of a text is TreeTagger. It operates with several languages and produces a list of all the words in the text with their related part-of-speech information and their lemma. A *lemma* is the base form of a word that one can find when looking up for that word in a dictionary (e.g., *buy* is the lemma of *bought*).

The procedure that reduces each inflected word in a corpus to its correspondent lemma is called lemmatisation and is carried out automatically by a tool called lemmatiser. According to Hartley (2009: 111), these kinds of tools have been trained on corpora that had already been annotated by using statistical or machine-learning techniques, hence the error rate of the best taggers can be extremely low. In lexicography, lemmatisation could help in extracting and investigating every variant associated to a certain word and also in forming frequency lists and distribution information for that word (McEnery and Wilson 2001: 53).

Another type of corpus annotation is parsing, a procedure that generates higher-level syntactic relationships between the morphosyntactic categories already identified. This type of annotated corpus is also called treebank because the structure of each sentence is represented by a tree diagram, although another possible representation is possible

through labelled brackets (McEnery and Wilson 2001: 53-55). This procedure could be carried out automatically by computers but, unlike POS tagging, automatic parsing is not highly effective. For this reason, other types of parsing have spread, such as human analysis aided by certain parsing software or human analysis performed without machine support (McEnery and Wilson 2001: 60).

Semantic annotation can be of two main types. One marks the thematic role or semantic relationships between the words in a text, e.g. the agent, the patient, the theme (McEnery and Wilson 2001: 61). The other adds the semantic category of a word in a text, hence it disambiguates among distinct senses of a word that belong to different semantic categories, e.g., *bank* as a business and as the land near a river (Leech 2004: 26).

Semantic annotation may be associated to sentiment analysis, which assigns semantic tags, either positive or negative, to the words of a corpus in order to identify subjective information, such as hate speech.

Other types of annotations can be applied only to corpora of spoken language, namely, phonetic transcription and prosodic annotation. The former marks how a sound, phoneme or word is pronounced in a certain context and the latter represents the suprasegmental features of spoken language, that is, stress, intonation and pauses. However, these procedures mostly require human involvement and cannot be carried out exclusively by a software tool (McEnery and Wilson 2001: 65-67).

As Leech (2004: 27-28) suggests, annotated corpora may be useful in several cases, especially in automatic processing and analysis, such as the production of frequency lists or frequency dictionaries starting from POS-tagged corpora, or the automatic syntactic analysis of a corpus thanks to automatic parsing. Moreover, an annotated corpus can be multi-functional, i.e., it serves different purposes, such as lexicographic work, parsing, frequency lists, and even for unpredictable uses.

In order to exploit the advantages of annotated corpora, it is crucial to observe a series of standards of good practice. First, the annotations should be easily separable from the corpus so that the raw corpus can be accessed if needed. Second, the researcher should add detailed documentation about the annotations, including information regarding by who, when, how the annotations were inserted, how good they are, which computer tools were used and the like. Third, the annotations should be based on a list of linguistic categories on which there is some common agreement. Finally, the researcher should

adhere to *de facto* standards, i.e., some kind of standardisation that has spread and has started being used in the research community (Leech 2004: 29-30). Now that some classifications of corpora and their features have been outlined, it is possible to consider the criteria that guide the selection of texts to form a corpus.

1.2.3 Selection criteria of corpora

Since a corpus should be a good and balanced representative of a certain language or variety of language, the texts it will include need to be selected based on specific criteria. The first step in corpus building concerns precisely the determination of a set of selection criteria, which are generally established by the corpus builder in a way that they can better suit the purposes of their work. Typically, these include domain (and subdomain), language (and regional variant), publication date, level of specialisation, type of documents, support, and size.

Domain refers to the specialised field under consideration. Since it may be too broad, a subdomain can be selected in order to focus on its linguistic features (e.g., microbiology could be selected as a subdomain of biology).

The language criterion refers to the number of languages considered, i.e., one (monolingual corpus), two (bilingual corpus) or more (multilingual corpus). These may include specific regional variants (e.g., American English as opposed to British English), accounting for diatopic variation. The criterion of the publication date instead concerns diachronic variation. Texts should be selected from different periods of time if the research aim is to study the evolution of terminology through time, while recent texts only will be collected if the research objective is to investigate contemporary language.

The level of specialisation refers to the fact that texts could be highly specialised, (i.e., they are rich in advanced concepts and their target readers are commonly experts of that specific field) or less specialised as they simply provide non-experts with basic concepts. Therefore, this criterion accounts for diastratic variation of language, and the compiler can choose to include texts from one or different levels of specialisation.

As far as the types of documents are concerned, the texts can be either written (e.g., articles, manuals, books) or transcriptions of oral texts. On the contrary, the support criterion refers, to the medium used (e.g. the Web, print, TV).

Finally, the size criterion concerns the number of tokens that a corpus should possess so that it can be regarded as a good representative of a given language or field. Regrettably, there is no common consensus among scholars on the size which can be considered as reasonable. Sinclair (2004: 18) suggests that "a corpus should be as large as possible, and should keep on growing" because only if the number of occurrences of words and structures is high, it is possible to study how they behave in context and make generalisations about language.

Taking into account all the features of corpora described so far, it is possible to conclude that "a corpus is a collection of pieces of language text in electronic form, selected according to external criteria to represent, as far as possible, a language or language variety as a source of data for linguistic research" (Sinclair 2004: 23).

1.3 Use of corpora

Over the last decades, linguists and researchers in general have begun to use corpora again in different disciplines and for different purposes. This section focuses in particular on their utility in lexicography, in terminological research, in translation, and in the teaching of languages and linguistics.

Lexicography is regarded as "the driving force in the development of corpus methods and corpus use" (Kilgariff et al. 2014: 9), as lexicographers started to use corpora even before this became a widespread practice in the field. Thanks to the corpora revolution (cf. 1.1.1), they could retrieve information and examples on the usage of words from a multitude of texts in a noticeably brief period of time so that dictionaries can include more up-to-date information about a language, more complete definitions, and consequently, more precise entries. In addition, some dictionaries started to comprise frequency information and collocational preferences of certain words (McEnery and Wilson 2001: 107-108).

With regard to terminological research, machine-readable corpora composed of specialised texts of a certain domain are considered the best source for the extraction of terminology and the compilation of termbases. Corpora made it possible to assess how terms occur in context and how they are used by experts in a specialised domain (Soglia 2002: 20). In this way, terminologists may ensure consistency, i.e., "the consistent use of the same term (within each language) for the same concept" (Kilgariff et al. 2014: 10) so that correct and unambiguous communication among experts may take place.

Corpora revolution involved not only an increase in the use of corpora in terminology, but also the development of a new discipline, i.e., terminotics. The term *terminotics* refers to the science dealing with the compilation of termbases, i.e., terminography, assisted by technologies and software tools (Soglia 2002: 19). Some advantages of terminotics include facilitation of the research process thanks to programs of automatic extraction of terms, and better management, retrieval, and updates of data thanks to the production of termbases. These programs analyse the texts that form a corpus with two main objectives, namely, the extraction of terminological units and the extraction of conceptual and semantic information (Soglia 2002: 21-22). It should be noted that these software tools select both single-word terms and phraseology (i.e., specialised lexical combinations) by checking concordances and after a statistical analysis.

As far as translation is concerned, the uses of corpora are various as different types of corpora can be helpful for different purposes. For example, comparable corpora can be accessed during the translation process, especially during the revision phase, in order to identify which norms and conventions are more typical in the source and in the target culture so that a more natural translation is produced (Gavioli and Zanettin 2000, cit. in Scarpa 2008: 315). Parallel corpora can be useful, instead, to observe how other translators have solved translational problems and how phraseology has been translated in other texts by checking the concordances between source and target text (Baker 1995, cit. in Scarpa 2008: 315). Similarly, Evans (2021: 7) argues that a parallel corpus provides even more information than a bilingual dictionary as it can display a higher number of collocates and possible contexts of appearance; in other words, it offers an overview of the combinatorial properties of a word. Furthermore, Evans (2021: 7) adds that corpora may help on a theoretical level as well as they can show how translated texts differ from those originally written in that language. Also, corpora can be used by translators to identify the terminology and phraseology of the target language in a specific field (Kilgariff et al. 2014: 10).

Further, corpora can be used in language teaching and linguistics, e.g., in the examples presented in textbooks. In most cases, those examples are invented and based upon intuition, but corpus examples are deemed more beneficial as they offer students the same vocabulary and sentences that they may encounter in real-life situations or in native texts. Corpora could also improve textbooks in the sense that they can guide compilers to focus

on those structures, vocabulary and variations of language that are more common in natural language than those that are not (McEnery and Wilson 2001: 119-120). Finally, some advantages in the use of corpora could be recognised in languages for special purposes (LSP), a type of foreign teaching which focuses on a particular field, such as medicine. A specialised corpus of a certain variety of language could provide a large quantity of material of that specific domain, namely, vocabulary and phraseology, which would not be equally covered in a general corpus (McEnery and Wilson 2001: 120-121). On the whole, corpora can be applied to these and many other disciplines of language studies when empirical linguistic data are needed. McEnery and Wilson (2001: 130-131) list a number of advantages of corpora. These include sampling and quantification, as a corpus is compiled in such a way that it can be representative of the population and thus its results can be generalised to the whole language, not just to the sample under investigation. Ease of access is another advantage, as corpora are relatively easy to obtain and access thanks to software tools that extract linguistic data and produce lists of any kind in a rapid and automatic way. The presence of enriched data is another major strength, as corpora can be annotated in different ways (cf. 1.2.2) to provide the users with additional and more explicit information. Finally, they provide naturalistic data, as corpora include examples of language in context, i.e., as it is actually used by speakers.

1.3.1 Corpus-based and corpus-driven approach

As discussed in 1.1.1, the corpus-based approach was adopted by linguists even before corpus linguistics became a discipline. It can be defined as a top-down method that uses a corpus to confirm linguistic assumptions, expectations, and intuitive knowledge. In other words, the starting point is an existing theory and the corpus is interrogated to gather supporting evidence and coherent examples (Storjohann 2005: 9). Biber et al. (1998: 4) pointed out four characteristics of corpus-based analysis: (1) the basis for analysis is a corpus; (2) it involves the use of computers; (3) it investigates the actual patterns of language found in natural texts; (4) it needs both quantitative and qualitative techniques. The authors then state that corpus-based approach does not seek to simply report quantitative results, but rather to interpret those linguistic data to learn how language is actually used and examine association patterns, i.e., "the systematic ways in which linguistic features are used in association with other linguistic and non-linguistic features"

(Biber et al. 1998: 5). Therefore, the corpus-based approach might be seen as a step forward compared to linguistic analysis, in the sense that the latter mainly focuses on individual linguistic features, such as a word or a grammatical structure, whereas the former investigates the systematic associations of that word or grammatical structure with other linguistic or non-linguistic features. As regards linguistic associations, it is possible to distinguish lexical associations, which concern the systematic associations of a linguistic feature with other words, and grammatical associations, which concern the systematic associations of a linguistic feature with other grammatical features in context (Biber et al. 1998: 6). With respect to non-linguistic associations, a word or grammatical construction can be distributed in diverse ways according to three factors, which are: the diaphasic variation of language (register), the diastratic variation of language (dialects), and the diachronic variation of language (period of time). It should be noted that both linguistic and non-linguistic association patterns can interact and thus they can be studied in a complementary way. Moreover, these patterns are present in texts to different extents as they can be rare in some texts and common in others. Thus, corpus-based analysis requires quantitative measures to specify how frequently a certain word or grammatical structure appears in the corpus, which its collocations are, and how common these collocations are (Biber et al. 1998: 7-8). Quantitative measures may be expressed through frequency data, i.e., "how often a certain pattern occurs relative to other patterns" (Biber et al. 1998: 8), or through statistical procedures, such as normalisation (see 1.2.1). The corpus-based approach does not only record quantitative data, but it also suggests functional interpretations of those measure in the effort to explain the reason behind their occurrence in the corpus and in that language (Biber et al. 1998: 9).

By contrast, corpus-driven approach refers to any type of bottom-up research that involves raw corpus data (McEnery and Hardie 2012: 150). More specifically, it entails the investigation of a corpus, the collection of linguistic data and the identification of linguistic phenomena without any prior hypothesis, presupposition, or bias, as lexicographers draw all their conclusions based on what they have observed in that corpus (Storjohann 2005: 5). Tognini-Bonelli (2001, cit. in McEnery and Hardie 2012: 6) goes even further and claims that the corpus should be regarded as the only source of assumptions about language and actually she considers that a corpus entails its own linguistic theory.

Even though most scholars recognise the dichotomy between corpus-based and corpus-driven approach, it is undoubtable that corpora are extremely used now in different disciplines to investigate the actual use of language and collect empirical data, as shown in the previous part. The last part of this chapter explores some popular software tools and their main features that can be useful in the design and management of corpora.

1.3.2 Software for corpus building and analysis: BootCat, Sketch Engine, and AntConc

As discussed above, nowadays the process of assembling a corpus has been largely automated thanks to the development of software tools, e.g. BootCat, Sketch Engine and AntConc.

BootCat is a toolkit that compiles a corpus in a largely automatic way by collecting texts directly from the web. In order to do that, the compiler has to select the language (and the regional variant) of the corpus and a search engine, e.g., Google. Then, a list of keywords is to be provided, which can be either single-word or multi-word terms. These keywords should reflect the domain and sub-domain of the corpus and constitute the 'seeds' used by the software to retrieve specific webpages. In practice, BootCat combines the terms in order to produce a sequence of automated Google queries; this generates a list of URLs of web pages that contain the keywords. If needed, the corpus builder can manually check individual URLs and decide whether to save or discard them. After that, the software automatically creates a corpus by downloading all the selected web pages and converting them in separate plain text files, i.e., TXT files, which are text documents formed by sequences of lines with little formatting so that they can be easily opened, read, and edited in any text-editing program. In any case, the corpus can be save locally and is instantly available to the researcher.

Another toolkit that allows the researcher to create their own corpus is Sketch Engine, which also includes other advanced functions to manage corpora. The compiler can choose to produce either a monolingual or multilingual corpus and must select the corresponding languages. Similar to BootCat, the corpus can be built through a web search based on the user's keywords (up to 20 words or phrases) so as to create a list of web pages which can be individually selected or discarded. Alternatively, corpus building can be done by copying a set of URLs of specific websites that the compiler wishes to

add to their corpus or, finally, by providing one or more websites that will be fully downloaded. After that, the corpus is compiled automatically and is available directly in Sketch Engine. Unlike BootCat, Sketch Engine offers some tools for corpus analysis and provide data such as the number of tokens, words, sentences, paragraphs, documents, unique items, and other information regarding text types. Moreover, it is possible to extract a list of keywords and terms from the corpus, i.e., the specific terminology of that corpus. These keywords are obtained by comparing the selected corpus to a bigger reference corpus. On a side note, it must be specified that the software distinguishes keywords from terms, as the former refer to individual words and the latter to multi-word expressions. Naturally, Sketch Engine offers the possibility to upload a previously created corpus, e.g., with BootCat. Actually, the researcher can upload texts in different formats, such as .txt, .pdf, .docx, etc. Once the texts have been uploaded, the corpus will be compiled and the user can examine the statics and details of the corpus, extract keywords and terms, and perform other types of analysis. The software also includes preloaded parallel and comparable (see 1.2.2) corpora in more than 90 languages.

Once the desired corpus is selected, a variety of functions are available on the dashboard, e.g. word sketch, which is described by Kilgariff et al. (2014: 2) as "a one-page summary of a word's grammatical and collocational behaviour." In other words, the word sketch tool shows the most frequent nouns, modifiers, verbs, prepositions, and other parts of speech that are specifically related to a given word in distinct columns along with other pieces of information, such as prepositional phrases, possessors, and usage patterns. Another particular function is word sketch difference, which compares two words by contrasting their collocations (i.e., the most frequent associated words related to them) in order to determine which combination of words is more common in that given language. In this case, the software makes a distinction between lemmas and word forms, because it is possible to compare either two different lemmas (e.g., *buy* and *purchase*) or two different word forms of the same lemma (e.g., *buy* and *bought*). The thesaurus function is "created on the basis of common collocation" (Kilgariff et al. 2014: 8) and shows the nouns, verbs, adjectives, and adverbs that are semantic-related to a certain term in a word-cloud or listed in a table. These semantic-related words are commonly synonyms and antonyms or belong to the same semantic category of the selected word. The concordance tool shows instead the context in which a certain word or phrase appears, one example

per line, with the word or phrase being displayed in the middle of the line and being followed and preceded by some linguistic context. When working with an aligned parallel corpus, the parallel concordance function is activated which searches for a word or a phrase in a given language and shows the aligned segments in which that word or phrase appears. The wordlist function produces frequency lists of some parts of speech, e.g., nouns, adjectives, adverbs, verbs, conjunctions, lists of words and lemmas, or lists of words that contain, begin or end with a certain character. The n-gram tool generates a frequency list as well but, in this case, it concerns multi-word expressions, whose left and right context can be customised in length by the user.

A final example of a toolkit that is used to carry out linguistic research in a corpus is AntConc. Similar to Sketch Engine, AntConc allows the researcher to upload a previously created corpus, exclusively in a .txt format. Specifically, the user can upload one or more TXT files into the software and then start a number of operations in order to analyse the corpus. Firstly, the Concordance Tool shows how a word, or a sequence of words, occurs in context, and also indicates the total number of concordances for the search word. This function is quite similar to the one presented earlier for Sketch Engine. An original function is the *Concordance Plot Tool*, which basically "offers an alternative view of concordance lines" as "all the hits for each file are plotted in the form of a 'barcode' indicating the position in the file where the hit occurred" (Anthony 2011: 3). This tool is useful to verify in which file or part of the corpus a certain word appears. The *File View Tool* simply displays the text of the document that has been selected. It is also possible to search a word and it will be highlighted in the text. The *Clusters Tool* "summarizes the results generated in the Concordance Tool or Concordance Plot Tool" (Anthony 2011: 4), and the list thus produced can be sorted by different criteria, such as frequency, start or end of the word. The *N-Grams Tool* is actually part of the Clusters Tool and it basically searches clusters (i.e., groups) of words in the text to find common expressions that can be also ordered in diverse ways. The length of these clusters can be decided by the researcher. The *Collocates Tool* produces a list of collocates for a certain word and it also expresses a measure of the relation between the word and each collocate. The *Word List Tool* generates a list of all the words included in the corpus based on their frequency, but they can also be ordered by other criteria. Finally, the *Keyword List* presents a list of words that "are unusually frequent (or infrequent) in the corpus in comparison with the

words in a reference corpus" (Anthony 2011: 5), in other words, it is useful to identify the words characteristic of that corpus. Clearly, the researcher will use those functions and toolkits that are more suitable for the purposes of their investigation, but this brief overview has tried to show the most common possibilities that such software tools offer to study language patterns, terminology, collocations or other linguistic structures in real context thanks to the examples gathered from a corpus.

CHAPTER 2

COMMUNICATING SCIENCE: POPULARISATION AND FIGURATIVE LANGUAGE

The first section of this chapter gives a brief overview of special languages and their distinguishing features. In addition, it tries to explore the relationship between special and general language. The second section focuses on the features of specialised discourse, which have been divided into three main sub-groups, i.e., lexical, morpho-syntactic, and textual features. The third section introduces the concept of popularisation and the communication of science to lay people, its implications and characteristics. It then examines the characteristics of the vertical and horizontal dimension of special languages. The fourth section defines environmental communication, also by presenting its evolution over time. Furthermore, it outlines the role of the media in the development of environmental discourse and the linguistic features of environment texts. Finally, the fifth section discusses lexical creativity in its different forms and types as a remarkable feature of specialised discourse.

2.1 Special languages: an overview

In the first chapter, a distinction between general and specialised corpora was introduced, with the latter being described as collections of texts that belong to a specific subject field, i.e., specialised texts. This section aims at illustrating one of the features of specialised texts, i.e., the use of special language(s). Cortelazzo (1994: 8) defines a *special language* (or language for specific purposes, LSP) as a functional variety of a natural language belonging to a certain specialised field that is used by a group of speakers that is smaller than the population of the speakers of that natural language. He explains that the primary purpose of a special language is to satisfy the communicative needs of a specialised subject field. Besides, the author points out that, at the lexical level, special languages comprehend additional correspondences other than the more general ones that could be found in a natural language, along with a set of regular morpho-syntactic structures among those available in that language. Similarly, Calvi (2009: 15) clarifies that even

though special languages make use of the phonetic, grammatical and lexical structures of a natural language, they produce their own terminology and have the tendency to adopt certain grammatical and discursive forms instead of others. This is because every branch of human activity tends to opt for the most suitable linguistic structures to transmit its specialised concepts in the clearest and most unambiguous way, so that communication among experts or between experts and the general audience is ensured. In summary, it is possible to distinguish a special language from other varieties by the presence of constant and common linguistic features and by its focus on the specialised field that it represents (Cortelazzo 1994: 8-9).

As suggested above, the presence of an expert is one factor that enables the identification of a specialised language. In this regard, Gotti (2011: 17-18) argues that it is possible to recognise three situations in which an expert employs LSP to refer to their field. Undoubtedly, the first case concerns peer-communication, or communication among exports, that is, when a specialist talks or writes about their specialised field addressing other experts. Therefore, these texts are characterised by high density of specific terminology, binding structures, objectivity and neutrality. Specialised terms are not elaborated as it is supposed they form part of a common knowledge among experts, but if required, the expert may provide an explanation for newly coined terms. The second situation can be labelled communication between experts and semi-experts and occurs when a specialist expounds issues related to their field to non-specialists, such as in academic textbooks or didactic texts. In this case, specialised terms are explained when they are mentioned for the first time in order to fulfil an educational purpose, i.e., educating future experts. In this respect, these texts present high density of terminology, definitions, clarifications and reformulations, a neutral tone but also personal comments and simplifications. The third case concerns communication between experts and non-experts, namely, the popularisation of scientific or technical information in magazines or newspapers by experts. This type of communication includes a greater number of common lexis and a consequent lower density of terminology compared with the previous situations. Moreover, only relevant contents are selected and the most difficult or uncommon terms are explained (Calvi 2009: 29-30; see paragraph 2.3). In short, these three cases involve a different level of specialisation in language use, although only the first and the second situations imply the use of specialised language in the stricter sense.

Therefore, one possible conclusion is that the higher the level of specialisation, the higher the number of specialised terms and the more the passages and concepts left implicit.

The level of competence of the interlocutors (i.e., the participants in a communicative situation) is, actually, one of the factors that contribute to establish the level of specialisation of a language. Other factors include the specialised field and the relationship between special and general language (Scarpa 2008: 18), as explained later in this section.

A special language is only one of the varieties of a language, as language is not something fixed or unchangeable, but it varies according to different factors. *Language variety* is defined by Crystal (2004: 6) as "a system of linguistic expression whose use is governed by situational factors." Specifically, language variation includes five dimensions. First, language evolves from one historical stage to another and this is referred to as diachronic variation. It can vary according to geographical coordinates, and thus according to different regions and places, thus originating dialects or regional variants; this is called the diatopic variation of languages. Another kind of variation depends on the social groups to which the speakers belong, which can vary based on sex, age, occupation; this has to do with the diastratic variation. Language also varies depending on the communicative situation and the relationship between the interlocutors, which determines the use of different registers; this is the diaphasic variation of language. A final example is the variation of language based on the medium of communication (e.g., phone calls, text messages, emails), which is referred to as the diamesic variation of language. Since what varies in special languages is the register, they could fall into the category of the diaphasic variation (Calvi 2009: 16). In any case, Crystal (2004: 7) argues that varieties of languages are "systematic and predictable" and imply a series of constraints that must be matched so that effective communication takes place and sociolinguistic expectations are met. Moreover, the author (Crystal 2004: 7-8) describes five different features of language varieties for written language. First, graphic features comprise the adoption of a certain type of punctuation, spacing, use of capital letters, illustrations, colour and page design in general. Second, orthographic (or graphological) features refer to the observance of specific rules regarding the use of capital letters, spelling, italics, bold, which are language-specific. Third, grammatical features concern morphological and syntactic rules, such as word inflection, word order and sentence structure. Fourth, lexical

features correspond to the vocabulary used in that variety, including words and idioms. Finally, discourse features have to do with the structural organisation of a text, i.e., the peculiar structure of paragraphs and sections, as well as the relevance, coherence and progression of ideas in the text.

The final part of this section covers another point that requires special attention, namely, the opposition between general and special language. As Calvi (2009: 21) believes, distinguishing neatly a special language from general language can be challenging. This is because each special language does not form a closed set; rather, a sort of continuum connects the different levels of specialisation as well as general and special language. In this respect, Scarpa (2008: 18) observes that there are two different stances regarding special languages. On the one hand, special language is seen as new and artificial language compared with general language that it was developed with the aim of fulfilling certain communicative purposes by adopting specific vocabulary and rules. On the other hand, special languages are deemed as functional varieties of general languages that are used in specialised fields and thus are not completely separated from general languages. The relationship between general and special language is further described by Cortelazzo (1994: 24-25), who suggests that this relationship is bidirectional as one affects the other and vice versa, both at the morpho-syntactic and the lexical levels. For instance, specialised terms can enter general languages thanks to mass media and can either maintain their semantic meaning or acquire a metaphoric sense; in both cases, even in the general language, the terms keep the connotation and degree of expressiveness derived from their original specialised domain. The exchanges between general and special languages are so great that general languages seem to contain almost two-thirds of words derived from special languages (De Mauro 1994, cit. in Scarpa 2008: 19). However, despite lexical and terminological aspects have been traditionally identified as the main features of special languages and, consequently, specialised texts, other types of features should be included in the analysis in order to provide an adequate understanding of the subject in question.

2.2 Features in specialised discourse

In order to define more precisely what special language is, especially in contrast with general language, it is now necessary to introduce some common features shared by

special languages when they are used in texts addressed to experts of the same specialised field. This section centres precisely on the discussion of such linguistic features, following the distinction suggested by Gotti (2011: 25-104).

2.2.1 Lexical features

As mentioned earlier, perhaps the most obvious feature that enables to recognise special language is its lexis. However, claiming that the mere presence of technical terms in a text is what depicts it as a specialised text would be an understatement. This is because the types of terms that populate specialised texts are various (see 2.3.1).

At lexical level, LSPs are characterised by the following features (Gotti 2011: 25-47):

- monoreferentiality;
- lack of emotion;
- precision;
- transparency;
- conciseness;
- redundancy;
- conservatism;
- metaphor;
- relationship with general language;
- lexical productivity.

Monoreferentiality is aimed at avoiding ambiguity and entails that, in a certain context, a term should possess only one meaning in an attempt to exclude cases of homonymy, synonymy and polysemy. As a consequence, synonyms are not used to substitute terms in a specialised context, but only a definition or a paraphrase should be used in their place (Gotti 2011: 25). The introduction of new concepts requires the creation of new terminology so that monoreferentiality could be guaranteed in specialised texts. Yet, this remains an idealised notion as special languages undergo variations just like any other natural language; thus this objective can be only pursued in artificial languages (Scarpa 2008: 55).

Special languages are also characterised by lack of emotion, i.e., a neutral, apparently cold and artificial tone. What prevails in terms is the denotative function and specialised discourse has generally an informative purpose (Gotti 2011: 26-27), which focuses on the

external situation, as well as on facts, ideas and theories (Newmark 1988: 39). In any case, if a given specialised text has a different pragmatic purpose, e.g., a persuasive purpose, a certain degree of emotion will be present, which testifies to the great importance of the pragmatic purpose of discourse which is achieved through linguistic choices at different levels (Gotti 2011: 27).

In specialised discourse, precision is understood as referential precision, meaning that each term refers directly to its own concept (Gotti 2011: 27). The aim here is to avoid euphemism, defined in the Merriam-Webster dictionary as "the substitution of an agreeable or inoffensive expression for one that may offend or suggest something unpleasant." Undoubtedly, a device such as this would clash with the ideals of specialised discourse, where literal meaning is preferred.

Transparency concerns the possibility of accessing the meaning of a term directly through its form (Gotti 2011: 28). This phenomenon was first observed in science where a system of conventional affixes of Latin and Greek origins with clear meaning was introduced to guarantee the univocal codification of new terms (Gotti 2011: 29-31). Yet, the same affix has been used in different disciplines with different meanings due to the rapid developments in science. This brought about cases of polysemy, such as the suffix *–ite* which indicates derivatives of an element in chemistry (e.g., *magnetite*) and parts of the body in medicine (e.g., *somite*).

Conciseness is a criterion that should be obeyed in word-formation and implies that "concepts are expressed in the shortest possible form" (Gotti 2011: 31) by reducing their textual surface. It is achieved through different devices, such as juxtaposition, i.e., omission of prepositions between two nouns, acronyms, abbreviations, merging of two lexemes into one term, and internal or terminal reduction of a term (Gotti 2011: 31-32).

In contrast to the notion of conciseness, the lexical feature of redundancy implies the repetition of lexemes or terms to refer to the same concept. This is observed especially in English legal language, where neo-Latin words come together with Anglo-Saxon ones that have (almost) the same meaning (e.g., *terms and conditions*), as part of its medieval inheritance (Gotti 2011: 37-38). However, cases of lexical doubling containing words belonging to the same language can also be found in specialised texts as such words were not synonyms in the past (e.g., *last will and testament*). Redundancy is still present in

some specialised domains, especially in legal English, where tradition still holds more power than the need for conciseness (Gotti 2011: 38-39).

Another characteristic that can be typically encountered in specialised legal texts is conservatism, intended here as the permanence of old terms and formulae even when they have fallen into disuse in the general language. This is because the meaning of those old terms has been crystallised and commonly accepted among experts, whereas more recent terms may lead to ambiguity and multiple interpretations, a consequence that clashes with monoreferentiality (Gotti 2011: 32).

Metaphor creation, or metaphorisation, is a device used in special languages to create terms starting from words of the general language. This ensures transparency, conciseness, and the possibility to represent difficult and abstract concepts through images of the physical world, making them more accessible (Gotti 2011: 42). Yet, when metaphors reunite two different semantic fields, their decoding could be more challenging and even generate ambiguous interpretations (Gotti 2011: 43).

The features of the relationship with general language and lexical productivity might be regarded as opposite phenomena, as partly presented above. The former is intended here as the semantic evolution of a general language word into a term with a specialised meaning. This process was particularly intense during the scientific and technological developments of the 17th and 18th centuries. In addition, special languages borrowed lexemes and affixes from classical languages to convey more specialised meaning of already-existing general words (Gotti 2011: 41). The latter concerns the evolution of some terms in general language words. This process is more productive than the one of general languages, as explained above (Gotti 2011: 47). In summary, from a lexical point of view, specialised texts tend to avoid cases of ambiguity and multiple interpretations preferring to communicate knowledge in the clearest and most concise possible way.

2.2.2 Morpho-syntactic features

The second type of linguistic features of specialised discourse includes morpho-syntactic features concerning sentence structure and combinations of words. Such features are not exclusive of special languages as they can be encountered in general language as well. The difference is that they occur more frequently in specialised discourse and are

employed in a distinct way compared with general language (Scarpa 2008: 40). These morpho-syntactic features are (Gotti 2011: 49-76):

- omission of phrasal elements;
- expressive conciseness;
- premodification;
- nominalisation;
- lexical density;
- sentence complexity;
- sentence length;
- use of verb tenses;
- use of the passive;
- depersonalisation.

The first feature observed is omission of phrasal elements, especially articles, prepositions and auxiliaries, with no consequences on textual comprehension. It is typical of certain specialised texts, such as technical manuals, in both English and Italian, as for a device aimed at conciseness (Gotti 2011: 49-50).

Expressive conciseness is another strategy to make specialised texts more readable by substituting relative clauses with different devices. Some examples include the following: using an adjective formed with affixes having accessible semantic value; omitting the subject and the auxiliary of a relative clause through passive form; transforming the verb of a passive sentence into a past participle; adding the negative prefix *un-* to a past participle; substituting *thus* or *so* to *in this way* and place it before the past participle; turning the verb into a present participle and using it as an adjective. These strategies make sentences shorter and clearer for the readers (Gotti 2011: 51-54).

A characteristic of English specialised discourse is premodification, which can be easily achieved through right-to-left construction. An example of this pattern is nominal adjectivation, i.e., "the use of a noun to specify another with an adjectival function" (Gotti 2011: 55). This construction makes specialised texts shorter and lexically denser, even though in some cases premodification can originate ambiguity, as the presence of several nouns with adjectival function may lead to multiple interpretations of the same structure. However, experts are generally able to disambiguate long nominal phrases thanks to their specialised knowledge (Gotti 2011: 56-57).

Nominalisation can be defined as the transformation of a verbal phrase into a noun phrase (Scarpa 2008: 41) when describing actions or processes (Gotti 2011: 58). This device is mostly employed to ensure conciseness, but there are some cases in which although a verbal phrase might contain fewer lexical items, nominalisation is preferred as it ensures a smoother flow of information and greater cohesion (Gotti 2011: 59-60). At the same time, nominalisation entails some loss of verbal value, reducing it to a mere copula (Scarpa 2008: 43).

Incidentally, nominalisation and premodification lead to another feature of specialised texts, i.e., higher lexical density. Lexical density is described by Scarpa (2008: 43) as the higher percentage of lexical items compared with the totality of the words within a text. What is more, terms occur more frequently than closed-class words (e.g., articles, prepositions, determiners) in specialised texts and, consequently, this feature could be used as a marker of the degree of specialisation of texts. Another consequence of the recurrent use of nominalisation is that it simplifies the syntactic structure and favours textual comprehension. Yet, the presence of a greater number of noun phrases and non-finite verb forms entails certain sentence complexity that makes interpretation more challenging (Gotti 2011: 63).

It has been observed that, in specialised texts, sentences are longer than the ones normally found in general texts. Their increased length is justified by the need to avoid ambiguity and misunderstandings through the employment of more lexical items (Gotti 2011: 65). Moreover, some specialised texts, like legal texts, deviate from the standard word order due to the essential need for precision and unambiguity (Gotti 2011: 66-67).

As far as verb tenses are concerned, the higher occurrence of the present indicative in specialised texts as compared to general language makes it a feature of specialised discourse (Gotti 2011: 70). Such prevalence results from the specific communicative purpose of specialised texts, i.e., to illustrate facts, theories, definitions, observations, descriptions, processes, affirmations of general truths and scientific laws. (Gotti 2005, cit. in Scarpa 2008: 47). In addition to this, specialised texts include a greater occurrence of non-finite verb forms, such as the present participle, the infinitive, and the past participle because they satisfy the need for conciseness (Gotti 2011: 73-74).

A strategy employed in a greater percentage in specialised texts is the passive form, which aims at depersonalisation. From a pragmatic point of view, the passive draws attention to

the effect or the outcome of an action, and thus this construction is preferred in specialised texts whenever the agent or the cause are not relevant in the context (Gotti 2011: 74). Depersonalisation is also crucial to highlight the main focus of scientific communication, i.e., the truth of the statement rather than the human element (Gotti 2011: 76-77). For this reason, inanimate subjects, such as facts, events, or sections of texts, are associated to verbs which generally require an animate subject, e.g., *to demonstrate*, *to suggest*, *to investigate*. Furthermore, the author of the text tends to refer to themselves indirectly, through third-person pronouns or noun phrases, like *the author*, *this article* (Scarpa 2008: 46). In conclusion, from a morpho-syntactical point of view, specialised discourse presents a dominance of complex noun phrases that makes texts denser and a weakening of verbs, which only serve as links among noun phrases, as well as a preference for depersonalisation and the passive form which emphasise the object, the knowledge, or the issue rather than the agent.

2.2.3 Textual features

Specialised texts display their content in a different manner as compared to general texts and some of those characteristics vary among disciplines and textual genres as well. This is because specialised texts must adhere to rules and conventions proper of their field and comply with the readers' expectations so that their message is conveyed appropriately (Scarpa 2008: 32). For instance, specialised texts are mostly subdivided into specific sections, present different information also through numbers, symbols, tables and graphics, include definitions of phenomena and provide examples to better explain such phenomena. In particular, Gotti (2011: 79-104) describes seven textual features:

- anaphoric reference;
- use of conjunctions;
- thematic sequence;
- text genres;
- textual organisation;
- speech acts;
- argumentative pattern.

In general discourse, anaphora is one of the devices that commonly ensure cohesion within a text. This is defined by Scarpa (2008: 67) as the reference to textual elements

that have been already mentioned in the text. Anaphoric reference is not as frequent in specialised texts, in which lexical repetition is preferred. This phenomenon has been observed principally in legal discourse, in which the repetition of lexical items could preclude cases of referential ambiguity and ensure clarity (Gotti 2011: 80).

On the other hand, special languages make large use of conjunctions, which serve to increase textual cohesion and make logical and spatiotemporal connections among different sections explicit (Scarpa 2008: 37). Apart from conjunctions in the stricter sense, other parts of speech could fall within this category, e.g., adverbs, phrases, sentences, and even punctuation marks (Serianni 2003, cit. in Scarpa 2008: 38).

As regards the thematic sequence, it can be described as the alternation between the theme (i.e., what it is said and what the reader knows) and the rheme (i.e., the new information). It is notable that even in specialised texts the constituent order is mainly unmarked, i.e., the theme is found in the subject position, at the beginning of a sentence, whereas the theme is placed at the end of a sentence. Moreover, the thematic sequence is expressed through a linear pattern, whereby the rheme of a sentence becomes the theme in the following sentence (Scarpa 2008: 39) or through a parallel structure, in which more rhemes refer to the same theme (Gotti 2011: 85).

As mentioned above, specialised texts must comply with certain norms and conventions that are typical of the text genre they belong to, thus obtaining textual standardisation which helps general comprehension. The term *genre* can be defined as "a set of features which we perceive as being appropriate to a given social occasion" (Hatim and Mason 1990: 140). In particular, genre affects not only the structure of texts, but also their pragmatic functions (Gotti 2011: 87), even though the relationship between lexical and grammatical items and social occasions related to a certain genre are not always univocal (Hatim and Mason 1990: 140).

Another feature of specialised discourse is textual organisation. Information is distributed throughout logical and hierarchical sequences organised into parts and subparts, such as chapters, and sections (Scarpa 2008: 33), so as to ensure textual transparency and coherence. For example, the sections that forms a scientific paper are abstract, introduction, method, results, and discussion, which reflects the stages of the scientific method, from the definition of the problem to the verification of the hypothesis.

In linguistics, *speech acts* can be defined as "actions performed via utterances" (Yule 1996: 47) whereby such utterances convey the speaker's intention and produce a certain effect on the listener. Speech acts commonly comprise three levels of meaning or action. Locutionary acts occur when a meaningful linguistic expression is produced; illocutionary acts refer to utterances that contain some kind of function, e.g., promise, warning, order, and apology; perlocutionary acts imply an effect that an utterance will produce on the hearer (Yule 1996: 48-49). Moreover, speech acts can be divided into five main types, which include: (a) declarations are used to change the outside world via words; (b) representatives are employed to express the speaker's (dis)beliefs; (c) expressives serve to state the speaker's feelings; (d) directives are used by speakers to give orders; (e) commissives imply that the speaker will do something in the future (Yule 1996: 53-54). This categorisation of speech acts equally applies to specialised and general texts. What is more, texts do not correspond to single speech acts for authors generally try to achieve different purposes at the same time (Gotti 2011: 98).

With respect to the last feature, the argumentative pattern of specialised texts is aimed at persuading the audience of the correctness of the author's thesis. Therefore, authors not only aim at reporting their findings objectively, but also organise their texts and use different linguistic strategies with the purpose of convincing their readers (Gotti 2011: 100). It is notable that authors expound criticisms of earlier studies, in a more or less explicit manner, pointing out where the problem or weakness lies, and finally propose their own theory. Persuasion is typically conveyed using deontic modal verbs (e.g., *will*, *would*, *shall*), by addressing the audience directly (commonly with a third person pronoun), or even by adopting a more neutral tone so that the readers do not perceive the author's influence explicitly but are unconsciously convinced of the truth of what has been stated (Gotti 2011: 102-103). In short, specialised texts make large use of cohesive devices and structure their content following a certain organisational pattern, i.e., by starting from what the reader already knows and arriving to the new information, in a way that seeks to persuade the audience of the correctness of the thesis proposed. Taken together, all the peculiar features described so far can help to identify specialised texts written by experts and for experts of a given discipline. The section that follows will instead focus on the features of texts that address a public of non-experts.

2.3 Science popularisation

Popularisation can be described as "the conveyance of specialist knowledge for education or information purposes" (Gotti 2011: 179) and it addresses "a wide reading public and deal with specialized topics in a language close to general discourse and to the layman's everyday experience" (Gotti 2011: 180). On a terminological note, Musacchio (2017: 15-16) explains that different terms are used to refer to this kind of communication, e.g., public communication of science, popular science and science communication. Although they can be considered synonyms, each of them is preferred in different disciplines, where different aspects of such communication are foregrounded. For example, the term *popular science* is mostly used in linguistics and translation studies as it implies widespread, and even successful, communication to a great number of people that lack the adequate knowledge to grasp all the complex concepts that permeate science discourse and that aims at broadening their knowledge. Besides, science communication is necessary, even fundamental, in cases in which it involves public concern, human health, or important decisions for public life. Moreover, communicating with citizens makes it possible for scientists to present the results of their work and gain visibility. This communication is also necessary for the public to be sure that scientists can be trusted (Musacchio 2017: 29). For this reason, such communication needs to be as clear and understandable as possible.

Scientists started to communicate their research and findings to lay people in the 18th century but they began to consider that individuals could find it difficult to understand science only at the beginning of the 20th century. Hence, they concluded that some sort of mediation by popularisers and science journalists was necessary (Musacchio 2017: 21). Popular science was then developed in every kind of media, e.g., newspapers, magazines, radio, television, and the Internet (blogs, websites and social media included), where it has its own dedicated sections. It is communicated for both information and entertainment purposes, but if the news story is particularly relevant, it may also be covered in the news sections of such media (Musacchio 2017: 22). In this regard, it is possible to distinguish between two types of representation of popular science in the media, i.e., routine science communication, which provides "essential, trust-building communication", and crisis communication, which occurs "when scientists […] express their opinions on controversial topics and indeed about scandals in science as well" (Musacchio 2017: 29).

Over time, scientific knowledge has been conveyed through a restricted set of languages, which have usually corresponded to the language spoken by economic and military powerhouses. After the rise of the USA in the 20th century, nowadays English is conventionally deemed as the lingua franca of science (Musacchio 2017: 10). As a result, the other languages are under the influence of English with reference to both terminology (e.g., many scientific terms from electronics and computing derive from English) and the features of popular science, e.g., sentence length in Italian scientific writing has been reduced following the English model (Musacchio 2017: 33).

It has already been argued that popular science has a different level of linguistic specialisation compared to peer-communication and communication between experts and semi-experts. A further distinction is that popularisation requires a specialised text as a starting point. Thus, such process is seen as a redrafting of a specialised source text in which the final text would provide an approximation of the content of the original text (Gotti 2011: 180-181) and language is adapted to a different audience. Specifically, popular science normally concerns issues that are relevant not only for scientists, but for the whole humankind. At a linguistic level, it is characterised by a narrative (rather than a hierarchical) structure, a preference for expository techniques instead of the argumentative patterns described above, simpler syntax (i.e., shorter and less complex sentences which ensure clarity), redundancy of expression, lower lexical density, vocabulary drawn from general language (Musacchio 2017: 27-32). The term *expository techniques* refers to the devices that are added in popular science and that are far less frequent in peer-communication, i.e., denomination, designation, definition, reformulation, paraphrase, generalisation, exemplification and association, in order to present new words or concepts (Calsamiglia and Van Dijk 2004, cit. in Musacchio 2017: 33). Regarding definitions, in popular science first-person subjects are avoided in favour of passive or impersonal forms (Gotti 2011: 183-184). In addition, it has been noted that the most common type of definition is juxtaposition, i.e., "a process whereby the specialized term is followed by its periphrasis, with the two separated by a comma, dash or parenthesis" (Gotti 2011: 184). Such periphrasis may include as well metalinguistic items (e.g., *a little*, *like*, *a sort of*) that signal the author's awareness of the fact that the definition proposed is actually an approximation of the original one (Gotti 2011: 188). Clearly, these techniques are used to facilitate communication to the general public, who

may not be familiar with specialised terminology, especially if it is largely opaque and requires definitions or glosses to decode it. In this regard, Cortelazzo (1994: 36-37) identifies three different procedures to simplify or explain specialised terms in popular science, i.e., substitution, translation through general language, and gloss. Substitution implies replacing the technical term with its equivalent in the general language, if it exists, but maintaining the same denotative meaning. Another option is translating the technical compound using lexical items of the general language and preferring expanded forms over abbreviations and acronyms. Finally, a gloss of the technical term can be added if the other two options are not applicable. However, the author noticed that in the Italian context these procedures are not followed in the popularisation of science, because the authors of popularising texts are specialists who still use specialised language even when their audience cannot comprehend it completely or adequately (Cortelazzo 1994: 37-38). In some cases, a certain term and its equivalent in the general language are used in the same context as synonyms for stylistic reasons without signalling the synonymy and thus the communication turns out to be ambiguous and in contrast to the feature of monoreferentiality of specialised discourse (Cortelazzo 1994: 39). In summary, science popularisation in Italian lacks a codified and generally accepted language and consequently, it still relies on scientific specialised discourse (Cortelazzo 1994: 41).

Furthermore, science news needs to be represented in newspaper or magazine articles in an appealing manner in order to attract people's attention, which means adding captivating elements of wonder for nature or narratives of scientific adventures (Musacchio 2017: 28). Scientific articles, as other types of news stories, are written following the WH- questions, both in the English and Italian context. They include characters (who/what?) that could be scientists, animals, or other objects of research, an interesting motivation (why?), such as solving a problem, a setting (where?), which could be a lab or any kind of natural habitat, and a time frame (when?), typically the present, but also the past or the future (Musacchio 2017: 30-31). Besides newspaper and magazine articles, other traditional popular science genres are interviews, books, radio and television programmes and alongside them, new genres arose thanks to the web, such as social media posts and blogs, which have contributed to the popularisation of scientific discourse and have stimulated the public debate (Musacchio 2017: 31). The role of the

web will be further investigated in the next section, specifically in relation to environmental communication.

2.3.1 The vertical and the horizontal dimension of special languages

Before analysing in more details a sub-type of scientific discourse, it is now necessary to outline one of the most important characteristics of special languages, that is to say, the combination of two elements: the vertical dimension and the horizontal dimension. On the one hand, the vertical dimension concerns the social component and the pragmatic aspect of the text, thus determining the degree of specialisation of the discourse and the levels of differentiation from general language (Scarpa 2008: 8). In addition, it relates to the context and the relationship between the interlocutors (Calvi 2009: 28). In other words, the vertical dimension is composed of multiple levels defined according to a series of factors, i.e., the situation, the relationship between the interlocutors, the function and the contents of the communicative act (Calvi 2009: 31).

As described in the first section of this chapter, it is possible to identify different levels of specialisation of a language on the basis of the communicative context and the groups of interlocutors involved in the discourse. Yet, Balboni (2000, cit. in Calvi 2009: 30) argues that this is an oversimplification as the audience could be more or less educated, and also the level of specialisation of the expert may vary. Hence, one should rather refer to a continuum of levels of specialisation, from the most complex to the most transparent one, from the closest to the general language to the farthest one.

Another aspect of the vertical dimension is text function. For Nord (2005: 77-78), it refers to

> the communicative function, or the combination of communicative functions, which a text fulfils in its concrete situation of production/reception. It is derived from the specific configuration of extratextual factors (sender/sender's role, intention, receiver/receiver's expectation, medium, place, time, and motive). Certain configurations (= text functions) occur so frequently that texts acquire conventional forms and constitute genres.

To put it another way, each text is defined by its function, which is determined in turn by the speaker's intention (Calvi 2009: 29). Even specialised texts are characterised by a certain function, such as persuading, informing, descripting, instructing, and each function entails certain linguistic choices and textual types. These functions depend on the specific socio-cultural context and the specific field of a certain language, and they

comprehend different purposes for different types of readers (Rogers 2015: 31). This is the reason texts can be found in many forms that are the concrete realisations of text types. A text type can be described as a standardised format suitable for a particular type of communication required by a certain situation (Scarpa 2008: 12). Moreover, Nord (2005: 20-21) argues that text types are deemed as a functional classification of texts, i.e., based on their function, and the repetition of the use of certain texts with similar functions in certain situations led to the emergence of social norms or conventions that must be observed by the author so that their communicative intentions can be fulfilled. However, it should be noted that text-type norms are culturally specific and can vary over time. Also, the relationship between text function and text type is not univocal, as a singular function is expressed through different texts or a text can present features of various types, which is referred to as the "multifunctionality of texts" (Hatim and Mason 1990: 138).

The horizontal dimension of LSPs was analysed during the first phase of the study of special languages. In particular, it was argued that the horizontal dimension was based on content differences which led to the isolation of varieties of language representing distinct fields (e.g., economics, medicine, law, mathematics) and subcategories within such identified fields (Musacchio 1995: 6). The horizontal dimension then focuses on the study of lexicon and terminology and, more precisely, on the search for the most suitable vocabulary to express certain contents (Calvi 2009: 23). As explained above, special languages adopt the same structures of a natural language, even though they feature lexical and terminological peculiarities, as well as the tendency to use certain morpho-syntactic devices and also non-linguistic elements such as tables, formulae, and graphics (Calvi 2009: 23-24). With regard to terminological peculiarities, new technological developments and discoveries in science, information technology and medicine have led to the introduction of new concepts and the consequent need for new terms. In a specialised field, choosing the right term is essential to ensure a clear and unambiguous exposition of specialised knowledge. This requires some sort of common agreement between experts so that only one particular term is employed to refer precisely to a certain concept. For this reason, new terms must be collected and defined so that their usage becomes widespread among specialists. This is when terminology comes into play.

According to Pavel and Nolet (2001: xvii), *terminology* is a branch of applied linguistics which can either refer to "the set of special words belonging to a science, an art, an author,

or a social entity" or to "the language discipline dedicated to the scientific study of the concepts and terms used in specialized languages." The purpose of terminology is stability and the standardisation of terms that point to the same referent in order to differentiate among the so-called pseudo-synonym terms that arise from different ideologies, registers, and diatopic variants (Rega 2002: 50). Its object of study is the term, which can be defined as "a word (simple term), multiword expression (complex term), symbol or formula that designates a particular concept within a given subject field" (Pavel and Nolet 2001: 117). To put it another way, terms are words that are not always included in dictionaries of the general language for several reasons. For example, they can be neologisms or recent resemantisations (i.e., they have undergone the process of assigning new meaning to an already existing word), words used in an extremely restricted domain, words that may fall into disuse within a short period of time, or different kinds of phrases that cannot be lexicalised (Rega 2002: 53). Therefore, since terms are characterised at a semantic, diastratic, diatopic, diaphasic, and diachronic level, they are for the most part excluded from general dictionaries.

As proposed by Sager et al. (1980, cit. in Scarpa 2008: 50-51), there are at least three types of technical words that can be encountered in specialised discourse. The first group corresponds to field-specific terms used only by experts (e.g., neologisms or resemantisations of common words). The second group is formed of words of the general language used in specialised discourse without changing their meaning, in either all domains or only in one specific field. The third group comprises words of the general language used in a specific field with a meaning that has been changed through a process of metaphorisation.

Yet, only some parts of speech can be selected as term-candidates, i.e., those carrying semantic information, which excludes those expressing only logical links between the elements of a sentence (e.g., prepositions and conjunctions). Incidentally, it is notable that terms could even contain punctuation marks and numbers, and in disciplines like chemistry or physics, they can be replaced by a formula or symbols (Rogers 2015: 57). Consequently, apart from nouns, also verbs, adjectives, noun phrases (adjective + noun) and even more complex phrases can be selected as terms (Rega 2002: 56-57). These complex phrases are also referred to as phraseology, i.e., combinations of words that tend to appear together on a regular basis. In specialised discourse, phraseology can be divided

into three broad types, namely, idioms, collocations and fixed phrases, each having its own features (Musacchio 2002: 135).

According to Dictionary.com, an *idiom* is "an expression whose meaning is not predictable from the usual meanings of its constituent elements." in which the constituents cannot be substituted with synonyms, otherwise the meaning of the entire idiom would change (Musacchio 2002: 136). By contrast, *collocations* may be defined as more or less fixed combinations of words in which each element maintain its original meaning (Musacchio 2002: 136). In specialised discourse, collocations are also called specialised lexical combinations. According to Benson et al. (1997, cit. in Musacchio 2002: 140), these can be distinguished in the following categories: *grammatical collocations, lexical collocations* and *fixed expressions.* Grammatical collocations (or *colligations*) are phrases consisting of a noun, an adjective or a verb plus a preposition or another grammatical structure (e.g., an infinitive or a gerund). Lexical collocations (*collocations* proper) are phrases that do not contain grammatical elements, but only nouns, adjectives, verbs and adverbs. Finally, *fixed phrases* are composed of a set of words whose form cannot be changed and whose meaning comes from the pragmatic situation in which they are used (Musacchio 2002: 136). Overall, all these structures can be considered typical of specialised texts and consequently, they are the object of study in terminology and part of the horizontal dimension that, along with the vertical dimension, characterises special languages.

2.4 Environmental communication

Environmental communication is one of the fields that belong to the communication discipline and that centres on communication on the one side and on the relationship between humans and the environment on the other side (Milstein 2009: 344). Its origins date back to the early 1980s, when it was developed as a distinct field mostly related to environmentalism, as scholars examined how environmental groups were attempting to protect ecosystems and endangered species, spread awareness and attract social attention on environmental issues (Antonopoulos et al. 2019: 45-46). Over time, environmental communication has broadened its concerns, thus including citizens, companies, organisations, countries and communities affected by environmental disasters (Antonopoulos et al. 2019: 45). Actually, environmental communication can be deemed

as a metafield because it comprises other disciplines, such as public, cultural and interpersonal communication, mass media and popular culture (Milstein 2009: 345).

A comprehensive definition of environmental communication is provided by Cox (2010: 20), who explains that it is "the pragmatic and constitutive vehicle for our understanding of the environment as well as our relationships to the natural world; it is the symbolic medium that we use in constructing environmental problems and negotiating society's different responses to them."

According to this definition, the function of environmental communication is twofold, both pragmatic, as it seeks to persuade, inform, warn about environmental problems so that they can be appropriately dealt with and constitutive, as it attempts to produce representations of nature and its related problems in order to shape people's perspective on nature (Cox 2010: 20-21). The power of persuasion is plainly evident in news media which can influence people's opinions, as the presence or absence of certain news can affect what citizens and policy deem important (Anderson 2014: 38). Here *symbolic* is understood as a feature of communication that helps individuals to construct their view of the world by affirming some values instead of others and guiding their choices towards certain experiences, events, people. This perspective may change across time and generations to better cope with the topical problems afflicting nature (Cox 2010: 23-24). The basic assumption here is that language has the power to influence how individuals see the world and consequently act towards it, i.e., to either protect or destroy the environment. Since language is the instrument through which people know the environment, scientists, journalists, environmentalists, institutions and even citizens can adopt different linguistic choices to alter the perception of the world and the social attitude towards the environment. Therefore, environmental communication reflects not only on the relationship between humans and the environment, but it also frames it (Milstein 2009: 345). Finally, this communication is not only delivered through words, but also through images, videos, documentaries, advertisements, and even activism of different kinds and it involves a diverse group of actors, namely, scientists, media, corporations, non-governmental organisations (NGOs), policymakers and also individual activists (Anderson 2014: 3).

2.4.1 A historical perspective

Unquestionably, the perspective on nature has shifted across time as a consequence of the evolution of the relationship between men and nature, from the human dominion over nature to a more protective approach to environment. The roots of this change lie in the late 18th century, when individuals started to challenge the long-established tradition of exploitation of wild areas in North America also as a means to achieve some sort of national identity based on the characteristic American landscape (Cox 2010: 47-48). As a result, a new movement called preservationism emerged with the purpose of preserving American wild areas, such as coastal forests, from commercial use (Cox 2010: 48). However, in the early 20th, an alternative movement arose, named conservationism, which "sought to manage America's forests and other natural resources for efficient and sustainable use" (Cox 2010: 49) and these opposite views remained dominant throughout the 20th century.

During the 1960s, the focus of environment discourse moved to the effects of pollution, especially air and water pollution, on human health. Pollution mainly originated from factories and refineries, but also from nuclear testing that produced radioactive waste and from the use of pesticides in agriculture. From this new awareness, also expressed in a book by biologist Rachel Carson, the modern environmental movement arouse (Cox 2010: 51). It centred on criticisms of the industrial system that caused chemical contamination, which, together with water and air pollution, contributed to threaten human health.

Another important milestone was the organisation of the first Earth Day on 22nd April 1970 that is considered one of the largest demonstrations in American history as it involved around 20 million people from every social class who mainly demanded environmental controls on the industrial sector and actions from the government (Cox 2010: 53). During this period, many new environmental organisations were founded, such as the World Wide Fund for Nature (WWF) in 1961 and Greenpeace in 1971. WWF is an international NGO that was first established to raise funds to preserve wildlife and natural habitats from human destructive actions. According to its website[2], today it is the largest conservation organisation in the world counting over 1 million supporters and numerous conservation projects funded worldwide. Also Greenpeace is an international

[2] WWF, 2022. History. https://www.worldwildlife.org/about/history (accessed 1 March 2022).

NGO which was founded by a small group of people that has expanded throughout the years in over 40 countries. According to its website[3], it aims at protecting Earth and at shaping a greener future and a healthier planet for next generations by investigating and exposing what and who cause environmental destruction. Not only does it inform society about environmentally relevant events in the world through online news and publications but also takes concrete actions such as lobbying, consumer pressure and mobilisation of policymakers in order to foster radical changes and more sustainable lifestyles.

Returning to the history of environmentalism, in the 1970s the environmental movement was actually called ecology movement and its primary objective was to introduce laws against pollution and chemical contamination. In the following decade, a new wave of activism derived from minority groups started to challenge the mainstream sense of environmentalism and discuss the idea of nature as "a place apart" from the places where people resided and worked. Moreover, it was argued that these communities endured what was called *environmental racism*, described as "threats to their health from hazardous waste landfills, incinerators, agricultural pesticides, sweatshops, and polluting factories" and "the disproportionate burden that these practices placed on people of color and the workers and residents of low-income communities" (Cox 2010: 54). In contrast to this, *environmental justice* is understood as "the basic right of all people to be free of poisons and other hazards" and as "a vision of the democratic inclusion of people and communities in the decisions that affected their health and well-being" (Cox 2010: 55).

As a result, in the following decades a large number of local and regional groups were formed all over the world to fight for the preservation of natural areas, for the protection of human health and for social justice (Cox 2010: 55-56). In addition to that, environmental groups, scientists, and health officials began to undermine the traditional model of economic growth, i.e., business, which is considered the cause of global warming and climate change and has led to a wide range of natural disasters, diseases and wildlife extinction (Cox 2010: 55-57). At the present time, many individuals have joined activist groups and environmental NGOs to try and invert the planet destruction trend. These groups vary in size, from local aggregations to transnational organisations, can be more or less formal and hierarchical, operate both online and offline, express preference

[3] Greenpeace, 2022. About Greenpeace. https://www.greenpeace.org.uk/about-greenpeace/#:~:text=Greenpeace%20was%20founded%20in%201971,40%20countries%20around%20the%20world. (accessed 1 March 2022).

for some topics and environmental issues instead of others, and, although each uses different modes of communication, they all strive to reach a wider public to disseminate knowledge and raise awareness on environmental issues. Also thanks to the proliferation of all these groups, environmental communication has expanded even more, thus englobing even non-traditional subjects and new topics. The two following sections explore three among the topics identified by Cox (2010: 16-19), namely environmental journalism, risk communication and environmental advocacy.

2.4.2 Environment and the media

The field of environmental journalism analyses how environmental problems are represented on television, radio, print, and the Internet and the effect they have on the general audience. First of all, Cox (2010: 151) classifies media into two main types: on the one hand, mainstream media, i.e., television, newspapers, magazines, and radio, and on the other hand, online media, i.e., websites, blogs, forums, and other online sources. These two types of media are not seen as competitors, but online media are considered an extension of mainstream media (Anderson 2014: 50). On the whole, news media have undoubtedly contributed to the spread of environmental news by sharing environmental events and issues as well as stories and stances of scientists, corporations or environmentalists with the purpose of influencing citizens' behaviour towards nature. Apart from presenting facts, media also interpret such facts in a way that may establish a link with certain values and beliefs, and the power of this link varies from culture to culture (Antonopoulos et al. 2019: 52-53). In other words, each society is characterised by certain traditions and history and media can insert references to such elements in order to make people closer to environmental issues.

From a historical point of view, media started to report environmental news and images in the 1960s and since then their interest has continued to increase, including more and more stories and environmental themes, such as Earth Day 1970 and environmental disasters (Cox 2010: 152-153). For example, after the Chernobyl nuclear disaster in 1986, researchers started to pay more attention to the most suitable communication strategies to report environmental disasters (Antonopoulos et al. 2019: 46). However, studies have shown that after the events of 9/11 the environmental news coverage dropped drastically to make room for updates on terrorism and the war in Iraq and only since 2006 media,

especially newspapers, have begun to report more environment news, primarily concerning global warming and green business stories (Cox 2010: 154). Overall, although public interest in environmental news has not been constant throughout the decades, as in some periods other issues have been deemed more relevant and have been the focus of news coverage, people seem to demonstrate a continual concern for environmental issues (Cox 2010: 155).

Nowadays, the major environmental issues that are discussed in contemporary society are climate change, deforestation, air and water pollution, species extinction, population growth, energy depletion and water scarcity (Anderson 2014: 2). Yet, not all these problems are equally covered in the media as they choose what to report and how to report it, making representations of nature hardly neutral and contradictory. This is because those representations are influenced by a set of factors, i.e., media political economy, gatekeeping, newsworthiness, media frames and norms of objectivity and balance. First, media political economy concerns the influence of media owners in deciding which news should be reported according to their economic interests (Cox 2010: 159). Second, the metaphor of gatekeeping refers to "the ability of news workers to decide what gets in the news and what is left out" (Anderson 2014: 39). Environmental news is not that simple to report because of the difficulty of fitting it into standard news formats and considering that not all journalists possess the adequate knowledge concerning the lexical, grammatical and pragmatic resources of language that should be used in environmental communication, or the sufficient understanding of the natural and social world (Cox 2010: 160). However, Anderson (2014: 40) argues that now social media are able to target their messages to offer users more specialised content so that it is more difficult for mainstream media to deliberately hide issues from the public. Third, newsworthiness could be defined as "the ability of a news story to attract readers of viewers" (Cox 2010: 160) which depends on such aspects as proximity, impact, oddity or prominence. Fourth, media frames are used to help people to understand a certain story by relating it to more familiar notions and assumptions about the world (Cox 2010: 163) and to portray stories in meaningful ways by relating different events and issues (Entman 2004, cit. in Anderson 2014: 43). Therefore, scientists, NGOs and politicians decide to frame certain truth-claims and obscuring their rival versions with the purpose of affecting individuals' perspective on the world (Anderson 2014: 43). Finally, norms of objectivity and balance

serve to ensure that news is reported accurately without any type of bias and including the different stances of an issue (Cox 2010: 165). However, the practice of reporting opposite positions may lead to the conclusion that there is no scientific consensus on a certain issue, which is the case of climate change that remains a strongly contested subject even nowadays (Anderson 2014: 61). In addition, Geoffrey Lean (1995, cit. in Anderson 2014: 54-55) suggested other three constraints in the coverage of environmental news. The first constraint is the preference for event-driven reporting, hence routine events or long-running environmental issues are less likely to appear on media whereas major trigger events receive more attention. The second constraint regards the importance of visual representation, as environmental news that does not come with related footage is deemed less newsworthy. The third constraint concerns the tendency to privilege conflict over consensus and thus environmental news mostly presents problems instead of solutions.

Also because of this insufficient and biased coverage of environmental news in traditional media, online sources of information, especially blogs run by citizens, scientists, journalists or corporations, arouse and gained great popularity (Cox 2010: 168). Following this trend, newspapers have developed their own online version of their print editions and environmental groups have launched their own websites where they have begun to spread environmental news, information on their campaigns, and their achievements that are practically available to anyone at any time and in any place (Cox 2010: 170). NGOs started to exploit the advantages of the web from the beginning in the attempt to share their news and reports on their websites, making them available to the public. For instance, in 1994 Greenpeace launched its first website, named Greenpeace International Archives, and in 2000 a discussion forum, named Cyberactivist Community, where users from all over the world could exchange ideas and organise environmental actions (Anderson 2014: 5). On their websites, environmentalist groups share their history, philosophy and mission with the purpose of showing their identity as a group, becoming known to the general public, reaching new activists, and possibly persuading them into action (Horton 2004: 738). Finally, in the last few years, the worldwide spread and popularity of social networks have contributed to develop a new way to interact with people, present themselves, and give voice to whoever was struggling to gain visibility in mainstream media. This opportunity was clearly taken by NGOs as well, which could

join Facebook from April 2006 (Anderson 2014: 28) and then developed their official pages also on other social networks, such as Twitter and Instagram. Overall, the exploration of all the possibilities offered by the Internet has been deemed as a consolidation, not a transformation, of the usual modus operandi of local groups and has undoubtedly increased communication and involvement among activists (Horton 2004: 749).

2.4.3 Risk communication and environmental advocacy

Another important aspect of environmental communication is risk communication, which concerns the evaluation of the effectiveness of the strategies employed to inform people of a certain health risk and the assessment of how people understand, judge and accept risks. It was developed as a distinct field in the 1980s following the rise in environmental risks, also to human health, which citizens needed to be warned about and that were caused by the industrial society (Cox 2010: 190). Since the first risk reports were deemed inadequate and inaccurate, new federal agencies were founded to assess danger in a more precise manner by translating technical and numerical data regarding the risks for the population involved, and in a second moment, they started to involve those people exposed to environmental hazards (Cox 2010: 202-205). Furthermore, both mainstream and online media began to deal with risk communication by sharing stories of people who suffered because of those risks, as well as warnings and recommendations of scientists and experts. Yet, sometimes media have been accused of preferring sensational images rather than an accurate exposition of facts and sceptical voices arose against the authority of scientist, thus making risk communication a real challenge (Cox 2010: 208-211).

A further form of environmental communication is advocacy, which could be defined as "the act of persuading or arguing in support of a specific cause, policy, idea, or set of values" (Cox 2010: 226) which usually demands a change in governmental policy or corporate behaviour. Environmental advocacy is commonly initiated by non-profit groups, which mediate between citizens and institutions, it usually deals with environmental or human rights issues, and it aims at empowering individuals by providing them with detailed knowledge. Moreover, it can be expressed through boycotts, direct action protests, education of the public, or campaigns directed to influence politicians. In particular, it is possible to distinguish between two forms of advocacy,

namely, critical rhetoric and advocacy campaigns, which differ in their strategic course of action. On the one hand, critical rhetoric concerns the challenging of traditional ideology or attitude towards nature and sometimes the development of an alternate vision (Cox 2010: 228). On the other hand, advocacy campaigns are based on concrete actions that involve communication to reach a specific goal (Cox 2010: 229). To conclude, environmental communication takes place in different media, in different forms and with emphasis on different topics, but they are all united in the purpose of reaching public attention and shedding light on environmental issues. In order to understand how environmental texts can achieve those goals, the following section will focus on the specific linguistic features of environmental communication.

2.4.4 Linguistic features of environmental communication

Since environmental communication seeks to cope with global crises, it needs to disseminate its messages on a global scale to a global audience and thus its messages are mainly conveyed in English, which could be regarded as its lingua franca (Brambilla 2020: 157). Despite this global interest, environmentalist groups demand local action. For this reason, scientific research conducted by NGOs is often popularised, translated and localised. Localisation is the process of adaptation and translation of a certain text to better fit the needs and expectations of a specific, local market, i.e., one country or region sharing the same culture, language, and legal and political system (Scarpa 2008: 293). As a result, both the content and the form of written texts should be modified according to the conventions and knowledge of the target culture, but in general, environmental communication makes a peculiar use of various linguistic resources to achieve different pragmatic purposes, such as persuading, educating, warning and even acting.

As discussed above, one of the immediate problems that can be encountered when approaching specialised fields and their popularisation is the balancing between the limited knowledge of the lay people and the high technicality that characterises specialised discourse. This is also true for environment texts, as they include technical terms and specialised notions which are familiar to experts but not to non-experts. Therefore, the process of popularisation aims at obtaining a text that is not only accessible and comprehensible for everybody but also clear and precise, in compliance with the norms and conventions that are expected from its genre.

As was pointed out earlier, environmental communication has also proliferated on online media and thus it is necessary to consider this aspect while outlining its textual features. In this respect, Crystal (2004: 197-198) argues that each text type found in the paper-based world has its own equivalent on the web where the stylistic variations associated to a genre have been maintained. Therefore, traditional genres have undergone a process of migration to the web, where they have maintained their purpose although they have been adapted to the new medium, and new genres that exploit its peculiar characteristics have been developed (Garzone 2019: 14). This led to the awareness that the concept of genre should be revised to include the notion of medium, because texts on the web are marked by peculiar properties acquired from the environment in which they are generated (Garzone 2019: 17). Put differently, it is important to take into account the medium in which a text is situated because it can affect how that text is used and what is possible to do with it (Garzone 2019: 18). Hence, the properties that should be considered while analysing online texts are the following: extension in participation framework, multimodality, and hypertextuality. The first property refers to the fact that texts published online potentially have a global audience, as any internet user can reach those texts. Consequently, authors can take advantage of this possibility by adding promotional elements in texts; in the case of environmental texts, these can take the form of links to sign petitions, join an environmental group, share the story on social networks or spaces to add comments. Multimodality could be defined as "the combined utilization of different semiotic resources within a single communicative process" (Garzone 2019: 19), which, in the case of online texts, involves the addition of pictures, graphics, tables, sounds, videos, animations and many other resources, of which some can be even embedded in PDF files (Garzone 2019: 20). Web texts are also characterised by hypertextuality, as they comprise a series of hyperlinks that point to other texts. As a consequence, users can choose which moves to do and in which order while reading texts and they can even contribute to the realisation of those moves by adding new links to other texts. This particular, non-linear way of reading is named hyper-reading, whereby users follow their own path of navigation and relate items based on their semantics (Garzone 2019: 22-23). Basically, texts are read in a multidimensional way and not in a fixed sequence, in such a way that some parts are skipped altogether while others are read carefully (Crystal 2004: 196). Additionally, online texts acquire meaning only when they

are related to others by means of links, which is referred to as the intertextuality feature (Garzone 2019: 23). Finally, the granularity of web texts can be seen as "the textual units into which discourse is broken up for computer mediation and distribution" which "corresponds to the amount of text that can be displayed on the screen" (Garzone 2019: 24). Hence, texts are organised in columns or paragraphs to suit the different devices and facilitate reading. Web texts are also rich in lists, in which information is presented following specific principles and in branching structures, e.g., tree diagrams, used to display a set of alternatives in the clearest possible way (Crystal 2004: 197). Briefly, all these elements contribute to enrich online environment texts and make them more engaging and interactive for readers, who can make comments and open debates on the issues presented in such texts. In this regard, it has been argued above that for an environment story to be considered newsworthy, it should be accompanied by images and photographs. Actually, visual representations of the environment date back to the 18th and 19th centuries, when nature was portrayed in oil paintings and photographs. In more recent times, all kinds of pictures and videos have been implemented in environmental communication to show all the consequences and testimony of climate change and environmental disasters with the purpose of attracting and persuading society of the dramatic situation affecting the world and influencing their behaviour towards the environment (Cox 2010: 66).

Returning on the linguistic features in the stricter sense, it has been observed that environment texts make large use of tropes, or figures of speech, which are defined as "uses of language that 'turn' a meaning from its original sense in a new direction, for a persuasive purpose" (Cox 2010: 59-60). Examples of such devices that populate environmental communication are metaphorical argumentation, environmental irony, and associative argumentation. First of all, metaphorical argumentation establishes connections between environmental issues to basic theme of space, time and representations of the world (Myerson and Rydin 1996: 178) and thus metaphors are used to link notions and support arguments. For instance, the prominent metaphor used in the case of global warming is the greenhouse, which "implies care, cultivation, concern" (Myerson and Rydin 1996: 150). It also comprises both artifice and nature just like a concrete greenhouse, and even if the object refers to something fragile, the greenhouse effect refers on the contrary to a dense atmosphere. Metaphors can be also distinguished

between metaphorical assertions and metaphorical negations, in which the former is seen as proposals to see the world in a certain way, whereas the latter implies criticisms of the world, and sometimes even suggests new assertions (Myerson and Rydin 1996: 155).

Another device is irony, which is described as "oblique judgement, particularly hostile judgement" and which "is also about shock, surprise, reversal" (Myerson and Rydin 1996: 149). In the case of environmental texts, irony seeks to address the future, which remains one of the prominent issues in environmental argumentation. There could be various types of irony, such as upside-down ironies, in which important things are treated as trivial and vice versa, or topsy-turvy irony, in which plans do not ensure a safer future, but a riskier one (Myerson and Rydin 1996: 165). In terms of global warming, it is possible to recognise ironies of outcome, i.e., when a certain future is expected, something else happens, and normally it gets from good to bad, from safe to dangerous. This type of irony is used by experts to warn and educate people about the future but not in a violent way (Myerson and Rydin 1996: 165). Besides, irony could have to do with bad timing, namely, something happens but at the worst moment, when it is not needed anymore, when it is too late to act (Myerson and Rydin 1996: 168).

Finally, associative argumentation makes connections between different issues and discussions in order to demonstrate why something matters and to obtain a more dynamic argumentation (Myerson and Rydin 1996: 171). There could be simple or complex associations. An example of simple association is the one that connects nations and resources, where the latter makes the former and since the notion of nation has a modern connotation, resources will be considered modern as a consequence (Myerson and Rydin 1996: 171). Another simple association is the one that tries to link sustainable development to other policy goals, such as population control and national security, so that one supports and legitimises the other. Moreover, the concept of sustainable development stands for cooperation, economic expansion and interconnection; these notions are in turn opposed to exploitation, economic growth and colonialism (Myerson and Rydin 1996: 173-174). An example of complex association is the link between pollution and the past and the link between anti-pollution and the future, and consequently, development and technology as means to fight against pollution are not seen as dangerous but as necessary (Myerson and Rydin 1996: 175-177). Taken together, metaphorical argumentation, environmental irony and associative argumentation show

how environmental communication is linguistically and culturally creative in the attempt to call the attention of the readers.

2.5 Figurative language and linguistic creativity

Creativity is an intrinsic property of language and an innate faculty of human beings, who commonly exploit already-existing items at all the distinct levels of language, i.e., phonemes, morphemes, lexemes and phrasal units to form new words and to achieve a certain linguistic effect (Munat 2016: 94). Unlike what may be generally believed, individuals do not resort to creative solutions exclusively to enrich and characterise poetic and literary texts, as such formations are widely employed also in specialised discourse and scientific texts in particular to fulfil precise purposes. This section will first provide an overview of what is meant by lexical creativity and then will specifically examine different types of nonce formations, also in relation to humour, common tropes such as metaphors and metonymy, and finally various types of multiword strings.

The boundaries of the notion of creativity are not that clear-cut and a general agreement on its definition and scope is still lacking (Maybin 2016: 34). A possible definition describes lexical creativity as

> a speaker ability (that is, linguistic competence), to exploit the system in novel ways by combining and recombining, substituting and modifying phonological, morphological, lexical and phrasal elements of the language, in the effort to create a novel word or expression to amuse or to communicate thoughts in an original and effective manner. (Langlotz 2016: 40-41)

In this respect, linguistic creativity involves the use of human intelligence to create and comprehend new words, sentences, and texts that are considered regular as their creation follows the standard rules of word formation, on the one hand, and unconventional communicative products, i.e., figures of speech, wordplay, verbal humour, irony, sarcasm, puns, and literary genres, on the other hand (Langlotz 2016: 41). As regards regular word-formation processes, this property of language is named productivity and is defined as "the formation of new coinages by the application of the rules of grammar" (Bauer 1983, cit. in Munat 2016: 93). A word can be considered productive when it generates derivatives and grammatical variants (Renouf 2007: 63).

The most frequent devices used by native speakers to create new words are derivation and compounding. Derivation consists in adding affixes to an already-existing word and the latter by putting together two lexical items to form a single unit with a new meaning

that is not predictable from its constituents. The novel words thus obtained are mostly analysable and predictable, unlike the more irregular outcomes of another series of word-formation processes, i.e., conversion (or zero-derivation, i.e., the process of changing the class of a word but maintaining its form), initialisation (i.e., the process of reduction to initials of a word, like an acronym), abbreviation (i.e., letter reduction, such as *sth* instead of *something*), blending and clipping, which will be described below (Munat 2016: 92). What may lead speakers to opt for creative word-formation processes instead of more regular ones is the possibility to reduce the transparency of a word (Ronneberger-Sibold 2010: 204-205), or, to put it another way, to make it difficult to interpret its semantic value for a number of reasons that will be presented later in this section.

In summary, productivity can be seen in terms of rule-governed innovation, while creativity can be regarded as rule-changing (Bauer 1983, cit. in Lipka 2007: 3). Yet, the borders of these categories are quite fuzzy, and it is often difficult to distinguish between creative and productive word formation because (a) there are processes that are constantly performed in the same manner, such as clipping the end of a word (Ronneberger-Sibold 2010: 203), and (b) all of them aim at expanding the lexicon of a language. Therefore, the opposition between productivity and creativity led to major discussions among scholars trying to determine which their specific features are and, consequently, which processes could fall into one category or the other. A possible solution is then offered by Munat (2016: 94) who explains that productivity and creativity can be seen as two processes "located at two different points on a cline and can best be defined by their prototypical features." In the case of creativity, speakers combine linguistic items to invent new words and expressions which better suit a certain situation, and which can satisfy their communication needs, such as impressing the listener (Munat 2016: 96). In written texts, different text types show a preference towards different creative solutions to reach their specific goals (Munat 2016: 98), such as constructing fictional worlds in science fiction, making characters speak some unique idiolect or adding a ludic tone to the text (Munat 2007: 179). Therefore, their purpose is to provide texts with a certain stylistic effect, e.g., humour and irony, but also with a sense of sophistication and distancing (Renouf 2007: 70). Still, since novel creations mostly depend on the specific context in which they are spawned, they are likely to appear only in that context. Conversely, some creative solutions may be repeated in other contexts and become widespread, so much so that they

may be included in dictionaries and become part of the lexicon of a language, thus contributing to its expansion (Munat 2016: 103-104).

2.5.1 Creativity, nonce formations, and humour

Regardless of the process employed, newly coined words that have entered the lexicon as vocabulary items are conventionally called neologisms, while those that do not enter the lexicon of a language are called nonce formations, since they are not created for permanence, but just remain *ad hoc* formations (Hohenhaus 2007: 17-18). Munat (2007: 169) regards nonce formations as "words which cannot enter the lexicon, not because of their structural properties, but due to their heavy context dependence and lack of referential utility in the world at large." The different types of nonce formations that will be analysed in this paragraph are summarised in Table 2.1 below.

Nonce formations	Dummy-compounds
	Identical constituent compounding/contrastive reduplication
	Direct analogy
	Delocutive conversion
	Metalinguistic extraction

Table 2.1 Types of nonce formations.

The main function of nonce formation is clearly naming, i.e., giving a name to new entities. Hohenhaus (2007: 18) identifies a series of other functions, which are divided into two subcategories, namely, communicative and metacommunicative functions. Among the communicative functions, deixis serves to indicate a specific item among many. For instance, the deictic function is performed by dummy-compounds, a type of nonce formation composed of a head constituent, usually *thing* or *business*, and another element from the preceding context (e.g., *vacation thing*), hence they can be understood only by small groups of speakers that share the same past context or episode (Hohenhaus 2007: 19-21). Another communicative function is hypostatisation, which refers to nonce words invented for things that do not exist in the real world, an effect that is chiefly observed in science fiction (Hohenhaus 2007: 22). Perhaps the most important communicative function is attention-seeking, typically found in newspapers and magazines, especially in the titles, with the purpose of attracting the attention of the reader by using any type of novel formations, wordplays, metaphors and creative solutions,

which could be either single words or entire idioms (Hohenhaus 2007: 23-24). In this regard, Lehrer (2003, cit. in Munat 2007: 179) argues that such attention-seeking devices try to slow down the reading by employing puzzling new words which usually demand greater effort to be processed, but once the creative formation is decoded, it may provoke a feeling of amusement, pleasure and entertainment in the reader. With respect to metacommunicative functions, they concern comments on language in a certain context. For example, identical constituent compounding, or contrastive reduplication, is a type of nonce formation in which a word of the discourse is repeated in order to specify the word in question and disambiguate its meaning in contrast to another construction with the same word, e.g., *friend-friend* is regarded as a true friend rather than a lover. This type of nonce formation can comprise proper names, adjectives, verbs and even entire phrases (Hohenhaus 2007: 25-26). Another example is direct analogy, whereby a certain group of words (the model, e.g., *health inspector*) present in the context is commented and corrected by new formations (e.g., *rat inspector*, *starling inspector*), and such device is extremely context-dependant and frequent especially in science fiction (Hohenhaus 2007: 27-28). Delocutive conversion occurs in cases of communicative situations of conflict in which the speaker rejects what their interlocutor has just said (e.g., *do you mind?*) by transforming it into a zero-derived or converted verb (e.g., *don't do-you-mind me!*) and this transformation may involve not only verbs, but also interjections (Hohenhaus 2007: 28-29). In the case of metalinguistic extraction, a linguistic item in the context is picked up (e.g., the suffix *-oid*) and used as the base of a new formation (e.g., *oid-y*) which is legitimate from a semantical point of view, but it is impossible from a morphological point of view (Hohenhaus 2007: 29-30). There are clearly much more examples of nonce formations that perform their own and unique function in the situational context in which they are coined and that hardly fall into a proper classification. Their creation depends on the speaker's communicative intention, other than the context, which testifies of the high level of creativity that characterise human language.

Returning now to the concept of creativity, Renouf (2007: 74) points out that it is not a random phenomenon. Rather, it observes some conventional rules, such as phonological, morphological, and semantic substitutions, different types of similarity and allusion. For example, starting from a given word (e.g., *destruction*), it is possible to identify cases of difference of one phoneme (e.g., *distraction*), same initial letter (e.g., *disruption*), same

prefix (e.g., *deception*), same suffix (e.g., *obstruction*), shared semantics (e.g., *discomfort*), and so on. Moreover, the author (Renouf 2007: 74-75) explains that other types of creativity concern the change of meaning of a word, the adoption of an additional meaning, and the metaphorical extension and that the categories of words that follow such change patterns are those related to remarkable events or dominant topics that monopolise media's attention in a certain period.

In this regard, Ronneberger-Sibold (2010: 210-213) suggests a list of techniques of word creation that take as a starting point an existing word or phrase which is modified at the phonological or graphical level but not at the semantic one. These techniques are presented in Figure 2.1 below.

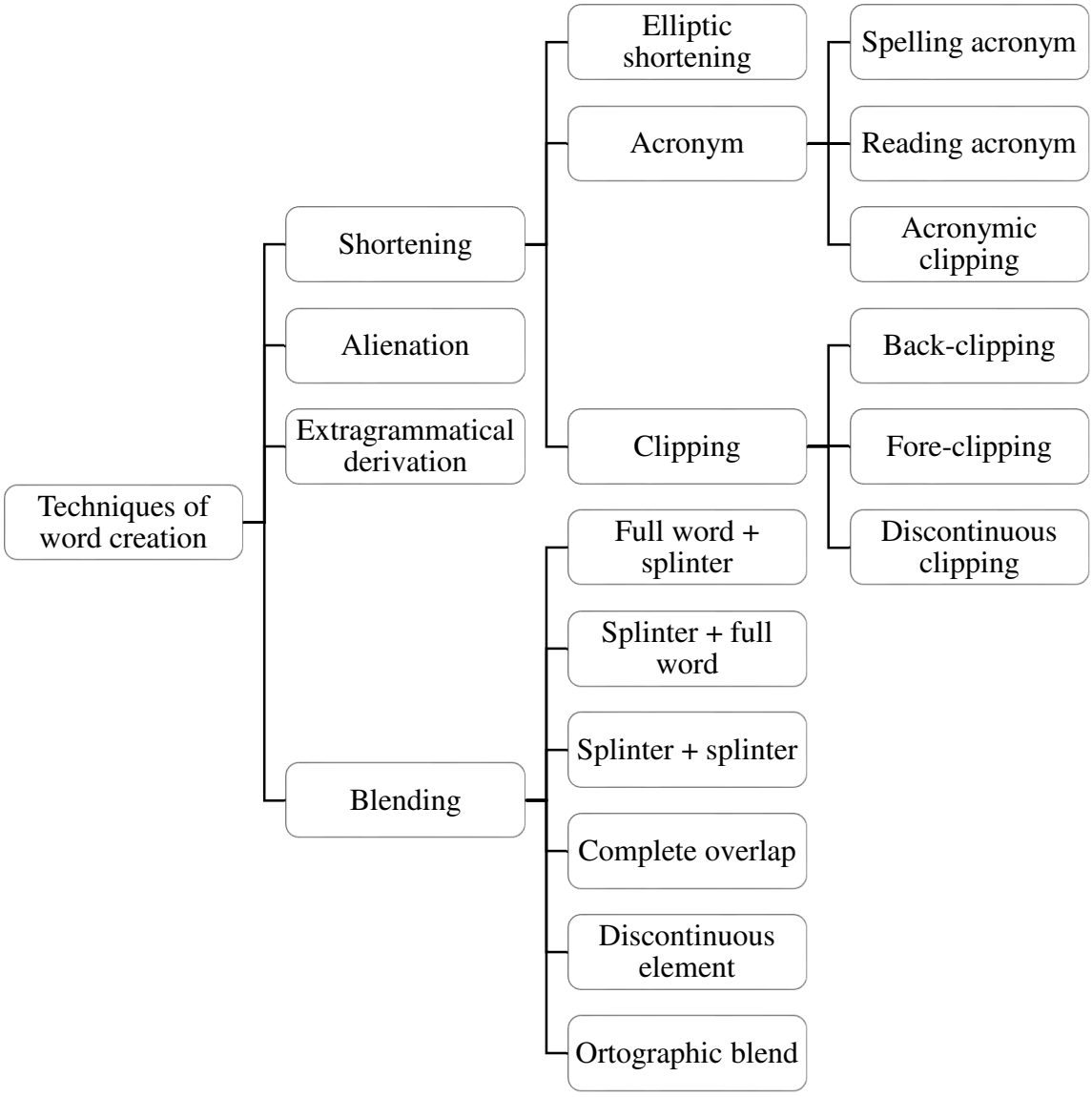

Figure 2.1 A list of techniques of word creations and their related sub-types.

Shortening takes into consideration the morphological structure of the original word and it could be of three types: (a) elliptic shortenings, i.e., where a new meaning is assigned to the shortened word that is also an already existing word; (b) shortenings formed by the initial part of the constituents of the original word, also called acronyms; and (c) clippings. Acronyms are subdivided into spelling acronyms, formed of the spelling pronunciation of the first letter of each constituent (e.g., *BMW*); reading acronyms, consisting of the phonological pronunciation of the first letters of each constituent (e.g.,

Saba); and acronymic clippings, comprising the pronunciation of clipped constituents (e.g., *Eduscho*). Regarding clippings, they are shortening devices that are distinguished according to the part which has been clipped, i.e., the end (back-clipping) or the beginning (fore-clipping) of the original word or in other cases, the elements clipped do not constitute a continuous string, but they keep their order (discontinuous clipping). Alienation means that an original word can be extended or replaced in part in a unique manner but maintaining its original meaning. Extragrammatical derivation concerns the use of derivational suffixes or bound forms (i.e., forms that have a lexical meaning but do not appear as free forms, e.g., *med*) in a grammatical but deviant way. Blending can be said to be a form of wordplay that amuse the readers and is described as "underlying compounds which are composed of one word and part of another, or parts of two (and occasionally three) other words" (Algeo 1977, cit. in Lehrer 2007: 116), where each part is named splinter, i.e., a clipping that does not appear freely, e.g., *dram-* and *–edy* are splinters of the blending *dramedy* (Lehrer 2007: 116). Blends are divided into distinct subtypes: first, they can be formed of a full word followed by a splinter, e.g., *vodkatini* < *vodka* + *martini*; or they can comprise a splinter followed by a full word, e.g., *narcoma* < *narcotic* + *coma*. Others contain two splinters, which could be both the beginning of words, e.g., *sitcom* < *situation* + *comedy*, or one is the beginning of one word and the other the end of the other word, e.g., *hurricoon* < *hurricane* + *typhoon*. Another type is formed of a complete overlap of one or more phonemes or syllables, e.g., *netiquette* < *(Inter)net* + *etiquette*. Partial overlap is also possible in case some letters or phonemes are present in both words, also with a non-contiguous distribution, e.g., *astrocity* < *astronaut* + *atrocity*. In other blends, a word or clipping is inserted in part in another word, e.g., *chortle* < *chuckle* + *snort* (Lehrer 2007: 117-119). There are also examples of blends, named orthographic blends, that can be recognised as such only in written texts, and sometimes they have a particular typography to emphasise one part of the blend, e.g., *eggs-quisite* < *eggs* + *exquisite* (Lehrer 2007: 120). As well as other novel formations, they are relatively frequent in advertisements, newspaper and magazine titles, sometimes even accompanied by pictures or photographs to emphasise the creative solution, serving as attention-seeking devices. And even though they are highly context-dependent, over time some splinters may even gain the status of productive morphemes if speakers start to use them constantly to create new words. For instance, the splinter *gate* originated from

the Watergate scandal and has been used to coin words related to political scandals, e.g., *Irangate* (Lehrer 2007: 121).

Therefore, lexical creativity could be seen as the first step in language change, as it involves variation in word forms and fixed phrases for stylistic motives that may expand beyond the context in which this variation is generated. In fact, what could be deemed as rule-breaking may be considered as part of the language system. Clearly, each language shows different distributional patterns according to its peculiar norms and conventions. However, these can be modified as they are based not only on tradition but also on cultural evolution due to the influence of other languages (Veisbergs 2007: 240). As suggested above, the preference towards creative solutions in certain contexts derives from the possibility of controlling the phonological shape of the output and its level of transparency. This can be useful in the media, as they are characterised by shortage of time or space, or in those texts that seek to evoke humour in their audience (Ronneberger-Sibold 2010: 206-207). In this respect, creativity is strictly related to humour and language play, as they all involve originality and incongruity. Table 2.2 includes a list of types of language play.

Language play/wordplay	Humour/ludicity
	Repetition
	Rhyming
	Alliteration
	Pun

Table 2.2 Examples of language play.

Specifically, humour employs different degrees of creative uses of language and combines certain amounts of conventionality and originality to amuse the audience (Bell 2016: 129-130). Munat (2016: 1010) refers to humour as ludicity, explaining that it is a property of every nonce formation. The degree of ludicity is determined by the communicative goal and the context and not the type of the word-forming process employed, as it is registered in cases of blending, derivation, compounding, and so forth. By contrast, language play can be considered the broader category as it manipulates linguistic items at the phonological, morphological, syntactic, semantic and pragmatic level, and may also include repetitions, rhyming and alliteration (Bell 2016: 129). Language play is referred to as wordplay by Veisbergs (2007: 240), who specifies that it is a rather vague term to refer to a series of lexical creations used in many communicative

situations. Moreover, its features and limitations are not clear, but it could be said that it is based on ambiguity and clash of two meanings. Veisbergs (2007: 240) also identifies a subcategory of wordplay, i.e., pun, which concerns play with meanings and the creation of multiple associations between words.

2.5.2 Metaphor, simile, metonymy, and synecdoche

Moving to more common figures of speech, this paragraph will outline the different tropes that are listed in Figure 2.2 below.

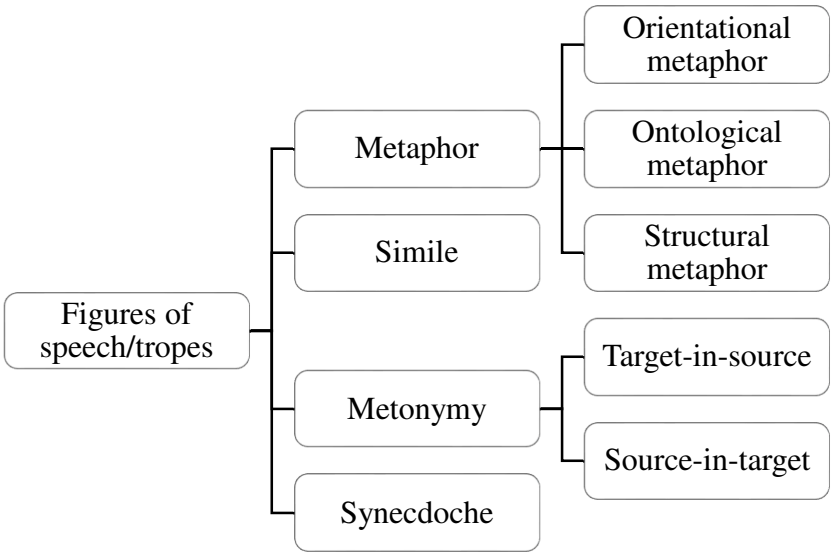

Figure 2.2 Common figures of speech.

Hidalgo-Downing (2016: 108) states that two concepts that can describe creativity i.e., novelty and appropriateness, where the former means original, unexpected, and the latter adaptive to a certain context, are also useful to describe metaphors and metonymy, as they are strictly context-related and acquire value in the social community in which they are produced. Metaphors and metonymy are defined as "processes of conceptual mappings between a source […] and a target […] domain" (Hidalgo-Downing 2016: 117). The difference is that metaphors imply cross-domain mapping whereas metonymies imply within-domain mapping. In specialised discourse, the source domain corresponds to the vocabulary of general language or the specialised terminology that is used to describe the target domain, namely, the area in question, which belongs to a specialised field (Ahmad 2006: 198).

As regards metaphors, they may be divided into three main sub-groups, namely, orientational, ontological, and structural metaphors. Orientational metaphors are used to interpret the spatial world, in relation to concepts such as up-down, in-out, centre-periphery, and on the like. Ontological metaphors concern personifications of items or objectification of entities, whereby concrete attributes are assigned to abstract entities or vice versa. Structural metaphors form a network of meaning to clarify more complex experiential domains, such as emotions that have been associated to words of the physical world (Hidalgo-Downing 2016: 117-118). Speakers are able to interpret these metaphors and the relationship between the source and the target domains correctly thanks to their sociocultural background. Some of them are inherently intertwined in certain cultures whereas others are novel creations employed to describe scientific discoveries and technological innovation, and they depend on the situation, the topic, and the sociocultural context in which they are encountered (Hidalgo-Downing 2016: 118-119). Incidentally, metaphors should not be mistaken with another figure of speech, namely, simile, which also compares two things, but is generally characterised by the pattern 'as x as y' or 'like x'. Simile can also display some degree of creativity and irony through the word *about*, which acts as a marker for readers of a humorous intent, e.g., *about as enjoyable as a funeral* (Bell 2016: 135).

Metonymy is a linguistic device which is fairly common in everyday language and used for reference to point to an entity employing another entity (Hidalgo-Downing 2016: 111). However, metonymy is sometimes confused with another trope, i.e., synecdoche, described as the part standing for the whole. Scholars seem to distinguish these two figures of speech in different manners, because some of them believe that synecdoche refers specifically to the part-for-whole relationship whereas metonymy refers to the whole-for-part relationship or other kinds of general associations; others, instead, consider that synecdoche involves both part-for-whole and whole-for-part relationships while metonymy involves basic associations (Dancygier and Sweetser 2014: 100). In any case, two types of metonymies have been identified, i.e., target-in-source metonymy, in which "a main, or matrix, domain stands for one of its subdomains", and source-in-target metonymy, in which "one of the subdomains stands for the main or matrix domain" (Ruiz de Mendoza Ibáñez and Díez Velasco 2002, cit. in Hidalgo-Downing 2016: 111).

2.5.3 Creativity in phrasal lexical items

Apart from single words and compounds, lexical creativity can be found in multiword strings, also called phraseological expressions, e.g., idioms and proverbs (Munat 2016: 102). As mentioned earlier, they have a fixed form and meaning which normally cannot be altered but allow for some degree of creative deformation. Kuiper (2007: 93) labels these expressions as phrasal lexical items (PLIs) which he describes as "lexical items which have phrase structure, as contrasted with single word lexical items which have word structure." Some of these items are manipulated in creative manners and such manipulation is context-dependent, local in space and time, and normally occurs only once. The necessary condition for speakers to understand the deformed expression is knowing its related base form, otherwise this creative solution cannot be grasped, as each deformation seeks to make speakers perceive the difference between the original form and the manipulated one. Moreover, the deformation should retain some cues that point to the base form so that the speaker can retrieve it from their mental lexicon (Kuiper 2007: 95-96).

With respect to their features, PLIs contain at least two words that speakers know, called lexicalised constituents, and they may include words that do not appear alone, but only in that specific phrasal lexical item, and such words are named bound words. In PLIs, there can also be unspecified places, called slots, that need to be filled with some other word, and these slots may be subject to some restrictions regarding the syntax and semantics of the word to be inserted. Some PLIs may allow the inserting of adjunct constituents and different degrees of syntactic flexibility, such as the possibility of using a passive voice (Kuiper 2007: 97).

Types of creative manipulations of phrasal lexical items are signalled in Figure 2.3 below following the classification proposed by Kuiper (2007: 99-102).

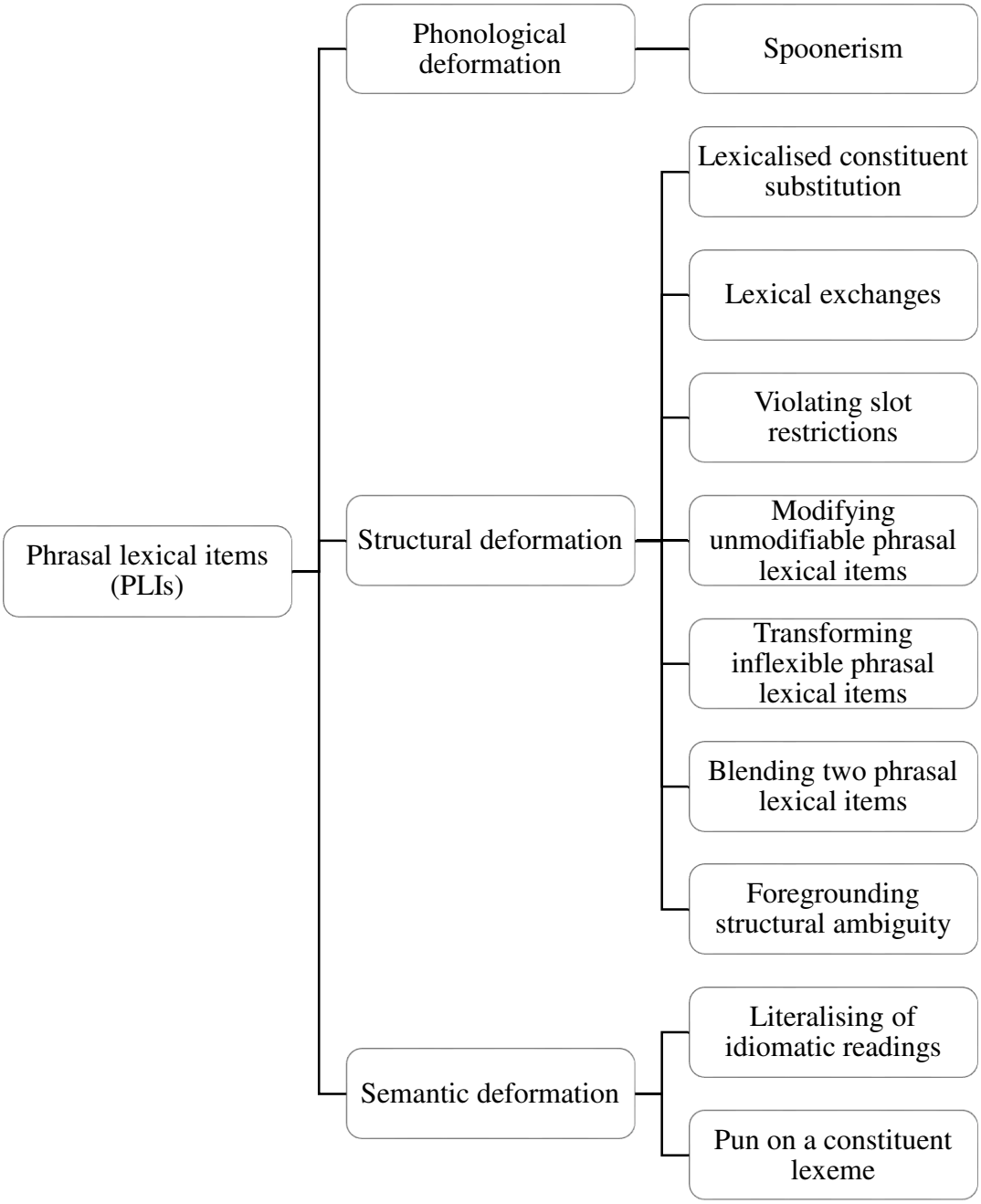

Figure 2.3 A classification of phrasal lexical items.

In terms of phonological deformations, they involve the substitutions and exchanges of phonemes. This is exemplified by spoonerism, i.e., a switch between the onsets of stressed syllables of consecutive words like *sin twister* instead of *twin sister* (Veisbergs 2007: 242).

Structural deformations can be of different types. Lexicalised constituent substitution concerns the insertion of another lexical item (which could be a synonym or could rhyme)

instead of a lexicalised constituent in a way that the base form remains accessible for the speaker, e.g., *it takes a cop to catch a thief* instead of *it takes a thief to catch a thief*. Lexical exchanges imply a switch between two words of the same syntactic category belonging to the same PLI, e.g., *a bird in the bush is worth two in the hand* instead of *a bird in the hand is worth two in the bush*. Violating slot restrictions occurs when an open slot is filled with a word that violate a conventional restriction, e.g., *take [Noun Phrase] to task* filled with an inanimate noun phrase when it normally requires an animate noun phrase. Unmodifiable PLIs can be modified for artistic reasons, e.g., *to be a moderately bad egg*, and inflexible PLIs may be transformed through passivation (e.g., *the bucket was kicked by old uncle Maurice*) of a fixed expression (e.g., *kick the bucket*), providing the base form is still recognisable. Blending two semantically related PLIs is also possible, e.g. *to burn that bridge when [Noun Phrase] comes to it* from *cross that bridge when [Noun Phrase] come to it* and *burn [Noun Phrase]'s bridges*. Due to their multi-word form, phrasal lexical items could be syntactically ambiguous, but such ambiguity is not perceived, as in a specific context only one interpretation is possible. However, syntactic ambiguity of PLIs can be foregrounded for creative intentions, such as through a different parsing (e.g., *hail, fellow. Well met*) of a phrasal lexical item (e.g., *hail-fellow-well-met*). Finally, semantic deformations involve literalising of idiomatic readings, i.e., a metaphorical PLI (e.g., *a little bird told me*) is intended in its literal meaning, or pun on a constituent lexeme, i.e., a constituent lexeme which is normally polysemous (e.g., *speech*) but has only one reading in the expression (e.g., *being left speechless*) can be intended in its unconventional meaning (e.g., the speaker has left their notes behind) in a given context. Semantic and structural deformations are not mutually exclusive as any manipulation may imply a semantic change in the base form to create humour (Kuiper 2007: 99-102).

CHAPTER 3

RESEARCH DESIGN

This chapter describes the design and methods of the corpus-driven analysis carried out in Chapter 4. It is composed of three sections. The first section introduces the object of the research and the criteria adopted to select the environment texts and build the corpus. The second section describes how the corpus was built in practice, where the texts were retrieved from, how they were collected, stored and organised. Finally, the third section presents the main features of the final corpus in terms of number of texts, number of tokens, topic of the texts, year of publication, and text types.

3.1 Research aim and method

The aim of this dissertation is to investigate the use of lexical creativity and figures of speech in environment texts written in English and Italian. Specifically, the analysis will focus on the examples of creativity in the titles and subheadings of such texts because, as explained in 2.5.1, creative devices are primarily inserted in the titles of news articles in order to fulfil the purpose of attracting readers' attention and possibly entertaining them after they managed to decode such novel formations. Titles and subheadings will be analysed without any prior assumption or hypothesis in mind, hence the conclusions will be based exclusively on what will emerge from the corpus. Data will be not only presented as they are, but they will be also compared on the basis of the types, frequency and topics of the creative techniques that were found considering different sub-corpora, as one distinction will be based on the language of the texts and another on the organisations that published them, as it will be further explained below.

In order to carry out this investigation, a corpus of such texts needed to be appropriately designed and analysed. Given the research objective, the languages selected for the corpus are Italian and English, including British and American English. It is therefore a bilingual corpus and comparable corpus as the texts it contains are written in two languages but are not the translation of one another. As examined in the first chapter, it is important to adhere to a chosen set of selection criteria to build a corpus. The criteria that have been identified are domain, language, publication date, level of specialisation, type of

documents, support, and size. With reference to the domain criterion, it has already been specified that the texts must deal with environmental issues but, since this is an extremely large domain, it was restricted on the basis of the source of such texts. Therefore, it was decided that the texts should have been chosen among the ones published by two international environmental organisations, i.e., Greenpeace and WWF. Both NGOs are globally famous for their commitment to protect the environment and ensure a healthier and more sustainable future for generations to come. Clearly, in order to reach such objectives, they must tackle several issues, also considering that they act on a global scale. As a consequence, their core battles and related modus operandi are quite different: WWF deals with six major subject areas, i.e., climate, food, forests, freshwater, oceans, and wildlife[4], whereas Greenpeace chiefly aims at reducing pollution, promoting biodiversity protection as well as peace and disarmament, including nuclear disarmament[5]. Moreover, both Greenpeace and WWF are present in many countries; specifically, Greenpeace is formed of a network of 26 independent organisations that operate on a national or regional scale in more than 55 countries distributed among Europe, Africa, Asia, the Americas, and the Pacific, all of which rely on their co-ordinating body, i.e., Greenpeace International[6]. For the purpose of this dissertation, which only studies English and Italian texts, it was decided to focus on texts published by Greenpeace UK, Greenpeace USA, and Greenpeace Italia. Similarly, WWF has offices in six continents grouped according to a range of geographical regions, e.g., Mediterranean, Arctic, Southern Pacific, Eastern Africa[7], and is active in more than 100 countries with local offices having their own websites[8] and referring to the main body, i.e., WWF International. Again, the texts that have been taken into consideration for this dissertation are from WWF UK, WWF US, and WWF Italia.

Regarding the publication date, we considered all the texts including creative and figurative language which were available in electronic format on the NGOs' websites, i.e., WWF UK, WWF US, WWF Italia, Greenpeace UK, Greenpeace USA, and

[4] WWF, 2022. About us. https://www.worldwildlife.org/about/ (accessed 17 March 2022).
[5] Greenpeace, 2022. Our values. https://www.greenpeace.org/international/explore/about/values/ (accessed 17 March 2022).
[6] Greenpeace, 2022. Our network. https://www.greenpeace.org/international/explore/about/worldwide/ (accessed 17 March 2022).
[7] WWF, 2022. Find our offices https://wwf.panda.org/wwf_offices/ (accessed 17 March 2022).
[8] WWF, 2022. Our mission. https://wwf.org/?global=show (accessed 17 March 2022).

Greenpeace Italia. Since their websites were launched only in recent years, all the texts in the corpus were published over the past few decades, more specifically from 2006 to February 2022, with eight lacking a publication date (see 3.3 and Figure 3.4).

As far as the level of specialisation is concerned, the texts published by the two NGOs address a variety of audiences. To account for variety, we decided to include all levels of specialisation, which slightly vary across (and sometimes within) the various text types. Most texts could loosely fall into the category of news stories and reports, although each website uses its own terminology to designate such categories, as it will be further discussed in 3.3. In any case, the texts that correspond to news stories type could be compared to newspaper articles, hence they are meant for a generalised audience who does not necessarily possess a specialised knowledge on such subjects. As a consequence, news stories have undergone a process of popularisation so that complex notions and concepts are rendered accessible even to lay people. Clearly, such popularisation effort was deemed essential because these texts are published online and thus can be accessed virtually by anyone. With respect to reports, their level of specialisation may vary since some of them include more specialised terminology and for this reason, they seem to address an audience that possesses some advanced knowledge on the subject, such as scientists, experts, or the authorities, institutions, governments and companies they try to influence. Nonetheless, also these reports are published online and thus they could be reached and read by everybody.

Finally, following what has been explained in the first chapter, there were no restrictions on text size either, and actually, the websites in question have been explored carefully and repeatedly in order to add more and more texts to the corpus.

Apart from these criteria, what really was thought to be fundamental for a text to be included in the corpus is the presence of any kind of lexical creativity, trope or idiomatic expressions in its title or subheadings, as this is the object of the study.

In conclusion, the study that has been carried out followed the corpus-driven approach which, as it was examined in the first chapter, uses a certain corpus to advance a theory based on the kinds of linguistic information found in that corpus. Therefore, it was possible to formulate theories about the use of creative solutions in environment texts after gathering and commenting examples found in the corpus under investigation. But

before that, it was necessary to build a corpus of environment texts in order to carry out such investigation, and the steps taken to do that are described in the section that follows.

3.2 Creating the corpus

Having established the research objective and the selection criteria, it was then possible to begin to collect a set of environment texts and try to establish whether they could constitute a sufficient number to launch the investigation. Therefore, I started to explore the websites of WWF UK, WWF US, and WWF Italia in order to find the news and the reports sections. What I first noticed is that even though their sites were different versions of the same organisation, they were not simply the translation of one another, but were actually structured in different ways. For example, WWF UK displays a section dedicated to news of different kinds in the homepage of its site (https://www.wwf.org.uk/). This section is titled *What's happening in your world* and allows users to filter which kind of news they wish to read among the available options, i.e., news, blogs, reports, success stories, and press release. All these options were examined as well as another important section of the site, i.e., *Learn*, which reunites facts and curiosities about animals, and for this reason it had to be taken into consideration. As regards WWF US, its website (https://www.worldwildlife.org/) is organised differently because it dedicates distinct sections to news and reports. In addition, the news section is actually named *Stories* and reports are referred to as *Publications*, hence, the terminology employed does not correspond to the one encountered in the WWF UK website, although they point to the same text type. Another important source of texts in the WWF US site was the *Magazine* section, which contains a collection of the issues of its magazines published quarterly and their related articles, which are all publicly available online. With respect to WWF Italia, it is notable that the change of language (and culture) has involved a change in the way information is displayed. The website (https://www.wwf.it/) presents a section of news called *Pandanews,* and news is referred to by using its Italian equivalent, i.e., *notizie*. Similarly, reports have been found under the *Pubblicazioni* section, although the publication in itself is referred to as *report* in the Italian website as well. Focusing now on the three different Greenpeace webpages, I noticed that in the UK website (https://www.greenpeace.org.uk/) news stories are collected under the section *Updates*, and are subdivided into blog, employee story and press release. Yet, reports can be found

in the *Resources* page, along with other types of texts, such as political briefing and open letter. The homepage of Greenpeace USA (https://www.greenpeace.org/usa/) includes two different links that redirect to news and reports, named respectively *Blog* and *Research*. Finally, it is possible to access to news stories and reports from the same link in the Greenpeace Italia homepage (https://www.greenpeace.org/italy/), in which the former is named *storia* and the latter *rapporto*. Therefore, once identified where to find texts, I started to examine carefully all these webpages to select and save all texts including any instances of figurative language. I also decided to classify the texts according to their topic, in an attempt to find some common features in texts dealing with the same or similar issues. Once I found a considerable number of texts, I began to copy and paste them one at a time in a Word page and then I saved them in a .txt format. I decided to proceed in this way instead of automatically convert pdf or Word documents into a .txt format to delete all the parts that do not form the text itself, such as the date of publication, the author, or other information regarding its publication, as well as images and tables because they are not supported in a .txt format. I tried to browse all the texts published in the aforementioned sections until the oldest ones and stopped checking at the beginning of February 2022. In addition, I renamed the files in a way that expresses their main features and facilitates their identification. As a result, each filename includes the language or regional variant (with ITA, UK, and US being used as acronyms), the organisation that published it (i.e., Green or WWF), the year of publication, the topic of the text (e.g. Water), and the first word(s) of the text's title. This process can be exemplified as follows: I found a news article whose title is *Watch: Tesco's burning secret* in the *Updates* section in the Greenpeace UK website. Such text was published in 2021 and after reading it, I assigned it the label Fire as a topic. Therefore, the resulting abbreviation for this text was UKGreen2021_Fire_Watch. I proceeded then to coin an abbreviation for each text, and such abbreviations were not only useful to recognise the files I saved, but also to address texts when I comment the creative solutions they contain in the following chapter. Once the operations of collecting, copying, saving, converting and renaming the texts were completed, a comprehensive table that summarises the composition of the corpus was compiled (see Appendix 1).

3.3 The final corpus

This section aims at outlining and making observations about the texts in the corpus before analysing their titles and subheadings in the next chapter. To present the final corpus, the table in Appendix 1 was designed to provide a comprehensive view of the features of the texts in the corpus, such as their title and the link from which they were retrieved.

First of all, it is necessary to define the size and the composition of the corpus. As mentioned earlier, I had already grouped texts into smaller sub-corpora, i.e., the Italian and English sub-corpora. In the case of the English sub-corpus, a further distinction could be drawn considering the language variety of the text, i.e., British English and American English. Further, two other sub-corpora can be identified if considering the organisation that produced them, i.e., Greenpeace and WWF. Overall, I gathered 230 texts, 80 of them belonging to the Italian sub-corpus and the remaining 150 belonging to the English one. Figure 3.1 illustrates more precisely the distribution of the texts in the corpus by language and author. As specified in Appendix 1, a few texts are labelled as the product of Greenpeace International or Greenpeace Research Laboratories. Such texts are reports that were found in the Greenpeace US website and that were also included in the Greenpeace US category because they do not imply any differences for the purposes of this dissertation. The same could be said for one text published by WWF International and encountered in the WWF US website which was then comprised in the WWF US category.

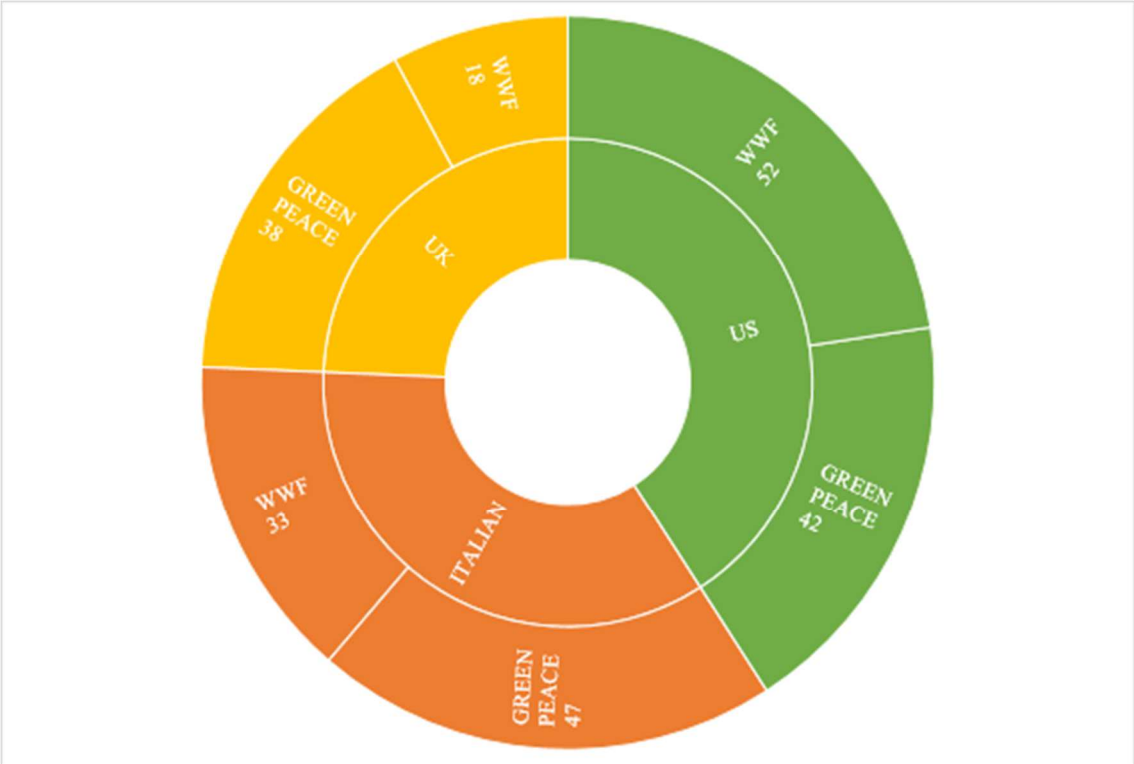

Figure 3.1 Corpus structure in relation to the number of texts.

As can be seen in the pie chart in Figure 3.1, the corpus is not perfectly balanced, as the English sub-corpus is bigger than the Italian one, and the former roughly accounts for the two-thirds of the texts of the whole corpus. Yet, if one wishes to take into account the number of texts that belongs to each variety of language, the Italian and the American English sub-corpora are more balanced, as the former amounts to 80 and the latter 94, and a greater disequilibrium can be registered in the case of the British English sub-corpus, which only amounts to 56 texts. A similar pie chart was generated in order to verify whether this unbalancing exists even considering the number of tokens per text. Such number was determined by uploading each text in .txt format on AntConc and specifically, by using the Word List Tool, which, once started, indicates how many tokens are included in the text. After gathering all the figures so obtained, it was easy to notice that the number of tokens of the texts included in the corpus ranges from less than one hundred to nearly 30,000. However, it did not come as a surprise that the figures are so widely varied as a consequence of the different text types that the corpus contains and their different origins, as already discussed. Overall, the total number of tokens in the

corpus is 654,984, which are distributed among the different organisations and language varieties as shown in Figure 3.2.

Figure 3.2 Corpus structure in relation to the number of tokens.

As can be easily observed, the distribution of tokens in the two sub-corpora mirrors, or better, intensifies the unbalancing of the whole corpus, as it is more evident the predominance of the English sub-corpus, and especially the number of tokens of the texts that come from WWF and Greenpeace US is much larger than the rest of the corpus. Yet, this does not pose an insurmountable problem as it is possible to analyse corpora and use them as a source of data in order to find examples and to verify theories even when it has been recognised that the corpus is unbalanced, just like it was explained in the first chapter. Therefore, if one wishes to comment the frequency of examples found in the corpus, it is important to normalise raw numbers first, in order to obtain percentage data that are comparable and can be used to make generalisations about language.

As mentioned above, I decided to label each text according to their topic. The matches between texts and topics were based on my personal judgement for several reasons. First, it is true that most texts, both news stories and reports, were accompanied by their own tags assigned by the organisation itself, as such tags could help and guide users to identify the kind of text they are reading, but many others, specifically those found in the Greenpeace US website and in the *Magazine* section of the WWF US site, lack this categorisation. As a consequence, even though I thought at first to follow the tags already applied in order to obtain perhaps a more objective and balanced labelling, I was not in the position to do that because not all texts came with their own tags. Second, several texts were associated to more than one tag, as, clearly, one text can fall into many categories if it covers more issues at a time or if the topics overlap. But since my categorisation implied one label per text, I had to choose in a subjective manner among those already proposed. Third, in some cases, I deemed that a different label would have been more suitable for a certain text, hence I opted for another one based on my personal judgement. On another perspective, this subjective classification was actually necessary if considering that texts were produced by different sources as well as in different languages, and consequently, the parameters of such categorisation might have varied from organisation to organisation, from language to language, and perhaps a more uniform classification of texts was indeed necessary. As a result, I decided to follow somehow the labels proposed by the different sites and I tried to make them more general, because, for example, Greenpeace UK makes a distinction between different types of pollution, such as *Plastic pollution* or *Air pollution*, but for my categorisation I chose to use the general label *Pollution* for texts that deal with any type of pollution, and I used the label *Plastic* to reunite texts that deal with issues of any kind related to plastic. Another example is the label *Water*, which again is a generalisation of more specific tags encountered, such as *Mare* (i.e., sea) in Greenpeace Italia or *Fiumi* (i.e., rivers) in WWF Italia. Another example of generalisation is the label Food, which also comprise the *Meat and dairy* one found in Greenpeace UK. Another matter concerns the labels *Forests* and *Fire*, which overlap in many texts, so I decided to assign the former when texts were about forests in general without mentioning fires. For this reason, I also chose not to use the label *Deforestation* because not all the forest-related texts deal with such topic and, in my opinion, having *Forests* and *Deforestation* would have been an unnecessary

distinction. A finer distinction can be observed instead in the case of texts that deal with animal life, as this broader topic is subdivided into a series of labels, namely, *Animals*, *Insects*, *Marine Life*, and *Wildlife*, in order to better suit the content of such texts. Moreover, I chose to use the more specific label *Climate Change* instead of the general *Clima* (i.e., climate) encountered in Greenpeace Italia as it is actually used in Greenpeace UK and in WWF Italia (or better, the Italian equivalent *Cambiamento climatico*) and in my opinion it helps to focus better the issues proposed in such texts. In the end, the labels that have been identified for the texts of the corpus are 29. Their distribution, irrespective of language, is shown in Figure 3.3.

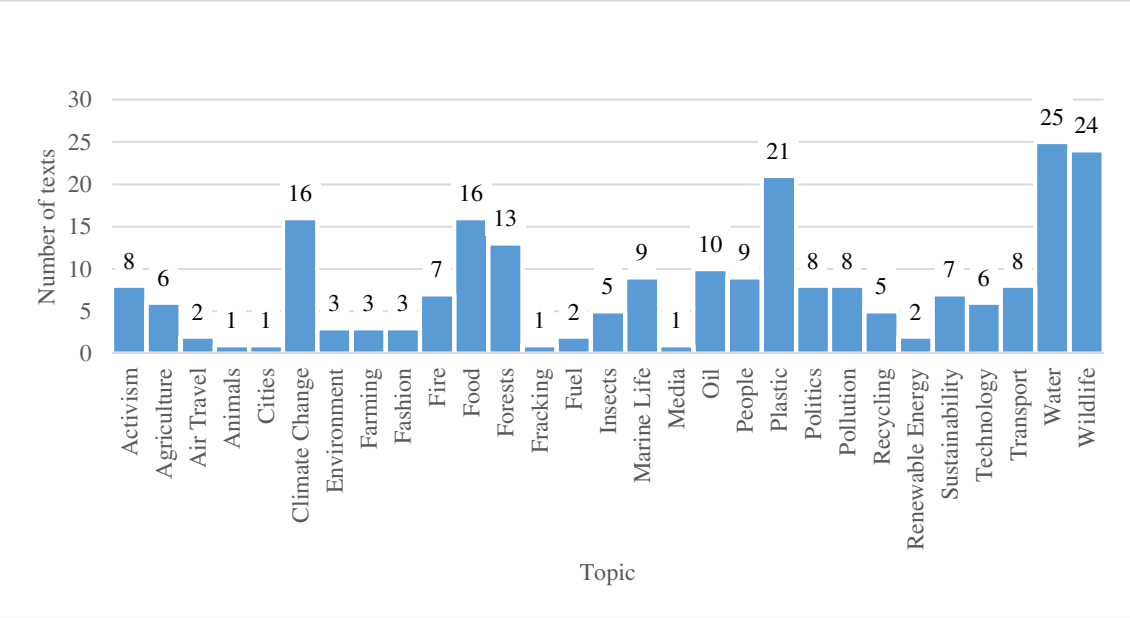

Figure 3.3 Distribution of the texts of the corpus according to their topic.

Looking at this list of topics, it is easy to appreciate how varied environmental communication is. The interests of the two NGOs taken into account cover several aspects related to nature but also human lifestyles. If considering only this sample, it is possible to recognise that there is a dominance of texts that deal with issues related to water, plastics, and wildlife, as well as climate change, which appears as the trend topics for these environmental organisations at the present time.

Another aspect that needs to be discussed concerns the year of publication of the texts included in the corpus. In most cases, the date was indicated in the text itself, but in others it had to be deduced from related links or documents or by making use of the Google research page. However, the exact year of publication could not be retrieved for some

texts published by WWF UK as these were not properly news articles, but web pages that present facts about animals or address a general topic. For such texts, I decided to signal the absence of the year of publication in both Appendix 1 and Figure 3.4 by using three question marks.

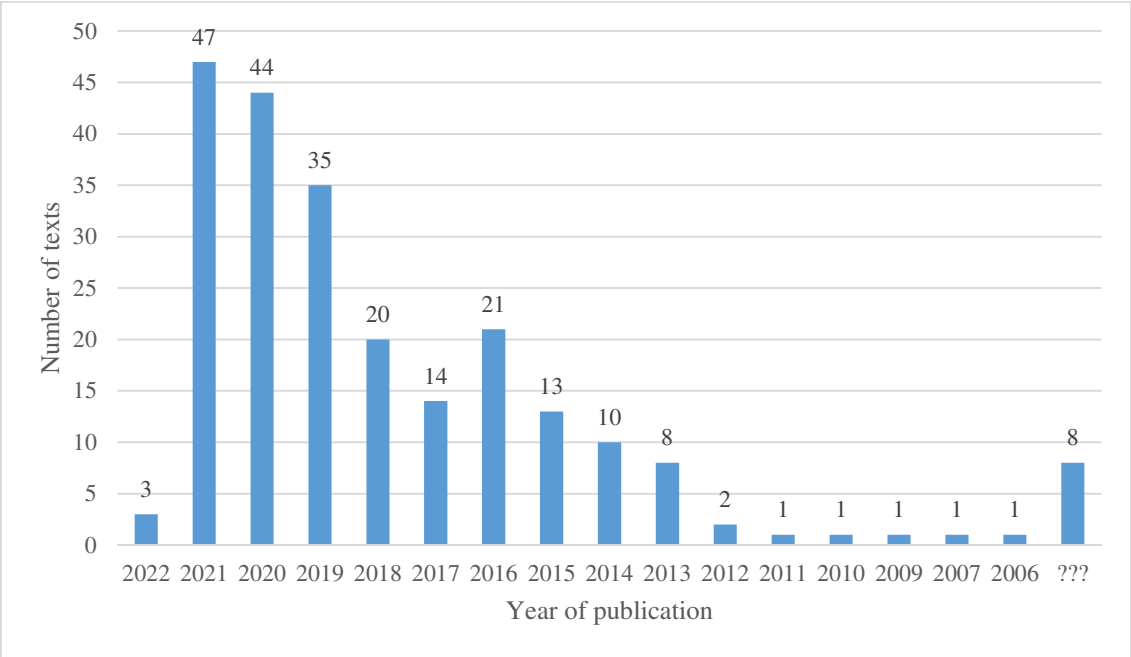

Figure 3.4 Distribution of texts across time.

Most texts belong to the recent years, namely, 2022, 2021, 2020, and 2019. In the less recent years, the number of texts decreases, apart from 2016, something that I first noticed when I was looking for texts to be contained in the corpus. The oldest text included in the corpus is dated 2006. Perhaps this predominance of most recent texts is due to the fact that the spread of the Internet at a global scale has increased over time, so that more and more people have gained access to this new medium, and also because environmental discourse is extremely topical and NGOs share the need to shed more light on it nowadays.

As mentioned above, a factor that affects the length and, in practical terms, the number of tokens in a text, is its type. Before giving more details about the different types of publication presented in the corpus, it is necessary to observe that in most cases the terminology of the original website was maintained even though different terms point to the same text type. Figure 3.5 provides a comprehensive overview of the number and the types of texts that form the final corpus.

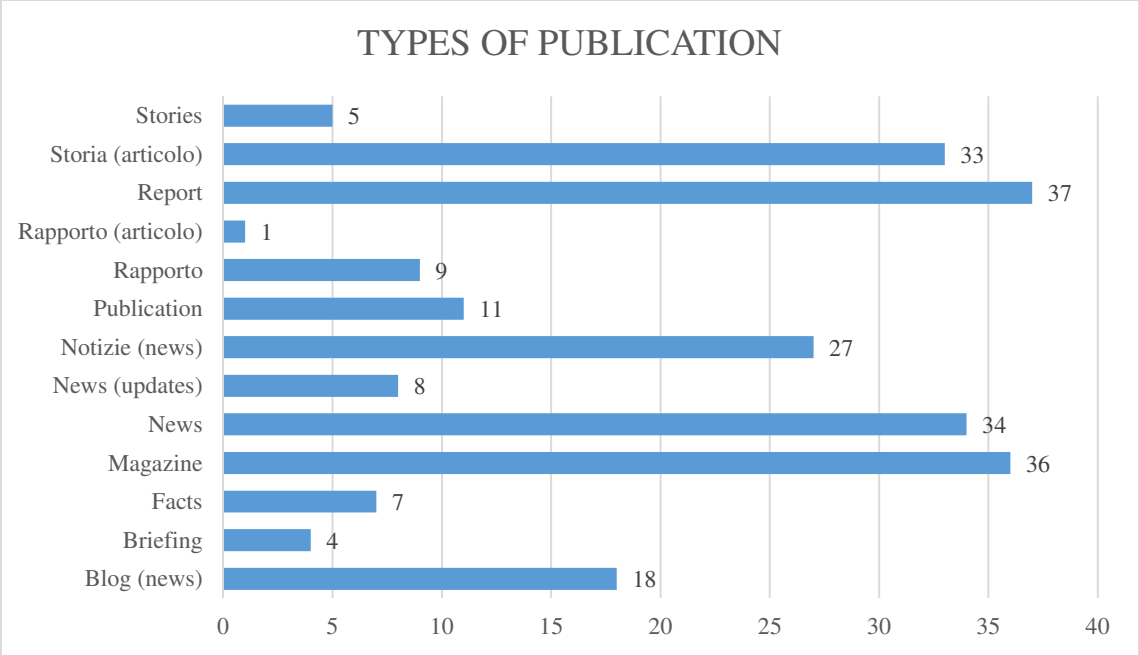

Figure 3.5 List of text types included in the corpus.

It should be noted that Blog (news) for Greenpeace US, News for Greenpeace UK, News (updates) for WWF UK, *Notizie (news)* for WWF Italia, *Storia (articolo)* for Greenpeace Italia, and Stories for WWF US can be said to be all news articles published online by such organisations. They constitute the greatest part of the corpus as this type of text is published daily, even more articles per day, and as a consequence, this higher frequency is reflected in the corpus as well. The term *Briefing* is used by Greenpeace Italia to indicate a report which is shorter in terms of pages and tokens than other reports published by the same organisation. Moreover, it is important to highlight that the Italian briefings chosen for this corpus are not translations, or better, summaries, of original English reports, as all the texts included are originated in a certain language or variety of language, thus all the translated documents found in the different websites were excluded from the corpus. As regards the text type Facts, it is a kind of article in which WWF UK focuses on specific animals, which are described by presenting a list of curiosities about that animal. This kind of text is also found in Greenpeace UK where it was labelled as News, and in WWF US, even though no such texts were included in the corpus as they do not contain any metaphor in their titles or subheadings. The Magazine section of WWF US was already commented above but here it can be appreciated the high number of texts

that came from it, as a consequence of the multitude of articles that each issue contains. Conversely, the kind of texts labelled as Publication for WWF US, Report for Greenpeace UK, WWF UK, Greenpeace US and WWF Italia, and *Rapporto* for Greenpeace Italia can be found in a smaller number. This is because reports are normally larger publications which concern findings and analysis of certain (environmental) issues as a result of a research investigation and are normally presented in a standardised format with the aim of informing a certain audience. Therefore, their drafting requires more time and effort than article news posted daily and, consequently, their publication is less frequent, as exemplified in Figure 3.5. Finally, there is one type of text that has been included which has a slightly different label, i.e., *Rapporto (articolo)* and which refers to a news article written by Greenpeace Italia with the purpose of informing readers that a certain report has been published and in order to provide the main findings of such report. This kind of text was actually very frequent in all the different sources but in most cases, these texts feature the same title used in the report. Hence, to avoid noise in the corpus caused by the presence of both the article and the report in the corpus, only the report was included being an extended version of the corresponding article. In other cases, the title of the article is different from the report's one, but the former was not included in the corpus as it does not present a metaphor useful for the purposes of this dissertation. In this specific case, however, the news article contains a metaphor that is not present in its related report and for this reason it was incorporated in the corpus instead of the report.

Now that the corpus that was designed specifically for this dissertation have been presented, it is possible to discuss the lexical creativity found in its texts, which will be the focus of the chapter that follows.

CHAPTER 4

FIGURATIVE LANGUAGE: A CORPUS ANALYSIS

This chapter describes and discusses the metaphors found in the titles and subheadings of the texts in the corpus that was presented earlier. The first section will outline the macro-categories of lexical creativity that were employed in the corpus and then it will provide some examples to further describe the phenomenon. The second section will focus on those texts that contain two or more creative devices in the attempt to find some correlations between the topics of such metaphors and the topic of the related text. The third section moves on to compare the Italian and English sub-corpora considering the type and the frequency of the creative techniques they employ and also the correlation between their topics and the one chosen for the text in which they are used. Finally, a similar contrastive analysis is carried out on the texts published by Greenpeace and WWF.

4.1 An analysis of titles and subheadings

The previous chapter has outlined the corpus that was compiled in order to carry out an analysis of the types of lexical creativity used in environment texts. As explained earlier, metaphors should have appeared in the titles or subheadings of the texts in order to be chosen to constitute the final corpus. A comprehensive table of all the titles and subheadings taken into consideration could be examined in Appendix 2, where for each text, identified by an abbreviation, the creative formations in the titles and subheadings are emphasised using bold formatting and are labelled according to their type and topic. The total number of titles and subheadings including (at least) an example of linguistic creativity is 298, of which 164 feature creative devices in their titles and the remaining 134 in their subheadings. The distribution of such items in the corpus is illustrated in Table 4.1 below.

ORGANISATION	TITLES	SUBHEADINGS	TOTAL
Greenpeace UK	25	25	50
WWF UK	9	20	29
Greenpeace USA	40	6	46
WWF US	21	55	76
Greenpeace Italia	45	4	49
WWF Italia	24	24	48
Total	*164*	*134*	*298*

Table 4.1 Number of titles and subheadings containing any metaphor divided in the different sub-corpora.

It is possible to observe that the total number of titles and subheadings in question is remarkably similar for Greenpeace UK, Greenpeace USA, Greenpeace Italia and WWF Italia (i.e. approximately 50). Only WWF US presents a higher number of metaphors, namely 76, whereas WWF UK includes less than 29 examples. For the purposes of this analysis, the items have been organised into ten different macro-types of metaphorical solutions, on the basis of the examples found in the corpus. Table 4.2 below presents such macro-categories with their corresponding number of examples.

MACRO-CATEGORY	TOTAL
Wordplay	88
Creative polysemy	62
Idioms	4
Creative PLIs	60
Cultural and intertextual references	39
Figures of speech	17
Phonology	12
Figurative use of language	7
Word-formation devices	4
Word-creation devices	5

Table 4.2 Types and frequency of creative language devices in the corpus.

Each macro-category will be the focus of a dedicated section below and will be discussed by providing examples from the corpus. In some cases, it was possible to further subdivide such categories as they could be considered a hyperonym of more specific types of lexical creativity, which is the case of figures of speech or creative PLIs, which will be outlined in their dedicated subsections.

4.1.1 Wordplay

As Table 4.2 shows, the most common type of creative solution found in the corpus is wordplay (also known as language play), which was described in section 2.5.1 as a creative solution based on the ambiguity of words that could generate a clash between different meanings. This device is employed in all language varieties and by both Greenpeace and WWF with the purpose of creating some sort of connection between the words chosen for the titles and subheadings and the topic of the related text. An example of this could be the title *Palming off a national park* (USWWF2013_Forests_Palming), which includes the phrasal verb *palm off* that means to persuade someone to buy something you want to get rid of (Macmillan Dictionary). In this case, it may refer to the palm oil exported from Indonesia that was grown illegally in the Tesso Nilo National Park, causing its deforestation. In addition, it is easy to observe that the word *palm* was purposely chosen as the object of study of this investigation is exactly palm oil, hence it creates this reference to the object of study of the report in the title itself. A similar example was found in the Italian sub-corpus as well, more specifically, in relation to the subheading *Cambiamo questo sistema malato,* lit. *Let's change this sick system* (ItaGreen2022_Farming_Epidemie). The Italian adjective *malato* is understood here in the figurative sense of problematic, of a system that needs to be changed and improved. The system in question is intensive farming, which needs some changes so that the spread of diseases can be prevented. Since this article deals exactly with epidemics and diseases, *malato* – in its literal sense of being sick, ill – creates this connection with one keyword of the text, making this literal meaning easily accessible to Italian readers.

Other titles include a slightly different kind of wordplay, which involves the choice of two (or more) words that are related at the semantic level. This could be seen in the case of *Ghost gear: the abandoned fishing nets haunting our oceans* (USGreen2019_Water_Ghost), where the noun *ghost gear* is defined in the report as a

specific type of plastic pollution which is particularly deadly for marine life because it derives from abandoned or lost fishing gear, such as ropes, nets and lines, specifically designed to catch fish. The verb chosen for the title, i.e., *haunt*, creates another example of wordplay, as it usually denotes the action that ghosts (supposedly) perform in a certain place (oceans, in this case). It thus creates a link with the literal meaning of the noun *ghost* as a spirit without body in the same title. The Italian sub-corpus makes large use of this kind of wordplay as well, as exemplified by the title *Basta cibo che divora le foreste,* i.e., *Stop food that devours forests* (ItaGreen2020_Agriculture_Basta). *Cibo* and *divorare* are two words that belong to the same semantic field, i.e., food, and even though *divorare* is understood in the figurative meaning of destroying forests (Treccani), this wordplay is originated from the match with *cibo*, which highlights the literal meaning of eating.

All the examples of wordplay provided so far are related to single word units, but this device was also employed in relation to idiomatic expressions which are used to establish a link with the other words of the title or the general topic of the text. A case in point is the title *6 ragioni per cui l'industria dell'auto deve immediatamente cambiare strada*, lit. *6 reasons why automotive industry must change course immediately* (ItaGreen2017_Transport_6). The idiomatic expression in question, namely, *cambiare strada*, means to make different choices, to change one's behaviour or lifestyle. This meaning is maintained also in this context, as what Greenpeace wishes is that fossil fuel vehicles are replaced with green ones. However, the noun *strada* (i.e., *road*) is also conceptually related to *auto* (i.e., *car*), thus creating this language play with an idiomatic phrase related to a keyword in the title. The same could be said for the English sub-corpus, e.g., in the title *Election red alert — all hands on deck* (USGreen2020_Politics_Election). The idiom *all hands on deck* is commonly used to call all the people available to come to help, and this is what Greenpeace tried to do in occasion of the 2020 US presidential election. But in order to understand where the wordplay lies, it is necessary to explain the origin of such idiomatic phrase, which derives from the naval context, where it was yelled by the captain of a boat during an emergency, such as a storm, so that all sailors would come to help on the deck of the boat (Writing explained). Therefore, the reference to an emergency situation hinted by *all hands on deck* is connected and emphasised through the use in the same title of *red alert*, an expression that indicates that there is an imminent

danger (Longman Dictionary), in this case, the possibility that the election could be manipulated.

Another particular type of wordplay involves the use of certain words that are linked to a company mentioned in the same text. Examples are found in both the English and the Italian sub-corpora. For instance, the title *Qua la zampa! Whiskas ci ha ascoltato!*, lit. *Give me your paw! Whiskas has listened to us!* (ItaGreen2016_Food_Qua) contains the phrase *qua la zampa* which could hint at the gesture of holding hands when meeting an agreement, what Greenpeace and Whiskas seemed to achieve. Moreover, this particular expression is a verbal command used to train dogs and its presence is motivated by the fact that Whiskas, the company in question, is a pet food company. In the English sub-corpus, examples include the following titles: *Flame-grilling the Amazon: Greenpeace UK climbers drop giant wildfire banners over flagship Burger King* (UKGreen2019_Fire_Flame) and *Greenpeace present Burger King UK CEO with award for flame-grilling The Amazon* (UKGreen2019_Fire_Greenpeace). In both cases, the verb *flame-grill* is undoubtedly a reference to Burger King's popular products, as such verb indicates a way of cooking meat. A final example could be the title *Amazon is delivering destruction* (USGreen2020_Pollution_Amazon), in which the verb *deliver* means contributing to the destruction of our planet, but also refers to Amazon's main business, i.e., express delivery.

In conclusion, wordplay was found in examples where a certain word or idiomatic expression is used to establish a connection between another word of the title or subheading, with the topic of the text, or even to denote the actions of the company mentioned in the text, thus creating a coherent title or subheading if considering the semantic level of language. Particularly interesting is the fact that these organisations play with the literal and figurative sense of single words and multi-word expressions which are easily accessible to and popularly known among the general public, which might explain why this device is so widely used in the corpus object of this analysis.

4.1.2 Creative polysemy

Another type of lexical creativity which is widely used in the corpus under investigation is what was named creative polysemy. The concept of polysemy was mentioned in the second chapter in relation to the features of specialised discourse, more specifically, to

the monoreferentiality feature, according to which terms should possess only one meaning in order to avoid cases of ambiguity. However, in the texts taken into consideration, it was observed that the polysemy of words is extremely exploited in both the English and the Italian sub-corpora, by WWF and Greenpeace alike, with the purpose of emphasising ambiguity and foregrounding more interpretations of single words, collocations, or even phrases. The adjective *creative* was added to describe such phenomenon because the type of polysemy identified is originated by the particular context in which the word, collocation or phrase is inserted. In order to better explain this device, a series of examples taken from the corpus will be provided, and they concern cases of creative polysemy at the level of words and phrases.

The most common type of creative polysemy in the corpus is the one that involves single words, which was found in 66% of cases. In the English sub-corpus, the title *Contaminating the courts* (USGreen2018_Environment_Contaminating) takes advantage of polysemy in the verb *contaminate*, which literally means to pollute the environment, which is what some corporations do when they continue their business-as-usual activities and try to block the approval of laws concerning environmental protection in order to preserve their business. Yet, *contaminate* could be also interpreted in the sense that, when such companies failed in blocking environmental reforms, they try to influence courts in a negative way (Longman Dictionary) and weaken environmental protections without anyone even noticing. Another example could be the title *Fossil fuel racism*, in which the polysemy of the word *fuel* was extensively exploited, because as a verb it means to worsen a situation (in this case, racism) by saying or doing something (in this case, by using fossil fuels), but *fuel* could be used as a noun in relation to fossil, thus creating a double syntactic construction for this title.

If considering the Italian sub-corpus, there are at least 6 titles and subheadings that include a case of creative polysemy in relation to the word *insostenibile* (lit. *unsustainable*). For instance, it is contained in title *Una banca insostenibile: Intesa Sanpaolo contro il clima, l'ambiente e le comunità,* i.e., *An unsustainable bank: Intesa Sanpaolo against the climate, the environment and the communities* (ItaGreen2021_Pollution_Una), where it could be understood in the sense that the Italian bank could not be defended because of its financial relationships with the fossil fuel industry but also in the sense that it contributes to pollute the planet by financing such polluting industry (Treccani). Equally,

in the subheading *Situazione insostenibile denunciata alle autorità*, i.e., *Unsustainable situation reported to the authorities* (ItaWWF2022_Pollution_Campania), *insostenibile* could convey the meaning that contaminated land, in which waste of any kind, including stolen and abandoned cars, can be found, cannot be tolerated anymore, but also the meaning that this situation has a negative impact on the environment.

With reference to idiomatic expressions, an example of creative polysemy is found in the title *Send them a sign that #wewontforget* (UKWWF_Activism_Send), where the expression *send someone a sign* is understood in both its idiomatic meaning of showing one's intentions, but also in its literal sense. Indeed, this text suggests people to make a creative sign that may be shown to UK and global leaders in order to remind them that nature requires to be protected not only with mere words, but also with concrete actions. Another example is encountered in the title *In the pipeline* (USGreen2019_Oil_InThe), which is also an idiomatic expression that is understood in its figurative meaning of something planned, in preparation (The idioms). Yet, the literal interpretation of *pipeline* as the object used to send gas or oil is also available since the report in question is about the construction of new tar sands pipelines in Canada and in the USA. A final example could be the title *In too deep* (USWWF2021_Water_InToo), which is also an idiom that indicates that someone found themselves in a difficult situation from which it is not easy to escape (Merriam-Webster). This sense is maintained in the publication in question, which deals with deep sea mining and all the problems it has caused to oceans, where this idiom could be also understood literally as deep sea mining is a process done on seafloor. Furthermore, some texts present a particular case of creative polysemy, as they start from an actual form of activism described in the text to originate a double reading of its title and subheadings. For example, the subheading *Monkey business at Burger King HQ* (UKGreen2018_Activism_Six) comprises the idiom *monkey business*, which is used to indicate silly acts, illegal activities or even deceitful conduct and it was originally coined to mock African-American slaves in the first half of the 19th century (The idioms). The idiomatic meaning refers here to the fact that Burger King is acquiring enormous quantities of meat and soya from Brazil, thus fostering the deforestation of the Amazon, something that Greenpeace probably regards as an illegal activity. But apart from that, the literal meaning of the noun *monkey* hints at the demonstration against Burger King where activists were dressed as spider-monkeys, which is what the article is about.

Overall, in the corpus creative polysemy is another device that creates associations among words on the basis of their polysemous nature and the specific context in which they are inserted, and this makes it possible such creative use of language. More cases of creative polysemy will be discussed in the following sections along with other techniques that are comprised in the same text.

4.1.3 Idioms

Idioms are formed of a precise string of words that together acquire new meaning, different from the one they commonly have when they are taken in isolation (see 2.3.1). Before exploring other ways in which idiomatic expressions can be manipulated for artistic and creative reasons, this part will discuss some titles and subheadings in which idioms are used by maintaining both their figurative meaning and original form. As can be seen from table 4.2 above, there are only few cases of idiomatic expressions that are not modified in any way and all 4 of them belong to the English sub-corpus.

A first example is the title *Polluting plug-in hybrids are the car industry's "wolf in sheep's clothing"* (UKGreen2020_Transport_Polluting), which comes with the idiom *wolf in sheep's clothing*, normally used to refer to something, i.e., plug-in hybrid cars, which looks harmless on the outside, but conceals something dangerous on the inside, i.e., the pollution caused by those plug-in hybrid cars (Collins Dictionary). Therefore, since the article is not about wolves or sheep, the meaning of the idiomatic expression is maintained to denote such cars and it is not used to create any other connections, unlike what was done in the previous examples. This could be explained by the fact that this idiom was a quote of a Greenpeace activist which was included in the title, and this is the reason why it was inserted between quotation marks.

As regards the subheading *4. Waste not, want not* (USWWF2014_Environment_Monks), it includes a proverb which means that if one does not waste anything, they will have whatever they need whenever they need it. This sense is also maintained in the article, as it explains that water should not be wasted because people of some villages in the Himalayas have access to clean water only twice a day, so nuns teach them to conserve it for times of need.

In summary, the texts in the corpus make large use of idiomatic expressions but the cases in which they are not altered at all are just a minority, an exception, thus demonstrating how both Greenpeace and WWF have a larger tendency to manipulate such phrases.

4.1.4 Creative PLIs

Phrasal lexical items were introduced in the second chapter (2.5.3) as an umbrella term for idioms, proverbs and other multi-word expressions that have a fixed meaning and form, and these canonical meaning and form are what is stored in speakers' mental lexicon. For this reason, their manipulation is not conventionally permitted but as already discussed, PLIs could be altered for creative reasons and with the purpose of adapting them to the context in which they are employed. The fundamental condition for them to be grasped and appreciated is that the original form must be known by the reader and the altered version must contain some clues that point to the original PLI. From Table 4.2 above it is possible to see that this is one of the most frequent creative solutions in the whole corpus and, among the possibilities described in 2.5.3, the types of deformations of PLIs effectively included are lexicalised constituent substitution, literalising of idiomatic readings, and modifying unmodifiable phrasal lexical items.

Several examples of lexicalised constituent substitution could be found in all the sub-corpora, whereby other words are inserted instead of one or more lexicalised constituents, and these substitutions are motivated by the topic of the text in question. For instance, the title *Oil in the cloud* (USGreen2020_Oil_Oil) originates from the idiomatic phrase *head in the clouds*, which is used to indicate that someone is absentminded or wastes too much time thinking about something impractical (Merriam-Webster Dictionary). Here, the substitution of *head* with *oil* and the use of the singular *cloud* instead of the plural can be explained by the context, namely, a report that investigates how the oil and gas industry uses cloud services to extract more oil and gas and, at the same time, to cut production costs. Thus, *cloud* is understood in the sense of the services that are delivered through the Internet, such as data storage, software, servers, etc. (Investopedia). Hence, substitutions appear to be carefully designed. This can be also observed in the subheading *For your ears only* (UKGreen2020_Media_TheGreat), where the original idiom *for your eyes only,* which is still accessible, is generally used to refer to a letter, a document, a message that is meant for a specific person (Macmillan Dictionary). Yet, here *eyes* was substituted with

ears as the related part of the article presents a number of podcasts, i.e., radio programmes that can be only listened to and that are recorded only for people's ears.

This creative device is also used to modify proverbs, and this is the case of the title *Eni, le bugie hanno le zampe corte!*, lit. *Eni, lies have short animal legs!* (ItaGreen2020_Oil_Eni). The original Italian proverb is *le bugie hanno le gambe corte,* lit. *lies have short legs*, and it means that lies will end up revealing themselves as such eventually. In the title, *gambe* was replaced with *zampe* (*animal legs*) because Eni's famous logo is the 6-legged dog, and in Italian *zampe* is the correct noun to refer to dogs' legs. Hence, the substitution is motivated to create this connection with the lies that the energy company is supposed to tell about its commitments to reduce greenhouse gas emissions to adopt a greener business model, as explained in the article. Another Italian proverb presents a case of lexicalised constituent substitution, e.g., in the title *Trivelle, gas e clima: tra i selfie e il fare ci va di mezzo il nostro mare*, lit. *Drills, gas and climate: our sea is caught in the middle between selfies and the doing* (ItaGreen2019_Oil_Trivelle), whose original form was *tra il dire e il fare c'è di mezzo il mare* (the Italian equivalent of the English proverb *there is many a slip between the cup and the lip*), used to refer to someone breaking a promise or when putting theory into practice is difficult. Again, the original structure of the proverb was maintained but a few changes were made to suit the context of the article. First, *dire* was substituted with *selfie* in order to hint at the fact that Italian politicians greeted activist Greta Thunberg and took many selfies with her, giving the impression that they cared about the environment and the ideas she proposed. However, this was just an act, an illusion, as the Italian government refused to sign a document to reduce greenhouse gas emissions (*il fare*). In addition, instead of financing the development of sustainable energy in Italy, the government continues to invest in natural gas, which is part of the pollution problem and directly concerns the Mediterranean Sea (*ci va di mezzo il nostro mare*).

Furthermore, the corpus contains examples of lexicalised constituent substitution that involve collocations, such as the subheading *Uncommon denominator* (USWWF2016_Technology_HowA). The original phrase *common denominator* denotes a method used in mathematics to sum fractions with different denominators, or it could be used more figuratively to refer to a common theme (Merriam-Webster Dictionary). Here it is used in the negative form to indicate that unfortunately, the device that helps

turtles described in the article is still not common at a global level. Another example is found in the subheading *Critically endangered socks* (UKWWF_Sustainability_Green), which is a manipulation of the collocation *critically endangered species*, used to describe species that face an extremely high risk of extinction. Here, *socks* was used instead of *species* as the gifts suggested in the article are eco-friendly socks that are available in different animal designs, such as giant panda, snow leopard, orangutan, Amur leopard, which are some of the animals that WWF protects from extinction. Another example can be drawn from the Italian sub-corpus, i.e., the title *Crimini di natura l'UE rafforza il contrasto*, lit. *Nature crimes, EU intensifies the fight* (ItaWWF2021_Wildlife_Crimini). Also in this case, the original collocation *crimini di guerra* (i.e., *war crimes*) was modified by replacing *guerra* with *natura* as the article deals with the changes that WWF wishes to be included in a new European Directive for more effective laws to deter environmental crimes, such as pollution crimes, illegal trafficking of waste and wildlife species.

There are also two examples that involve a phrasal verb, namely, *put forward*, which means to propose, to suggest an idea or opinion to be discussed in order to make a decision (Macmillan Dictionary), in which *put* was substituted with a near homophone. This is seen in the subheading *Pet forward* (USWWF2016_Food_WhatS), where *put* was replaced with *pet* because the related article explains that the biggest pet food companies are developing new guidelines for a more sustainable production of pet food, hence the meaning of the original phrasal verb was maintained in this creative solution as well. Moreover, there is a change of only one phoneme between *put* and *pet* and consequently, it could be regarded as a case of creative phonology, which will be further described in 4.1.7. The second case is presented in the title *Power forward* (USWWF2021_RenewableEnergy_Power), and such replacement could be understood if considering the content of the related report, which examines and evaluates renewable energy commitments made by some companies. Therefore, *power*, in the sense of energy, is the main topic here and this is why it was used instead of *put*. Also in this case, some sort of similarity in the phonology of *put* and *power, at* least in the present of the occlusive [p], and the idea of proposing something (a commitment) that comes with *put forward* is also maintained.

In conclusion, all these examples show how titles and subheadings substitute elements in various kinds of PLIs (idioms, proverbs, collocations, and phrasal verbs) to make them

more suitable to the text they refer to. Yet, in all these cases, they maintain the original structure and other fundamental lexical elements so that readers could still access the original phrase and appreciate the modification introduced, which is always explained by the surrounding context.

Second, literalising of idiomatic readings is a deformation that concerns the semantic level of PLIs, as in a certain context they are not understood in their idiomatic or figurative sense, but in their literal one. For example, the title *Testing the Waters – Microplastics in Scottish Seas* (UKGreen2019_Plastic_Testing) contains the idiom *test the waters*, which commonly means to verify people's reaction or interest through a preliminary test before adopting it (Merriam-Webster Dictionary). In this case, the idiom is used in its literal sense as what was tested is the Scottish coastal waters to verify the presence of microplastics in them. Another example of idiomatic expression that is understood in its literal meaning is found in the subheading *Walking the line*. Specifically, *walk the line* means to avoid taking a position in a certain situation, but here it is used in a more literal meaning as volunteers, in order to track tigers, walked along a line that they had previously identified. In the Italian sub-corpus, the title *Non ce la beviamo*, lit. *We do not drink it* (ItaGreen2017_Water_Non) is actually an idiomatic expression which means that one does not buy what someone else is saying as it is most likely a lie; its English equivalent would be precisely *we do not buy it*. However, in this report, the meaning of such expression was literalised, in the sense that people will not actually drink that contaminated water which can cause serious damages to their health. Moreover, this type of deformation also involves adjectives, as can be seen from the subheading *Most sharks are cold-blooded*, as *cold-blooded* is generally used to describe a person who does not show concern or pity when other people are suffering, but in this case, it refers to the fact that most sharks have a body temperature that changes according to the water they swim in, hence its figurative meaning was literalised (Longman Dictionary). Therefore, it is always the context that guide the reader towards a literal interpretation of idiomatic phrases, and this is done for creative reasons.

Third, a minority of cases involve the type of deformation called modifying unmodifiable PLIs, whereby new words are added to a certain fixed expression, thus altering its original meaning. This is exemplified by the title *Not too big to fail* (USGreen2021_Water_NotToo), where it is possible to recognise the original phrase *too*

big to fail, used in the economic and financial sector to refer to a company that is so ingrained in the economic system that its failure would cause a collapse in the economy, and consequently, banks and institutions would do anything to save it in order to save the whole system (The balance). In the related article, the negative *not* is added before such phrase, which refers to the ocean to mean that human beings have always treated it as something so big that it could be exploited extensively, without thinking about the consequences that a marine collapse would have for animal species and also for the humankind. Other examples of modifications involve the adding of an adjective. This can be observed in the title *L'Italia alla canna del gas…serra*, lit. *Italy at the greenhouse gas barrel* (ItaGreen2019_ClimateChange_LItalia). The Italian idiomatic expression *alla canna del gas* could be associated to the English *to be one's last chance to do something* (The free dictionary). In this case, it refers to the idea that Italy had its last chance to sign a document that commits the European Union to reach the objective of net-zero greenhouse gas emissions by 2050 during a European Council. The insertion of the noun *serra* (i.e., *greenhouse*) creates the collocation *gas serra* (i.e., *greenhouse gas*), which establishes a connection with the document about greenhouse emissions, which is the focus of this article. A similar solution is contained in the title *Plastica in mare: una bomba tossica a orologeria*, lit. *Plastic in the sea: a ticking toxic bomb* (ItaGreen2016_Plastic_Plastica). Again, the original collocation *bomba a orologeria* is used to denote the issue of microplastics in the sea that could explode, i.e., spread dramatically if not tackled appropriately and immediately. Such collocation was modified by inserting the adjective *tossica*, which hints at the plastic that is contaminating water and causing damages to the fish.

A combination of two creative solutions was also found. Specifically, lexicalised constituent substitution and modifying unmodifiable phrasal lexical items, as in the title *La paura di Renzi fa 17 (aprile)*, lit. *The fear of Renzi makes 17 (April)* (ItaGreen2016_Politics_La). The original expression that can be accessed despite the changes is *la paura fa 90*, an Italian proverb that means that the way one reacts when they are afraid is unpredictable, and the number *90* derives from the book *Smorfia napoletana*, in which fear is associated to the number 90. In this context, *90* was substituted with *17 (aprile)* because the Election Day that former Italian Prime Minister Renzi was 'afraid'

of was planned on 17th April, hence the adding of *Renzi* and *April* in the proverb is explained by the content of the article.

In summary, phrasal lexical items could be modified and manipulated despite having a fixed form and meaning and all these deformations are contextually dependent and appear only in that specific context because they are coined on purpose to create a link with the whole text.

4.1.5 Cultural and intertextual references

The category of cultural and intertextual references is also considerably present in the corpus and can be divided into sub-categories. In the first place, it is important to distinguish between cultural and intertextual references, as the former include any reference to elements that are typical of a certain culture, whereas the latter include references to other media, e.g., books, films, songs. In most cases, such references were modified to suit the target context and only a minority were quoted literally.

As regards intertextual references, they form the biggest sub-category since it contains examples of references that were manipulated and others which were not. Non-manipulated references are all maintained in the original form and included in titles and subheadings as they already contain some lexical items that are semantically related to the surrounding context. In this sub-category, it is possible to identify references to films, literature, songs, and TV series. The title *Stranger Things: The astonishing acoustics of the white bellbird* (USWWF2021_Wildlife_Stranger) includes the reference to the popular tv show *Stranger things*, which is about strange, paranormal, scary things that happen to its characters. Here such reference is used to denote the really loud call that white bellbirds use to attract mates. An example of reference to literature, and more specifically, to a famous Shakespearean play, is contained in the title *Tanto rumore per nulla: in fatto di clima questo governo è fin troppo simile ai precedenti*, lit. *Much ado about nothing: as regards climate, this government is too similar to the previous ones* (ItaGreen2019_Politics_Tanto). The expression *molto rumore per nulla/much ado about nothing* has come into use to denote something that has created a lot of excitement or curiosity when in fact it turns out to be not that important or extraordinary. And this sense is maintained in the related article as well, because the expression is associated to the Italian government's attitude, which seemed to be – but was not – more concerned about

environmental issues than the previous governments and does not take into account the appeal of activists to concrete actions to fight against climate change. However, in some cases, the association involves not only the words of the media quoted, but also their contents, as it can be seen in the title *"Il Paradiso può attendere": come non smettere mai di difendere il Pianeta,* lit. *"Heaven can wait": how to never stop defending the planet* (ItaGreen2021_People_IlParadiso). Here the reference is to a film, namely, *Il paradiso può attendere/ Heaven can wait*, which is about a person who was brought to heaven too early and was given the opportunity to live in the body of a man that was about to be murdered. He accepted and went back to life, then he fell in love with an environmentalist and decided to embrace her green ideas and change the business model of his company so that it would be more respectful of the environment. Since the article explains precisely how people can leave a legacy to Greenpeace as part of their will, the choice of the title and the plot of the film is particularly fitting as the idea that even after death one can contribute to help the environment is reflected in the article as well.

Focusing now on the cases in which the original forms were modified, the creative devices employed are again lexicalised constituent substitution (the most frequent in the corpus), literalising of idiomatic readings, and modifying unmodifiable phrasal lexical items. In this case, they are all used to modify references to films, songs, or literature. For instance, the title *Ora della Terra: a qualcuno piace al buio*, lit. *Earth Hour: some like it dark* (ItaWWF2014_Activism_Ora) contains a reference to the film *A qualcuno piace caldo*/*Some like it hot*, where *caldo* was substituted with *al buio* to hint at the darkened monuments, buildings and cities during the Earth Hour as a sign of commitment to the preservation of the planet. Film titles are not the only elements subject to such modifications, as also some of famous quotes from movies are included. An example is the subheading *They who must not be named* (USWWF2021_Wildlife_Meet), which could be considered an allusion to *He who must not be named*, the way in which a character in the *Harry Potter* saga was referred to. Therefore, the substitution between *he* and *they* is motivated by the fact that it is used to refer to aye-ayes, a kind of primate that in the past was thought to bring bad luck and for this reason they had not to be named. Examples of lexicalised constituent substitution also concern songs, e.g., the subheading *All the Greenpeace Plastic Campaign wants for the holidays is YOUR continued activism fighting for a plastic-free future* (USGreen2020_Plastic_Plastic), which is a reference to

the famous Christmas song *All I want for Christmas is you*. Evidently, here the subject *I* was replaced with *Greenpeace Plastic Campaign.* Moreover, *Christmas* was substituted with *holidays* probably because not all Greenpeace activists or more generally, not all people in the world, celebrate Christmas and since Greenpeace tries to be as inclusive as possible as it also fights for minorities, a more general noun instead of *Christmas* could be a more appropriate choice. Then, the object *you* was substituted with the possessive adjective *your* written in capital letters to emphasise this change and the fact that the sentence continues with Greenpeace's wish for the future. It is also possible to provide an example of lexicalised constituent substitution that involves the title of a book, namely, *Se questo è un uomo* (*If this is a man*) by Primo Levi, which was manipulated in the title *Se questo è un Nobel*, lit. *If this is a Nobel* (ItaGreen2016_People_Se). Here, *Nobel* was inserted instead of *uomo* because the article in question tries to confute the accusations about Greenpeace's integrity and the claims about GMOs made by British biochemist Richard Roberts, who was awarded with a Nobel Prize in Medicine. In the case of *Sulla strada del mondo che verrà*, lit. *On the road of the world that will come* (ItaWWF2021_Activism_Sulla), it is possible to recognise a reference to a famous Italian song by Lucio Dalla, namely, *L'anno che verrà*, where it is observed the co-occurrence of two devices, that is, modifying unmodifiable phrasal lexical items and lexicalised constituent substitution. First, *anno* was replaced with *mondo* and then the phrase *sulla strada del* was added at the beginning. Such changes could be explained in relation to the content of the article, which explains that *Il mondo che verrà* is the name of a WWF meeting in which experts and politicians discuss over the environmental challenges that our planet will have to face in the future, such as climate change, preserving natural habitats and endangered species, but they still have hope that the future will be better, and for this reason they continue to fight to make it happen. This is also the message contained in the song by Dalla (Libreriamo), and perhaps for this reason it was chosen as a starting point when naming the meeting and the article. Lexicalised constituent substitution was used in combination with literalising of idiomatic readings in the case of the title *Troppo rumor per nulla*, lit. *Too much ado about nothing* (ItaGreen2018_Water_Troppo), whose original reference is the play *Molto rumore per nulla* already mentioned above. In this case, *troppo* is used instead of *molto* and this expression is understood in its literal sense as air guns used to identify fossil fuel fields in the Mediterranean Sea produce

considerable noise when they are fired, and in order to find a marine field, they are used for weeks. However, all this noise (and effort) is literally about nothing as they look for fossil fuel fields, a polluting source of energy.

As far as cultural references are concerned, there are only six examples of them: one is about a music band, one about a typical dish, and four quotes. Yet, all of them have undergone some sort of creative manipulation, namely, lexicalised constituent substitution or literalising of idiomatic readings. An example of this is found in the title *Houston, we have a solution* (USGreen2019_Activism_Houston), where the original quote *Houston, we have a problem* could still be recognised. Its origins date back to 1970, when the spacecraft Apollo 13 communicated to Nasa's Mission Control in Houston that there was a problem related to an oxygen tank. However, this expression could be also used with a more general meaning to indicate that an issue has arisen (Know your phrase). In this context, substituting *problem* with its opposite *solution* reverses the sense of the phrase altogether. This change is explained by the article itself as Greenpeace activists managed to shut down the US largest fossil fuel thoroughfare in Houston for nearly a day to show that an alternative to polluting fossil fuels exists, i.e., clean energy.

Manipulations of the same slogan could be observed in two different titles, one belonging to the English sub-corpus and the other to the Italian one. The original quote *What happens in Vegas, stays in Vegas* was coined in 2003 with the purpose of rebranding the American city of Las Vegas and, to be more precise, the original slogan was *what happens here, stays here*. Such expression has been used to refer to the fact that anything one can do in Las Vegas stays a secret (Lyfepyle). Starting from this, the title *What happens in the Arctic doesn't stay in the Arctic* (USGreen2016_ClimateChange_What) presents a case of lexicalised constituent substitution, where *Vegas* was replaced with *Arctic* and also the verb was turned into its negative form. This is due to the fact that the report in question deals with how the Arctic region has been affected by climate change and how the consequent decline in Arctic sea ice cover has repercussions in other areas of the world. Hence, such issues do not remain in the Arctic. The same observations can be made for the title *Incendi: quello che accade in Amazzonia non resta in Amazzonia*, lit. *Fires: what happens in the Amazon does not stay in the Amazon* (ItaGreen2019_Fire_Incendi), where *Las Vegas* was replaced with *Amazzonia*, as the article covers the fires that destroyed the Amazon rainforest, and the use of the negative

verb indicates that such fires do not stay there, but also concern the rest of world. Also, this 'secret' is revealed to the greater public in order to raise awareness about what is really happening in the Amazon.

In conclusion, both intertextual and cultural references included in titles and subheadings are related, and when necessary, adapted to the context in which they are inserted, and clearly, they hint at very popular films, quotes, and songs. This allows readers to easily recognise them and understand such references, and when modified, they can even appreciate the creative solution adopted in that context.

4.1.6 Figures of speech

Metaphors, similes, metonymies and synecdoche (see 2.5.2) all imply something different than what it may be thought at a first sight. In the corpus in question, it was possible to identify 17 examples of tropes, and apart from cases of metaphors and metonymies, there are some cases of oxymoron and one of onomatopoeia.

With respect to metaphors, they were essentially of two types, i.e., ontological metaphors and orientational metaphors. First, orientational metaphors are considered the most basic type of metaphors as they concern the relationship with the spatial world. In the whole corpus, only one example of such trope was found, and specifically, in the title *Preventing the rise of deep sea mining* (USGreen2021_Water_Preventing). Here, the noun *rise*, is understood as a synonym of *increase* but also indicates an upward movement, which somehow is in contrast with deep sea mining, a process done at the bottom of the ocean, so that it creates this clash in meaning between something that goes up and something which is done down.

Second, ontological metaphors concern the personification of an item, and an example of this is the title *Slaughtering the Amazon* (USGreen2009_Forests_Slaughtering), in which the verb *slaughter* is used in association to the Amazon. Such verb is exclusively associated to an animate object, or, more precisely, to an animal or to a group of people (Longman Dictionary). The Amazon rainforest was personified to convey the full extent of the destruction it is suffering. Moreover, an idiomatic expression that is usually linked to an animate entity was used to denote an inanimate process, as could be seen in the title *Deep sea mining: the new bad guy in town* (USGreen2021_Water_Deep). The expression *the new bad guy in town* is used to indicate a villain, in this case deep sea mining (i.e., a

practice of retrieving minerals and deposits from the seabed), which was personified by using such idiomatic expression. And not only forests and processes are provided with features that normally denotes humans, but also animals, as could be seen in two texts. In the first one, there are three subheadings which use three different ontological metaphors, namely, *1) Climate action advocates*, *2) Good-hearted architects*, and *3) Underwater gardeners* (USWWF2020_MarineLife_Five). These subheadings belong to an article that deals with sharks and rays, which are personified as if protecting their habitat is a job. Essentially, they prevent overgrazing of shallow seagrass meadows, which absorb carbon from the atmosphere in a faster way than rainforests (*climate action advocates*), they create new habitats for other marine species while searching for food (*good-hearted architects*), and they help microscopic marine plants called phytoplankton to grow as, through their faeces, they give them the nutrients they need (*underwater gardeners*). A similar solution is found in the Italian subheading *Elefanti: giardinieri per il clima*, lit. *Elephants: gardeners for the climate* (ItaWWF2021_ClimateChange_Nature), where elephants are also personified for the same reason, i.e., to convey the message that they take care of the environment by 'planting' seeds and by treading on trees and bushes to create paths in forests, as if they were human gardeners.

Metonymies were described as a figure of speech whereby an entity is used to describe another entity (2.5.2). This device was used twice in the corpus: one example is presented here, whereas the other will be included in 4.1.7. The title object of our analysis is *World Orangutan Day – 10 furry facts* (UKGreen2018_Wildlife_World). The metonymy is found in the adjective *furry*, as it refers to the fur of an animal, specifically, the orangutan, and it is used to point to the orangutan itself. Therefore, this solution would be another manner to say *10 facts about orangutans*, but using *furry* instead helps to avoid the repetition that the title would have otherwise presented.

Turning now on other tropes, oxymoron is a figure of speech which is formed of one or more words which express contrasting ideas, resulting in a case of contradictory semantics and clash of two opposite meanings contained in a phrase that acquires its own meaning. This could be better explained if considering the subheading *Settembre 2019: ghiaccio bollente*, lit. *September 2019: hot ice* (ItaWWF2020_ClimateChange_Planet), where *ghiaccio bollente* contains a word related to very low temperatures (*ghiaccio/ice*) and a word related to very high temperatures (*bollente/hot*) which are put side by side. It

seems that this oxymoron was created by Alfred Hitchcock to denote the American actress Grace Kelly, characterised by a cool detachment and a sensual warmth (Polisemantica). In this article, however, the expression *ghiaccio bollente* is used with reference to the ice in the Arctic, which is melting because of the higher temperatures registered there. In the English sub-corpus, it is possible to find other common examples of oxymoron, starting from the title *Bittersweet: chocolate's impact on the environment* (USWWF2017_Food_Bittersweet), which contains the one-word oxymoron *bittersweet* that comprises two contrasting ideas, or rather, tastes: *bitter,* on the one side, and *sweet,* on the other side. This choice of word is particularly fitting as dark chocolate could be regarded as an example of bittersweet food (Merriam-Webster Dictionary) and chocolate is actually what the article is about. Yet, it is also understood figuratively as chocolate is undoubtedly sweet, but its cultivation involves some negative (*bitter*) consequences, as deforestation and child labour. This idea is expressed through another oxymoron found in one of the subtitles of the same article, i.e., *Sweet sorrow*, which includes the ideas of joy and suffering, and it is used here once again to describe chocolate and its repercussions on people and on the environment.

What remains to be analysed is the only case of onomatopoeia, a trope that reproduces the sound that an object, animal, or person does. In order to fully appreciate the motivation that led to the inclusion of such device it is necessary to introduce other types of linguistic creativity, and for this reason it will be better described in section 4.2.3. Therefore, considering the examples proposed so far, it is possible to state that figures of speech constitute a minority in the corpus, and they are used for artistic reasons and to create multiple associations between words or with the content of the texts in which they are found.

4.1.7 Phonology

A dozen titles and subheadings in the corpus present examples of creative solutions that are based on the phonological level of the words in question. In most cases, it is the final part of the words that is involved, as there are examples of same rhyme, same suffix, and same assonance. An example of this is the subheading *Pack for snack attacks* (UKGreen2020_Food_10), where the words *pack*, *snack* and *attacks* share the same or similar rhyme, hence they show a similarity on a morphological and also phonological

level. In this context, this sequence of words is used as a tip which indicates to prepare some fruit as a snack when one is hungry. In the case of the title *Reusables are doable* (USGreen2020_Recycling_Reusables), it is possible to observe that two adjectives with the same suffix were juxtaposed to create some sort of phonological assonance between them. The meaning of this title could be identified in the report, as it explains that after the spread of the COVID-19 pandemic, reuse and refill systems were put aside in favour of disposables, which are considered safer for health reasons. However, adopting again a disposable system would be a step back in the fight against plastic pollution, therefore this report aims at reassuring customers that reuse and refill systems (*reusables*) could still be implemented (*are doable*) without any risk for their health. As regards the title *Climate Crowd on the ground* (USWWF2021_People_Climate), Climate Crowd is the name of an initiative that, in cooperation with communities in more than 30 countries, aims at gathering data on how climate change is affecting these communities and how they tackle it. The phrase *on the ground,* meaning in the place where an important situation is occurring (Longman Dictionary), generates some assonance with Climate Crowd and thus it could be considered a case of creative phonology, as the element that what was privileged in this title was the phonological one.

Apart from these examples, there are a few texts that exploit the possibilities offered by the word *bee* to present other types of creative solutions. This could be observed in the title *How to bee friendly* (UKWWF_Insects_How), in which the verb *be* is exchanged with the near homophone and homograph *bee*, in a text about bees and how to protect them. The same replacement is found in two of its subheadings, namely, *Here are our top tips to help you "bee" friendly come rain, shine or snow! With a changing climate and increasing habitat loss, bees need all the help they can get.* and *2. Treat your buzzing friends to some sugar and let it 'bee'*, where it is signalled with quotation marks. It should be also noted that in the latter subheading the adjective *buzzing* could be regarded as a case of metonymy, as it refers to the sound emitted by bees, hence it is a device used to point to bees through another entity, namely, their characteristic sound. The Italian sub-corpus uses the same device in the title *Riparte nelle Marche il progetto Bee Safe*, lit. *The project Bee Safe starts again in Marche* (ItaWWF2021_Insects_Riparte), where an English expression, *be safe*, is used to name a project that seeks to protect wild and domesticated bees. Again, the verb *be* is replaced with the noun *bee* as the project is

precisely about bees and thus it plays with the similarity in the phonology and morphology of *be* and *bee*. Bee is the object of another substitution in the title *Plan bee – living without pesticides* (USGreen2014_Insects_Plan), where *bee* replaces the letter *B*, as *plan B* is considered an alternative plan which will be followed in case plan A, the original plan, fails (Merriam-Webster Dictionary). This is precisely what the report proposes, i.e., an alternative to chemical-intensive industrial agriculture which is detrimental for bees, and this plan B includes more ecological farming methods. And since this plan concerns bees, the replacement based on the similar phonology between *B* and *bee* is easily explained.

Overall, all these examples show how creativity also exploits the phonological level of language, not only the semantic one, with the purpose of producing some similarity in the sound of consecutive or near words, and in the case of *be – bees*, the similarity of the two words is used to enrich texts with such creative solutions. Even in all these cases, the particular choice of words is motivated and explained by the surrounding context.

4.1.8 Figurative use of language

It was already discussed that idiomatic expressions have a meaning which does not derive from the sum of the meanings of the words that form them, that most words are polysemous and thus it is possible to play with the semantic level of language. In the case of PLIs, it was also observed that their idiomatic meaning could be literalised, hence they could be understood in the literal sense of their constituents. In addition to that, the corpus shows examples in which words or expressions are meant figuratively, as their common meaning is applied to another semantic field. For example, in the title *Il peso della carne*, lit. *The weight of meat* (ItaGreen2020_Farming_IlPeso), the noun *peso* is not understood in its literal sense of how much meat weights, but it refers instead to how much the environmental balance sheet is affected by the production of meat in the intensive farming sector. An example of phrase used in a figurative sense is contained in the subheading *They own both a summer and winter wardrobe* (UKWWF_Wildlife_TopAmur), in relation to *summer and winter wardrobe*, which is normally understood as a collection of clothes used in summer and in winter. However, here it is used figuratively as the article explains that the shorter summer hairs of Amur leopards are replaced by longer ones in

winter, as if they possessed two different wardrobes, one for the winter and one for the summer.

Other cases involve expressions used in the field of economics which are applied in nature-related contexts in a figurative manner. For instance, the subheading *Return on investment* (USWWF2014_Animals_Detection) contains an expression used in economics to indicate the measure that evaluates the amount of return on a certain investment (Investopedia), while in the article it refers to the investment made in the training of detection dogs in order to detect illegal products from endangered species, which is highly successful as they are helping in the fight against wildlife crime. Similarly, the Italian expression *in rosso* (i.e., *in the red*) is used to refer to overdrawn bank accounts. There are three occurrences of such expression in the corpus, namely, in the title *Il pianeta rischia di andare in "rosso"*, lit. *The planet risks to go into the "red"* (ItaWWF2021_Wildlife_Il), and its subheading *Un conto in "rosso"*, lit. *An account in the "red"*, and in the title *Estinzioni: non mandiamo il pianeta in rosso*, lit. *Extinctions: let's not make the planet go into the red* (ItaWWF2021_Wildlife_Estinzioni). In all these cases, *in rosso* is used in relation to animals, more specifically, to the number of animals that is worryingly decreasing, which could lead to their extinction. Again, the sense of such phrase is transferred from the field of economics to a different one, where it is used figuratively to mean that the situation of wildlife is critical and the balance sheet of the planet is suffering heavy losses.

In conclusion, this creative device is not very frequent in the corpus, perhaps because it is not always easy to find an expression with another meaning to suit the target context, and other more adaptive and memorable solutions, such as the substitution of lexicalised constituent of PLIs, are preferred. The following two parts also describes less frequent creative devices used in the corpus, which are even more difficult to produce but perhaps they manage to catch people's attention more due to the novelty of the words they form.

4.1.9 Word-formation devices

The dichotomy between word-formation and word-creation processes was introduced in the second chapter (2.5), where the former was presented as a property of language that uses the rules of grammar to form novel words, and the most productive devices to do so are derivation and compounding. Two examples of creativity in relation to compounds

could be observed in the corpus. First, in the title *Uncovered: the rich list "Codfathers" dominating the UK's fishing industry* (UKGreen2018_MarineLife_Uncovered), the creative compound *Codfather* is based on the popular compound *godfather*, understood in the sense of the head of an organisation (Longman Dictionary). Here *cod* replaces *god* because the related article deals with inequity in the UK fishing sector, which is controlled by a small group of wealthy families. Naturally, the cultural reference to popular saga *The Godfather*, in both phonological and semantic terms, is apparent. Second, the subheading *Paper weight* (USWWF2015_Forests_Price) could be considered a case of 'decomposed' compound, as the original form is *paperweight*, a compound word that indicates a heavy object used to hold pieces of paper on a table (Merriam-Webster Dictionary). Here the noun was actually decomposed into its two components to indicate the weight, in other words, the high quantity of wood that is necessary to produce toilet paper.

Resemantisation is a device that is used to create new terms by assigning new meaning to an already-existing word. This could be appreciated in the subheading *Trigger happy* (USWWF2015_Technology_HowDrones), which is also an adjective used to refer to someone that uses firearms frequently and tends to shoot irresponsibly, even before identifying the target (Merriam-Webster Dictionary). However, since in this context weapons are not mentioned, *trigger* is understood in relation to photography, as a camera trigger allows users to activate their camera remotely. This is precisely the topic of the article, which explains that a drone took more than 5,000 photos in only two days. As a consequence, the expression *trigger happy* acquires a new meaning in this particular context, as it is understood in the sense that the drone takes a large quantity of photos.

The last case of a word-formation process used as a creative device could be seen in the title *Goliat, l'elefante bianco*, lit. *Goliat, the white elephant* (ItaGreen2015_Oil_Goliat), which shows an example of calque, i.e., a type of borrowing whereby a word or phrase in another language is translated literally in the target language. This is the case of the English expression *white elephant*, translated into Italian as *elefante bianco*, used to denote an expensive possession that is difficult to maintain and that does not have a useful purpose. In this report, what is considered a *white elephant* is Goliat, an offshore oil field whose delayed building and increased costs made it unprofitable.

In summary, these examples show how even more traditional word-formation devices could be used to add an unusual element to titles and subheadings and even though they

are the most common devices to expand the lexicon of a language, in this corpus they constitute only a minority of cases. The final part of this section deals with the other side of the coin, namely, word-creation devices used to coin nonce formations.

4.1.10 Word-creation devices

The second chapter analysed in detail diverse types of processes used to form words in a more creative and uncommon way, in order to better suit the needs of the context in which they will be inserted and in the attempt to denote texts with certain sophistication or to obtain a ludic effect. The product of such devices are nonce formations that in most cases do not enter dictionaries of the general language, but they are created specifically for the context in question. The only technique of word creation that was found in the corpus is blending, whose result is a nonce formation consisting of parts of two (or more words), where each part is called splinter. This could be seen in the subheading *La plasti-sfera*, lit. *The plasti-sphere* (ItaWWF2018_Plastic_Mediterraneo), a blending formed by the splinter *plasti-* from the word *plastica* (*plastic*) and the word *sfera* (*sphere*) and which is used to denote the mass of plastic polluting the Mediterranean Sea which has created a sort of habitat where different types of microorganisms live. This blend hints at the word *atmosphere* and the different layers that form it which are characterised by certain gases and its composition affects the appearance of life and its evolution, a sense that is contained precisely in the blend *plasti-sfera*. Another example of blending is encountered in the title *Spice up your Veganuary with these tasty dishes from David Olu* (UKGreen2022_Food_Spice), and specifically, *Veganuary*, a nonce formation consisting of two splinters, in which *Veg-* is the beginning of the word *vegan*, and *-anuary* is the end of the word *January*. As the text explains, it indicates a challenge to eat only plant-based food in the month of January. However, this nonce formation was not coined specifically for this article, as it was first attested in 2014 (Dictionary.com) and thus it could be an example of a nonce word that has possibly entered in the speakers' lexicon, if not in dictionaries of general language, considering that it also appears in an environment text. Moreover, the title includes the phrasal verb *spice up* which could be regarded as a case of creative polysemy that could be appreciated in this particular context, because on the one side, it could be read in the idiomatic sense of making something (in this case, January) more exciting, but also in the literal sense of adding spices to food (Macmillan

Dictionary), as the article provides the reader with three vegan recipes that include the use of several types of spices.

A particular kind of blending is observed in the title *Penguin: 'egg-straordinary' bird in a melting world* (UKWWF2018_Wildlife_Penguin), namely, *egg-straordinary* is an example of orthographic blend, which is inserted between quotation marks and has a particular typography to emphasise the creative formation. This blend is formed by the word *egg* and the splinter *-straordinary* (from *extraordinary*), and since the phonology of the blend is remarkably similar to the word *extraordinary*, it is easier to recognise it as such in written texts. A subheading of the same text, namely, *Over the Easter break, we talk about the differences between the chocolate eggs we enjoy, and the eggs of several species of penguin and what they have to endure in order to survive. Plus, how ocean plastic and climate change are threatening their 'egg-istence.'* contains another example of orthographic blend, that is, *egg-istence*, which is formed by the word *egg* and the splinter *-istence* from *existence.* Again, this blend plays with the similar phonology with the word *existence*. These two examples of blending include the word *egg* since the article was written for Easter Monday, when chocolate eggs are usually eaten and because the article outlines the eggs' life-cycle of four penguin species. A final example of orthographic blend is encountered in the subheading *Reasons for hop-timism* (USWWF2020_Food_Why). *Hop-timism* is formed of the noun *hop* and the splinter *-timism* of the noun *optimism*, and this blend was emphasised by using a hyphen, so that it could be better appreciated in written texts. The reason behind this creative formation is that WWF is partnering with a brewing company to improve water quality (*optimism*), and water is essential to the production of beer, as well as hops, the dried flowers that add a bitter taste to beer. Once again, the blend plays with the similar phonology between *hop* and *optimism*. In conclusion, these examples of blending (apart from *Veganuary*) are coined to fit the content of the article, more specifically, they use a keyword of the text to create a nonce formation that will be used only for the purposes of the context in which they are included, which could be to entertain the readers and make the text more appealing.

4.2 Use of metaphors within the same text

As it was possible to observe in the previous section, some texts, or even some titles and subheadings, include more than one example of lexical creativity. This section aims precisely at outlining the patterns of the metaphors used in the same text also considering their topic and the topic of the text and for this reason it was subdivided according to the relationship between topics.

4.2.1 Correspondence of topics

It is important, first, to give some figures: the number of texts that include more than one creative solution is 44, hence roughly one-fifth of the total number of texts of the corpus. Of these, only 8 texts show a correspondence between the topics of the metaphors and the one of the whole text. Specifically, there are two texts about fires, one about air travel, two about insects, two about wildlife, and one about food that contain creative techniques that share the same topic. By way of example, consider the article UKGreen2021_Fire_Watch about the fires that are destroying forests in Brazil, in which both the title and one subheading include creative solutions that are related to the semantic field of fire. Specifically, the title *Watch: Tesco's burning secret* plays with the polysemy of the adjective *burning* which, in association to *secret*, means that the secret is extremely important (Merriam-Webster Dictionary), but it could be also interpreted more literally in relation to fire, the topic of the article. In addition, the subheading *Tesco is fanning the flames of the forest fires raging across Brazil. The UK supermarket buys meat from companies owned by Amazon rainforest destroyers, and sells chicken and pork fed on soya from deforested land elsewhere in Brazil. Here's what you need to know – and what you can do to help stop them.* includes an example of idiomatic expression related to fire, i.e., *fanning the flames*, whose figurative meaning indicates a situation that gets from bad to worse (The idioms), but again, in this context it could be also associated to its literal meaning of increasing the cases of fires in the Amazon.

Fires destroying forests in the Amazon, the Democratic Republic of the Congo, Australia and Indonesia are also the topic of the article ItaWWF2019_Fire_Il in which the same topic is covered by the metaphors it contains. First, the title *Il 2019 è stato un anno di fuoco per le foreste nel mondo*, lit. *2019 has been a year on fire for forests around the world,* includes the expression *di fuoco*, which figuratively denotes something that sparks

strong emotions (Internazionale). Here it could be regarded as a case of literalising of idiomatic readings, as in this context it is understood in the sense that 2019 was characterised by many fires all around the world. Similarly, its subheading *In fumo circa 12 milioni di ettari di Amazzonia, 27mila ettari del Bacino del Congo, oltre 8 milioni nell'Artico e 328mila ettari tra foreste e altri habitat in Indonesia* (lit. *In smoke about 12 million hectares of the Amazon, 27 thousand hectares of the Congo Basin, over 8 million in the Arctic and 328 thousand hectares considering forests and other habitats in Indonesia*) contains the expression *in fumo*, from *andare in fumo* (i.e., *go up in smoke*) which means to disappear, to vanish. In this texts forests are disappearing, but the expression could also be understood literally as those forests were destroyed by fires, hence it is a case of creative polysemy. Again, *di fuoco* and *in fumo* are two expressions that are strictly related, or better, belong to the semantic field of fire, and this is coherent with the topic of the article.

As regards UKGreen2020_AirTravel_Court, it is an article about air travel that uses two lexical items that belong to the same semantic field, which are both found in the title: *Court of Appeal clips Heathrow's wings as third runway forced into climate emergency landing*. Specifically, the idiom *clip someone's wings* is commonly understood in its figurative meaning, i.e., "to limit someone's ability to do or say things" (Merriam-Webster Dictionary), but in this context its constituents are also seen in their literal meaning of actual wings of a plane that are clipped because the construction of a third runway at Heathrow was denied, hence it is a case of creative polysemy. Moreover, the collocation *emergency landing* is typically and strictly used in the air travel domain but here it is used with a figurative meaning in relation to the issues that a third runway would cause to the environment. Some other examples of this category will be presented in section 4.3 and 4.4, but before that, it is important to analyse other types of relationships between topics of texts and metaphors.

4.2.2 Related topics

The corpus also includes slightly different cases, in which the topic of the text and the one of the metaphors are somehow related, in the sense that they belong to related semantic fields. In order to better clarify this assumption, it could be taken as an example the article USGreen2021_Fuel_Biden, titled *Biden must get federal lands out of the fossil*

fuel business, in which Greenpeace demands the US president Biden to stop leasing public lands and waters to private companies to extract fossil fuels, which could be seen as a first step towards a new comprehensive climate policy, hence its topic would be Fuel. Its subheading *Biden has an opportunity to fulfill a key campaign promise, put the brakes on the reckless fossil fuel expansion, and kick-start a just transition to a renewable economy for workers and communities.* includes two lexical items that are related to transport, and consequently, to fuel. The first one, *put the brakes on*, is an idiom that means to slow down or stop an activity or a person (The idioms), and in this case, the expansion of the fossil fuel sector. The second one, *kick-start*, is a verb which means to help an activity to develop, in this case, a just transition, but in relation to motorcycles, it means to start it (Longman dictionary).

Interesting enough is the case of *Sugarcane farming's toll on the environment* (USWWF2015_Agriculture_Sugarcane), a magazine article which is about the impact of sugarcane on the environment, as its title suggests. Some of its subheadings try to play with the common association between *sugar* and *sweet*, so their semantic field would be taste, which is evidently related to the topic of the article which is Agriculture. First, *Bitter price* is used figuratively to mean that sugarcane farming implies the use of fertilisers which pollute freshwater ecosystems, thus in order to produce something sweet, the consequences are bitter, catastrophic. Second, *Sugar rush* is an idiom which refers to the feeling of excitement or the increased energy that you get after eating something sweet (Collins Dictionary), but in this context this expression could be understood in its literal meaning as it points to the fact that deforestation was incremented because of the rush on sugarcane farming. Third, *A delicious bottom line* includes the phrase *bottom line* which is used in business to indicate the final amount of money that a company has earned or lost in a certain period of time (Collins Dictionary). The adjective *delicious* was added to this expression because in this context it refers to the higher productivity of sugarcane plantations (something sweet, hence delicious) in Brazil.

Similarly, another article about forests (USWWF2016_Forests_Mangroves) includes two subheadings that could be labelled as plant-related. Specifically, the first one, *Taking root,* means on the one side that something, in this case, the promotion of mangrove conservation, is becoming a widespread practice, and on the other side, it literally means that new mangrove trees are planted (Merriam-Webster Dictionary) as part of this project,

which thus represents another case of creative polysemy. The second subheading, *Losing ground*, is also a phrase that is normally used when losing the advantage against a competitor, which is the case of mangroves that were cut down to leave room for agriculture or industry, but it is also understood literally as mangroves have concretely less ground, less soil, to grow. Therefore, this article uses two idiomatic expressions that, if considering their literal meaning, are related to plants, which in turn, are related to the topic of the whole text.

A final example is the report *2021 effetto clima: l'anno nero dell'agricoltura italiana*, lit. *2021 climate effect: the dark year of the Italian agriculture* (ItaWWF2021_Agriculture_2021), which investigates how climate change is affecting Italy's agricultural sector. Its subheadings are all related to food and drinks, hence a semantic field strictly linked to agriculture. For instance, *Risus abundat?* is a reference to the Latin proverb *risus abundat in ore stultorum*, which is commonly known in Italian as *il riso abbonda sulla bocca degli sciocchi* (lit. *laughter abounds in the mouth of fools*) and used when someone laughs too much and inappropriately (Treccani). However, in this context polysemy is exploited as the noun *riso* is not intended as laughter, but in its other and more frequent meaning, i.e., *rice.* This aimed at highlighting how rice production in Italy has decreased by 10% because of the changing climate. Second, *Siamo alla frutta*, lit. *We are at the fruits*, is another idiomatic expression that means to be resourceless, powerless (Treccani). In this context it could be understood in the sense that fruit production decreased dramatically because of extreme climate events. Yet, since the following section is about fruit, the expression could be perceived in its literal sense as well. Third, *"Leviamo" i calici*, lit. *Let's "raise" our glasses*, is a phrase that means to make a toast (Internazionale). Here it celebrates a joyous event, i.e., Italy still being the world leader producer of wine, even though it is possible to observe a reduction in its production. Fourth, *Andrà tutto liscio come l'olio?* lit. *Will everything go as smooth as oil?* is an idiomatic expression used when an activity is done without any obstacle (Corriere della sera/Dizionari), and its English equivalent would be *smooth as silk*. Here this idiom is used to introduce a part that deals with the situation of oil production, which is in fact not as good as expected and thus the title poses the question whether this sector evolve in the future. Fifth, *Dulcis in fundo* is another Latinism which literally means *il dolce viene in fondo/the sweet come at the end* and used when one wants to tell some

good news at the end, also ironically. The related part is precisely about honey - something sweet (*dulcis*) - whose production dropped because of the unusual cold spring that caused damages to plants and flowers, hence this news was not good at all.

4.2.3 Other topics

Other texts that contain more than two creative formations include types of metaphors whose topic does not correspond to that of the text. But for instance, some of them contain cases of lexical creativity that share the same topic and have to do with some elements introduced in the text. This is the case of the article UKGreen2020_ClimateChange_AllRoads, which deals with the need to fight against climate change and how activists tried to awaken British government on such matter by substituting the destinations of signs around Westminster with *green recovery*, as they deem it is the only way to tackle the economic crisis following the coronavirus pandemic. Therefore, the creative solutions that could be found make all reference to such demonstration. First, the title *All roads must lead to a green recovery* is a case of lexicalised constituent substitution starting from the well-known proverb *all roads lead to Rome* which was modified by inserting the deontic verb *must* and *Rome* was replaced with *green recovery* in order to better suit the content of the article. Moreover, the origins of such proverb can be traced back to the Roman Empire, in which every road was attached to its capital, Rome, the centre of the Empire, but it is commonly used to indicate that a certain goal could be reached by different methods (The free dictionary). Yet, in this article this modified proverb also hints at the demonstration just mentioned. More references to items related to roads can be found in the subheading *Ahead of chancellor Rishi Sunak's speech in parliament today, a small group of Greenpeace activists sent the message that all signs point to a green recovery*, in which the idiom *all signs point to* is also understood in its literal meaning, as the concrete signs indicated *green recovery* as their destination. Then, the subheading *The green recovery is a turning we cannot afford to miss* presents the noun *turning*, another element of the road, which is a case of creative polysemy as it could be interpreted also in a figurative way, namely, an opportunity that cannot be lost. Similarly, the following subheading *The road out of this crisis cannot be toward a worsening climate crisis* chooses the noun *road* to hint at the action performed by activists and it could be also interpreted figuratively as a course of action to overcome

the economic crisis. In sum, this article interprets concrete facts performed by activists by employing linguistic elements and by deliberately adjusting fixed phrases in order to better suit the target context.

The report USGreen2007_Forests_How seeks instead to demonstrate that the high demand for palm oil from food, cosmetic and biofuel industries is destructing rainforests and peatlands. The title *How the palm oil industry is cooking the climate* can be seen as an example of wordplay in the sense that the verb *cook* makes a connection with palm oil which is an ingredient of some types of food. Here it means that palm oil is causing deforestation and consequently, global warming. Apart from this metaphor related to food, the subheadings could be linked to the weapons semantic field. First, *Forests as ticking climate bombs* includes a case of lexicalised constituent substitution as the original form *ticking time bomb* here becomes *ticking climate bomb*, and the reason of this could be that deforestation can also cause an accumulation of carbon in the atmosphere which can lead to higher temperatures and consequently, to the destruction of ecosystems. Second, *Palm oil's boom!* plays with the polysemy of the noun *boom*, which could either mean an increase in the global demand for palm oil, as explained in the report, or the sound of an explosion, such as of the bomb mentioned earlier. Third, *Tick tick tick… time for action* contains the only example of onomatopoeia in the corpus, namely, *tick*, which is used to indicate that time is almost up to take action and save our planet, and again, it could be associated to the sound made by the aforementioned bomb before it explodes.

The creative devices used in the article *The UK's fast fashion habit is getting worse – and it's destroying the planet* (UKGreen2020_Fashion_TheUK,) are also linked semantically, but do not share the same topic of the article, which is fashion. The subheading *Our appetite for fast fashion is poisoning the environment* is clearly linking the collocation *fast fashion* to the more common *fast food*, hence the use of *appetite*, which in this case is understood in its figurative meaning of desire for disposable clothes. Moreover, the verb *poison* usually implies that the poison is added to food or drinks (Longman Dictionary), again relating it to the topic of food. Curiously, another subheading of the same article is *The antidote is more conscious fashion production – and consumption*, in which the noun *antidote* is used figuratively to indicate an improvement of a situation, but its literal meaning of a substance used against a poison can also be grasped in relation

to the *poison* mentioned above, thus creating some sort of narrative development of the subheadings of the article about the topic of food.

Similarly, the article UKGreen2019_Recycling_Say gives several reasons why drinks containers in glass should be included in a scheme called Deposit Return Systems which gives value to containers that otherwise would be thrown away. As a consequence, the linguistic creativity is centred on the noun *glass*, as can be seen in the title *Say YAAASS to the Glass!*, in which the word *yes* is written in capital letters to highlight the deformation that was made in order to rhyme it with glass. The title also includes a cultural reference to a very popular TV show called "Say Yes To The Dress", which makes the texts even more alluring to a wide audience. In the same article, the subheading *Pain in the glass* is a case of lexicalised constituent substitution, as *glass* substituted *ass* in the original vulgar idiom *pain in the ass*, or its less vulgar variant *pain in the neck*, which points to something annoying or irritating (The idioms). Somehow this meaning is maintained also in this context as the article explains that broken glass on the streets is clearly a nuisance.

The article *Top 10 facts about emperor penguins* (UKWWF_Wildlife_TopEmperor) contains three subheadings that hint at three songs to make a connection with the content they introduce. First, *Ice, ice, baby* is the exact title of a song by rapper Vanilla Ice which is used as a reference to the fact that Emperor penguins raise their young on ice. Second, *'Baby, its cold outside'* is a popular Christmas song which is literalised to point to the fact that Emperor penguins live in the Arctic were temperatures are extremely cold, up to -50°C. Third, *Dive, dive, dive!* is a song by Bruce Dickinson which serves to indicate that Emperor penguins are excellent divers in the bird world.

With respect to USWWF2018_Sustainability_LEGO, it is an article which outlines some of the sustainable changes that LEGO has implemented in the production of its toys, hence the creative solutions it comprises are related to the company itself, even though the topic of the entire article is Sustainability. First, in the title *LEGO Group builds a more sustainable future*, the verb *build* is chosen as a clear reference to the models that is possible to build with LEGO's bricks. Second, the subheading *Brick by brick* is an idiom that means to do something step by step but again, the choice of this phrase is an intentional reference to LEGO's popular little bricks.

A final example of texts that include metaphors sharing the same topic but different from the topic of the text itself is drawn from the Italian sub-corpus, namely ItaWWF2021_Wildlife_La. The article deals with the extinction of wild animals, indicating in numerical terms the reduction of the wild population. However, the creative solutions included are all related to the semantic field of shopping, as the article was written around Black Friday. Therefore, the title *La sopravvivenza degli animali non è scontata*, lit. *The survival of animals is not taken for granted*, contains the verb *essere scontato* which in this context is understood in the sense that it is not sure that animals will survive, but since this article is related to Black Friday, an Italian reader could also access the meaning of being on sale (Treccani), thus creating an example of wordplay in this particular context. The same device is used in the subheading *Black Friday, la natura non è scontata*, lit. *Black Friday, nature is not taken for granted*, where the connection with this day of sales and discounted prices is even more explicit. Instead, the subheading *L'occasione da non perdere*, lit. *The opportunity not to miss* includes the noun *occasione* which here is understood in the sense that we need to take this opportunity to save those endangered species from extinction now that we still can, but it could be also interpreted in the sense of a good bargain because of the context in which it is included.

Other texts contain diverse types of lexical creativity which are not related among them, but they are chosen to meet the needs of that specific context. This could be seen in the article UKGreen2020_Recycling_30+, whose content is presented by its title *30+ ways to green your home during lockdown*. The subheadings taken into consideration for this analysis are two. First, *Don't throw in the towel* is the negative form of the well-known idiom *throw in the towel*, which means to give up, to quit (The idioms), but here it is meant in its literal sense, as the article explains different ways in which an old towel could be reused. Second, *Let it grow! Let it grow!* is an example of lexicalised constituent substitution, as it possibly makes a reference to the popular Christmas song *Let it snow! Let it snow! Let it snow!* or the refrain of the main track of Disney's cartoon *Frozen*, which is *Let it go! Let it go!*. In this case, *go/snow* were replaced with *grow* as the article suggests planting some seeds and let them grow. As a result, the use of an idiomatic expression and an intertextual reference are not connected between them, but they try to establish a connection with the article as a whole, as their original form is adapted to the surrounding context.

Similarly, the article *What is the environmental impact of sushi* (USWWF2017_Food_WhatIs) contains four different examples of creative solutions in its subheadings. First, *Rice, rice baby* recalls the title of a song described earlier, namely, *Ice, ice, baby,* in which *ice* was substituted with *rice* as that part deals with rice, an ingredient of sushi. Second, *Going, going, gone?* is a reference to another song by Bob Dylan which is used here to explain that overfishing following the higher demand for sushi has caused a collapse in the Pacific bluefin tuna population. Third, *Spill the beans* is a common idiom used when something that was supposed to be a secret is inadvertently revealed (The idioms), and here the secret which is divulged is about soy as one of the major causes of deforestation, and soy is indeed a bean. Fourth, *Swimming upstream* is another idiom used when someone acts or thinks contrary to the prevailing opinion or perspective (The free dictionary) but since the corresponding section focuses on salmon, which is known for swimming upstream, it is understood literally to make a connection with salmon.

The article ItaWWF2020_ClimateChange_Planet is an example in which different types of creative devices are related neither among them nor to the general topic of the article, but only to the content they introduce. The title *"Planet Escape room", siamo tutti in gioco*, lit. *"Planet Escape room", we are all playing*, includes the idiomatic expression *essere in gioco*, meaning to be at stake (Corriere della sera/Dizionari). In this case, what is at risk is our survival due to all the emergencies our planet is facing. Yet, the expression creates a wordplay with *Escape room* which is indeed a game, hence the literal meaning is also grasped. Then, the subheading *Settembre 2019: ghiaccio bollente* is an example of oxymoron, already described in 4.1.6. Moreover, the subheading *Novembre 2019: Venezia affoga, e non è uno scherzo di carnevale*, lit. *November 2019: Venice is sinking, and it is not a Carnival joke*, is a case where the insertion of the expression *scherzo di carnevale* is an explicit reference to Venice's Carnival, and thus it could be regarded as another example of wordplay. Finally, the subheading *Maggio 2020: Il Mondo che Verrà*, lit. *May 2020: The World that will Come* is a reference to the Italian song *L'anno che verrà* which was modified to name this WWF meeting, as discussed in 4.1.5. In sum, different creative devices for different sections of the same text.

This occurs also in the magazine article *Using chili bombs to protect both elephants and farmers* (USWWF2016_Wildlife_Using), which explains how farmers protect their crops

from elephants without harming them, i.e., by using so-called chili bombs that are realised from elephants' droppings. The subheadings under examination are two. First, *Potty break*, which is an American expression used when stopping an activity to go to the toilet (Longman Dictionary). Here the meaning was literalised as it refers to the fact that in order to create those chili bombs, the dried elephant dung need to be broken. Second, *Hot stuff*, apart from being the title of a famous song, is also an expression used to refer to someone who is particularly attractive or exciting, but in this context, the adjective *hot* is used in a more literal sense to refer to the chili powder added to the chili bombs that could burn the skin if not accurately protected.

In conclusion, those texts for which more than one item have been included in the analysis tend to not respect the topic of the whole text. However, in some cases the titles and subheadings present certain coherence as regards the choice of the creative solution or its topic, whereas in other texts such choice is only guided by the content introduced by those titles and subheadings. Therefore, content seems to be the main factor that affects the inclination towards a certain device rather than another.

4.3 Contrastive analysis of creative devices in English and Italian

After presenting a variety of examples of the types of creativity included in the corpus under investigation, this section aims at comparing those devices and their frequency between the English and the Italian sub-corpora. In order to do that, it is necessary first to summarise and discuss the distribution of such creative solutions in the two sub-corpora and then an analysis of the topics and creative devices found in English and Italian texts.

4.3.1 Frequency

If considering the English sub-corpus, the total number of titles and subheadings taken into consideration for our analysis is 201. Table 4.3 below shows how the creative devices described above are distributed in the sub-corpus.

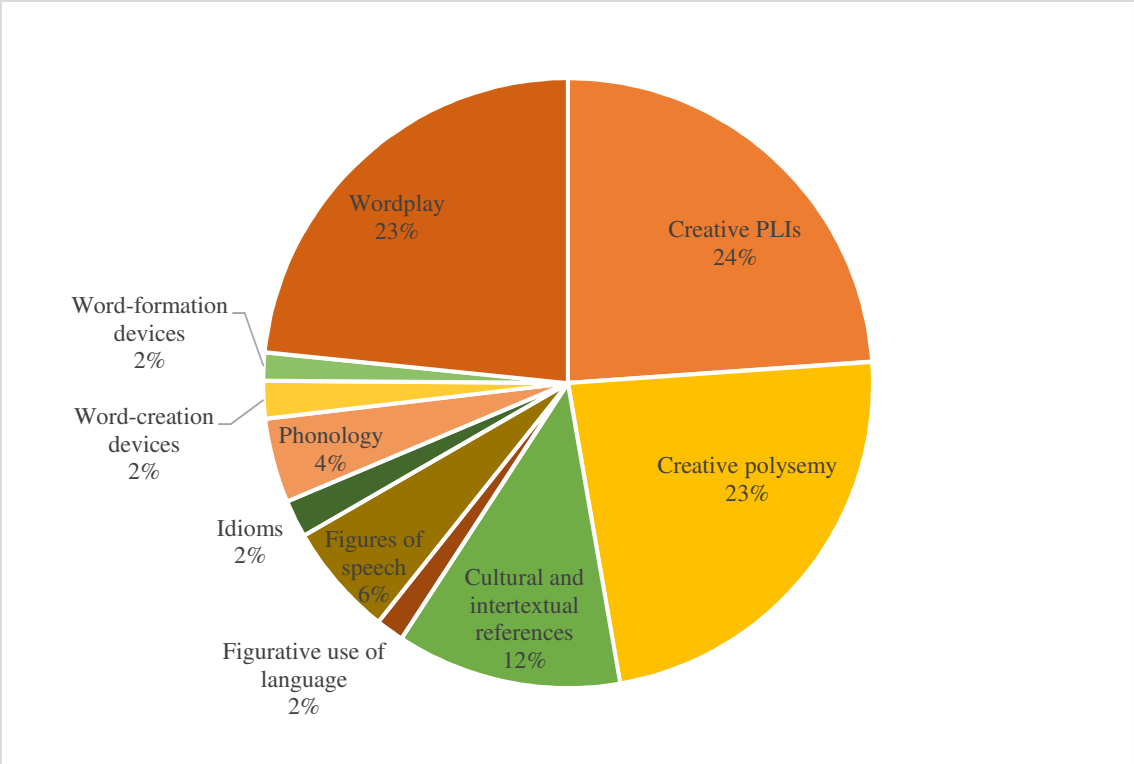

Table 4.3 Distribution of the creative devices employed in the English sub-corpus.

The most frequent creative techniques found in the English sub-corpus are wordplay, creative PLIs and creative polysemy. These results are in line with the ones observed for the general corpus. Also the category of cultural and intertextual references is present in a considerable number of examples, whereas the others have lower frequency, as noticed earlier with reference to the whole corpus.

Looking at a similar pie chart created for the Italian sub-corpus (Table 4.4), it is apparent that the category of wordplay corresponds roughly to the 42% of the total, and all the other categories have dramatically lower frequencies, ranging between 15 (creative polysemy and cultural and intertextual references) and 1 (word-formation and word-creation devices).

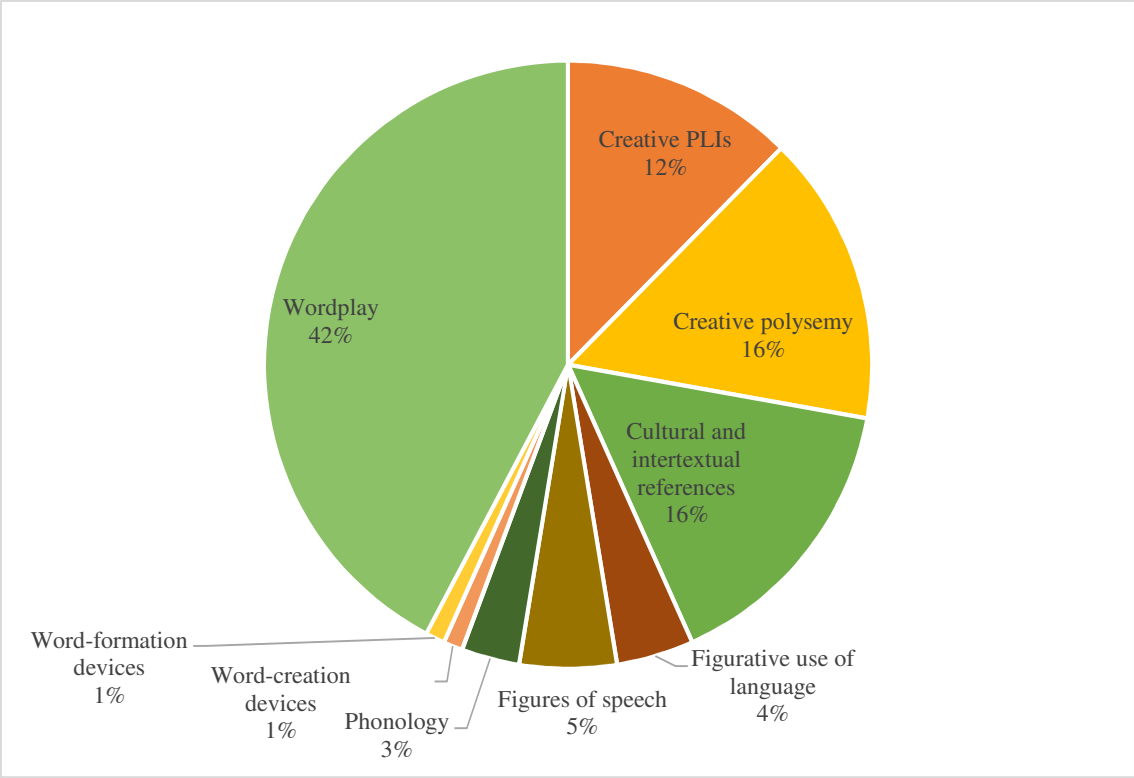

Table 4.4 Distribution of the creative devices employed in the Italian sub-corpus.

Moreover, unlike the English sub-corpus, not all the categories are included in Italian texts, as no examples of idiomatic phrases used in their common sense are found. But as discussed above, the titles and subheadings of the Italian sub-corpus show many examples of idioms or proverbs used in more creative ways, as they were adapted to the context where they were included.

As mentioned in the third chapter, the two sub-corpora are not balanced, as they are formed of a different number of tokens and texts, hence, normalisation was necessary (see 1.2.1). Normalised figures (Table 4.5) show that cultural and intertextual references are much more common in the Italian sub-corpus than in the English one.

Macro-category	English sub-corpus	Italian sub-corpus
Cultural and intertextual references	4.78	9.82
Creative polysemy	9.36	9.82
Creative PLIs	9.56	7.86
Figures of speech	2.39	3.27
Wordplay	9.36	26.84
Word-creation devices	0.80	0.65
Word-formation devices	0.60	0.65
Phonology	1.79	1.96
Figurative use of language	0.60	2.62
Idioms	0.80	0

Table 4.5 Normalised frequencies of the creative devices included in the English and Italian sub-corpora.

Figures are more or less balanced, as is the case for the creative polysemy device, which is one of the most frequent techniques, found in both the English and Italian sub-corpora around 9 times per 100,000 tokens. This seems to reveal a common tendency in both English and Italian to exploit the polysemous nature of words by inserting them in a particular context. Then, word-creation and word-formation devices have an extremely low (lower than 1 per 100,000 tokens) frequency in both sub-corpora. It could be concluded that word-formation devices are employed only to name a concept for which there is no existing word form, and this was not a pressing necessity in the texts examined. Also in the case of phonology it is possible to observe similar figures, below 2 per 100,000 tokens in both sub-corpora, which shows that both languages do not tend to prefer the phonological level of language when playing with words in their titles or that phonological simulates are less easy to find and exploit for creative purposes.

Figures of speech are employed slightly more frequently in the Italian sub-corpus, but they are not the preferred solution in the titles and subheadings taken into consideration. Conversely, the possible deformations applied to PLIs are quite more frequent in the English sub-corpus, but they are one of the most common creative devices in the whole corpus because such manipulations could involve distinct aspects of language.

A similar difference in the frequency between the two sub-corpora is seen in relation to figurative language, which is more common in the Italian (2.62) sub-corpus than the English (0.60) one even though this technique remains an uncommon device in Italian texts as well.

However, the greater difference is observed in the case of the wordplay category, which is one of the most exploited in the whole corpus. In the Italian sub-corpus, it is possible to notice that wordplay is the dominant category, which shows how Italian titles and subheadings express a strong preference for this particular creative solution above all the others. Conversely, the English sub-corpus seems more balanced in the choice of the techniques to be used.

Finally, the examples of idiomatic expressions included in their traditional form and meaning all belong to the English sub-corpus, even though they are particularly rare, which confirms the preference for diverse kinds of manipulations of such idioms.

4.3.2 Topics

This paragraph will consider the (missing) associations between the topic of English and Italian texts and the topic of the metaphors they use. Table 4.6 below summarises the relationships between texts and metaphors in the English sub-corpus. If they share the same topic, this will be reported identical in the first and second column; otherwise, if the topic of the metaphors is somehow related to the one of the text, this will be specified in the second column. If there is no relation at all, the word *Others* is inserted instead to capture all the other topics of the creative solutions in a given text. The third column indicates the number of texts that corresponds to each relationship.

TOPIC OF THE TEXT	**TOPIC OF THE METAPHORS**	**TOTAL**
Activism	Others	3
Agriculture	Others	3
Animals	Others	1
Air Travel	Air Travel	2
Climate Change	Related: Temperature, Water	4
	Others	4
Environment	Related: Pollution, Sustainability	3
Fashion	Fashion	2
	Others	1
Fire	Fire	4

Food	Food	5
	Others	6
Forests	Related: Trees, Paper	5
	Others	4
Fracking	Others	1
Fuel	Fuel	1
	Related: Transport	1
Insects	Insects	4
Marine Life	Marine Life	1
	Related: Food, Water	2
	Others	4
Media	Others	1
Oil	Related: Water	1
	Others	5
People	Others	5
Plastic	Plastic	1
	Related: Packaging, Pollution	4
	Others	6
Politics	Others	5
Pollution	Pollution	2
	Others	1
Recycling	Recycling	1
	Related: Glass	1
	Others	3
Renewable Energy	Related: Power	1
	Others	1
Sustainability	Others	4
Technology	Related: Phones	1
	Others	5
Transport	Transport	1
	Related: Road, Race	3
	Others	1
Water	Water	8
	Others	11
Wildlife	Wildlife	3
	Others	14

Table 4.6 Topics of texts and metaphors in the English sub-corpus.

It is possible to observe that the majority of cases do not show a correspondence between the topic of the text and the topic of the creative device employed. This is probably due to the fact that for some topics it is difficult to find idiomatic expressions or references in general to them, which could be the case of topics such as Sustainability, Politics, or even People, considering that they are overly broad labels that comprise contents of various

kinds. For example, USGreen2018_Sustainability_Carting is a report that examined 22 US retailers on seafood sustainability considering their policy, initiatives, labelling, transparency, and inventory, and for this reason the label Sustainability was chosen. The title *Carting away the oceans* includes the phrasal verb *cart away* which means to take something somewhere else, and in this case, it refers to the fish in the ocean, but since the noun *cart* is also used in American English to refer to the trolleys used in supermarkets, it hints at the investigation on grocery retailers that is described in the report, and for this reason, the topic of this wordplay would be Supermarket, used in a text about Sustainability.

If considering other topics, such as Climate Change, Environment, or Forests, the English sub-corpus found some creative solutions whose topic is associated in some way to the one of the whole text. A quite simple example of this would be the magazine article USWWF2015_Forests_Reclaimed, in which the subtitle *Branching out* is a phrasal verb used to indicate that something has started to do new and different activities compared to its usual ones (Merriam-Webster Dictionary). Specifically, it refers to companies that are encouraged to supply with reclaimed wood in order to help forests. However, since this context is about forests, and consequently, trees, the meaning of the noun *branch* as a part of trees is also accessed, and thus a word related to this semantic field is used creatively in a text about trees and forests, two items that are intrinsically related. Or in the case of UKGreen2021_Environment_Sacrifice, the title *Sacrifice zones: the places being destroyed by our toxic system – and the dangerous 'climate solutions' that could make them worse* contains the adjective *toxic* that could be understood both in a literal meaning, i.e., containing poison (Longman Dictionary), as the sacrifice zones mentioned in the article are caused by toxic chemicals, but also in a more figurative sense, as our lifestyle that is fostering the use of such chemicals is damaging the environment. Therefore, a word related to the semantic field of pollution is used creatively in a text about the environment, which is undoubtedly threaten by pollution.

Finally, more basic concepts or entities such as fire, water, insects, or wildlife, are described by using creative devices belonging to the same topic of their related text. For instance, the idiomatic expression *fuel the fires*, which is normally understood in its idiomatic meaning, that is, a situation which was worsened because of something that had been said or done (The free dictionary), is undoubtedly related to the topic of fire. It is

included in the title *Revealed: how Tesco fuelled record breaking fires in Brazil's wetlands* (UKGreen2021_Fire_Revealed) where it is interpreted in its literal sense, as the British supermarket Tesco is causing the destruction of the wetland area of the Pantanal by buying meat from companies that burn the land on purpose to have more land for their cattle. Hence, a fire metaphor for a fire-related text. Similarly, a water metaphor is used in a water-related text in the case of the report USGreen2019_Water_InDeep, which is about deep sea mining. Its title, *In deep water*, is in fact an idiom which indicates a serious situation that is difficult to handle, and which originates from the Bible to refer to something that is holding people back (The idioms). In this context, oceans and their ecosystems are clearly in a difficult situation because of deep sea mining, but the idiom *in deep water* could be also understood literally as such process takes place at the bottom of the ocean.

Turning now on the Italian sub-corpus, the distribution of the topics of texts and metaphors in Italian texts are summarised in Table 4.7 below.

TOPIC OF THE TEXT	TOPIC OF THE METAPHORS	TOTAL
Activism	Others	5
Agriculture	Related: Food	2
	Others	1
Cities	Others	1
Climate Change	Related: Pollution, Temperature	2
	Others	6
Farming	Related: Food	1
	Others	2
Fire	Fire	2
	Others	1
Food	Food	1
	Others	4
Forests	Related: Flora	1
	Others	3
Insects	Insects	1
Marine Life	Marine Life	1
	Others	1
Oil	Related: Fire	1
	Others	3
People	Others	4
Plastic	Plastic	1
	Related: Pollution	3
	Others	6
Politics	Others	3
Pollution	Pollution	3
	Others	2
Sustainability	Related: Recycling	1
	Others	2
Transport	Transport	1
	Related: Travel, Pollution	2
Water	Water	2
	Others	4
Wildlife	Wildlife	2
	Others	5

Table 4.7 Topics of texts and metaphors in the Italian sub-corpus.

Also in this case, it is possible to observe that some topics are described using metaphors from other semantic fields, and this is the case for Activism, People and Politics. For example, ItaGreen2021_Activism_InAzione is an article that describes the protest of a group of activists against the import of soy used to produce animal feed, as soy is one of the major causes of deforestation, and thus the topic chosen was Activism. However, the

subheading *L'Europa continua a foraggiare gli allevamenti intensivi*, lit. *Europe continues to feed intensive farming*, uses the verb *foraggiare* which is related to the semantic field of food in order to create a link with intensive farming, although it is also understood in the sense of financing, giving money to that sector (Treccani).

Other texts include instead metaphors referring to a topic that is semantically related to the one of the text, such as Agriculture, Climate Change, and Oil. For example, ItaGreen2019_Oil_InAzione is about the fight against oil and gas, which are among the causes of climate change. For this reason the topic chosen is Oil. The title *In azione su una piattaforma in Sicilia: basta bruciarci il futuro!*, lit. *In action on a platform in Sicily: stop burning our future!* contains the verb *bruciare*, which here is meant in the figurative sense of ruining our future, but considering the topic of the article, oil must be burned to generate energy, and for this reason it could be also understood literally; this is a case of fire-related word used in an oil-related text.

Finally, only a minority of texts show a correspondence between their topic and the topic of the creative devices they include, and again, all of them are related to broader and more basic concepts, such as Fire, Food, Water, and Wildlife. An example of food-related text and metaphor is the article ItaGreen2020_Food_Pomodorini, which aims at calling the attention of two factors that contribute to pollution, namely single-use plastic and out-of-season vegetables. Its title, *Pomodorini fuori stagione, con contorno di plastica usa e getta*, lit. *Out-of-season tomatoes, with disposable plastic as side dish*, contains the noun *contorno* which refers to the vegetables that are eaten as a side dish during meals and creates a wordplay with tomatoes that are usually eaten as such, hence it is an example of lexical creativity that belongs to the food semantic field, as the entire article.

If comparing the two sub-corpora, it is possible to notice that some topics are exclusive of one sub-corpus or the other. For example, labels such as Animals, Air Travel, Environment, Fashion, Fracking, Fuel, Media, Recycling, Renewable Energy, and Technology are found only in the English sub-corpus, whereas Cities and Farming only in the Italian one. The greater diversity of topics that characterises the English sub-corpus is perhaps due to the fact that it comprises texts of two geographical varieties, and since most texts are related to facts or news that are relevant in the area or culture in which they are written, they reflect the needs of those two different regions. For instance, fracking is a problem that concerns Britain and the USA, technology is a sector that is particularly

developed in the USA, whereas farming (and especially intensive farming) is an important (and problematic) industry in Italy. Yet, those which could be considered the core topics of Greenpeace and WWF, i.e., Agriculture, Climate Change, Fire, Food, Forests, Plastic, Pollution, Water, Wildlife, are encountered in both sub-corpora. For such topics, English and Italian texts comprise similar creative solutions because most English and Italian texts about fire, food, plastic, pollution, water, and wildlife manage to find creative devices exploiting the same topic. As regards texts dealing with climate change and forests, creative uses of language belong to a similar or related semantic field, i.e., flora (in Italian texts), trees and paper (in English texts) for forests-related texts; pollution (in Italian texts), water (in English texts), and temperature (in Italian and English texts) for climate change-related texts. The only difference concerns Agriculture, as the Italian sub-corpus includes a metaphor that could fall into the category of food (ItaGreen2020_Agriculture_Basta), hence a related topic, whereas the English sub-corpus does not include any metaphor concerning Agriculture.

In conclusion, both the English and Italian sub-corpora mostly show similar patterns as regards the types of creative solutions they employ and the relationships between their topics and the one used in the corresponding texts. The comparison between the two sub-corpora as regards the distribution of such techniques highlighted a difference in the wordplay category, which is far more frequent in the Italian sub-corpus, whereas the English one relied more evenly on different devices. The topics of texts are slightly different in Italian and English, possibly due to cultural differences, but the metaphors they contain follow a remarkably similar pattern.

4.4 WWF vs Greenpeace

A final comparison should consider another division in the corpus, namely, the texts published by WWF, on the one side, and the ones published by Greenpeace, on the other side, regardless of the language in which they are written. This could be an interesting analysis as the two NGOs give more prominence to certain environmental topics rather than others. Since they were founded to reach several objectives, some of them are shared and others not, as mentioned earlier.

4.4.1 Frequency

The distribution of creative language devices in the two sub-corpora is shown in Table 4.8 and Table 4.9 below. Table 4.8 concerns Greenpeace texts.

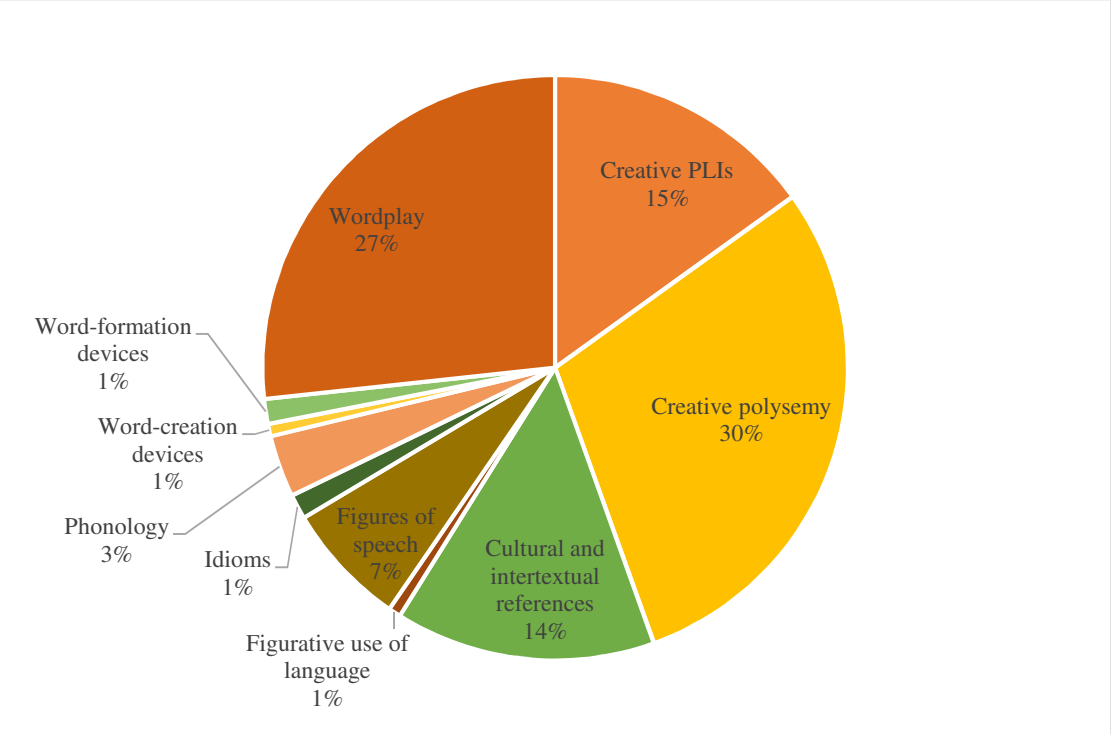

Table 4.8 Distribution of the creative devices employed in the texts published by Greenpeace.

The total number of creative solutions found in the texts by Greenpeace is 146. The preferred device employed is creative polysemy, with a frequency of 43, which covers virtually all instances of creative polysemy in the whole corpus (62). This device seems therefore to be typical of Greenpeace's texts. The second most frequent device is wordplay, followed by creative PLIs along with cultural and intertextual references: these results are in line with the general corpus. Other categories, such as figures of speech, phonology, idioms, and word-formation devices are distributed almost equally in the two sub-corpora. Conversely, most examples of figurative language and word-creation devices are found in the WWF sub-corpus, as Table 4.9 shows.

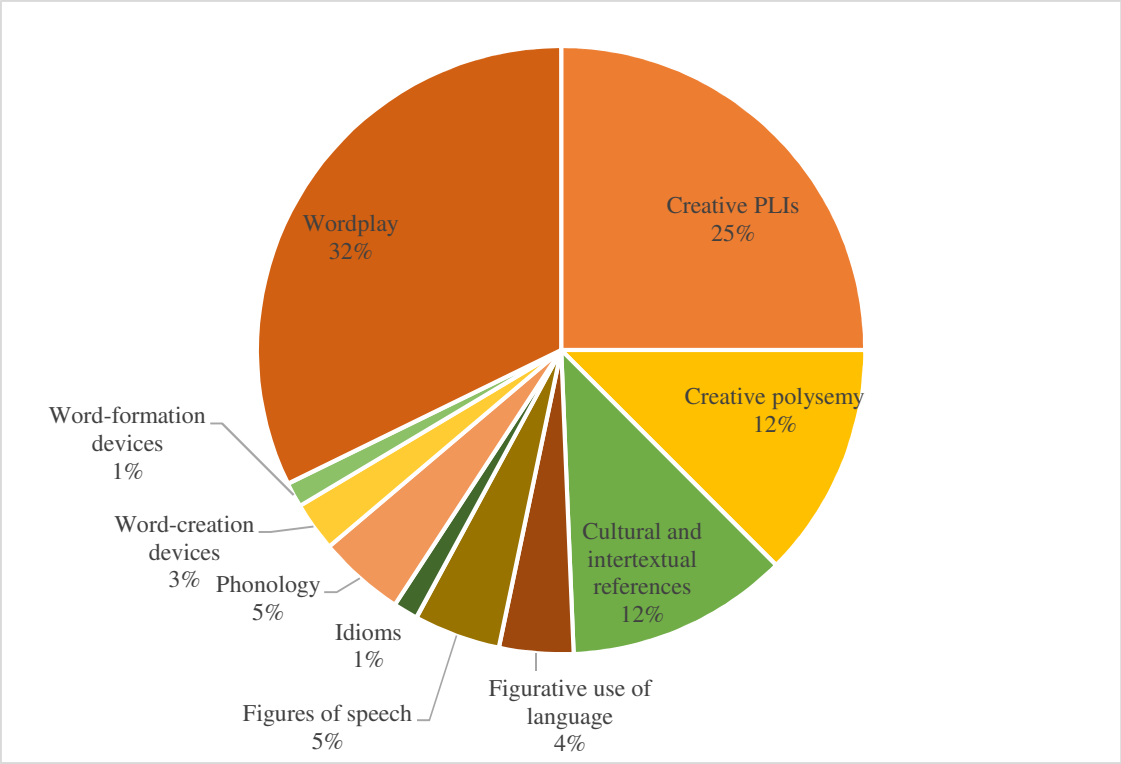

Table 4.9 Distribution of the creative devices employed in the texts published by WWF.

Considering that the number of examples of lexical creativity in the texts by WWF is 152, it is possible to notice that the most employed device is wordplay, which constitutes almost one-third of the total. The category of creative PLIs is also well represented in the WWF sub-corpus, unlike creative polysemy, whose figures are lower than the Greenpeace ones. Other techniques, namely, cultural and intertextual references, figures of speech, idioms, phonology, and word-formation devices are evenly distributed between the two sub-corpora. Texts by WWF includes more examples of figures of speech and word-creation devices than Greenpeace ones.

For the purpose of comparing the above frequencies, normalised valued are considered (Table 4.10).

Macro-category	Greenpeace sub-corpus	WWF sub-corpus
Cultural and intertextual references	5.29	6.97
Creative polysemy	10.84	7.36
Creative PLIs	5.55	14.71
Figures of speech	2.52	2.71
Wordplay	9.83	18.97
Word-creation devices	0.25	1.55
Word-formation devices	0.50	0.77
Phonology	1.26	2.71
Figurative use of language	0.25	2.32
Idioms	0.50	0.77

Table 4.10 Normalised frequencies of the creative devices included in the texts published by Greenpeace and WWF.

At a first glance, it is possible to notice that the most frequent device in the two sub-corpora is different, as Greenpeace texts show a preference towards the creative polysemy, which is less common in WWF texts. Conversely, in the WWF sub-corpus, the preferred technique is wordplay, whose normed count almost doubles Greenpeace's one, even though it is the second most frequent creative solution in that sub-corpus. Another striking difference between the two organisations concerns the creative manipulations of PLIs, which are far more frequent (almost three times) in WWF texts, which means that they have a tendency to use idiomatic expressions, proverbs or other fixed phrases in a way that alter their original form and meaning to adapt them to the new context. With respect to intertextual and cultural references, the difference between the two sub-corpora does not seem that big, and actually they are slightly more common in WWF texts, but they are present in both sub-corpora with a quite high frequency. Lower frequencies are instead observed in the case of figures of speech, word-formation devices, and idioms, whose distribution in both sub-corpora is quite similar, unlike word-creation devices, phonology, and figurative use of language which are encountered with a major frequency in WWF texts than in Greenpeace ones.

In conclusion, the two sub-corpora under investigation show slightly different patterns compared to what was observed for the English and Italian sub-corpora in the previous section, and both of them included all the categories of creative solutions analysed in this chapter. The greatest differences concern the much higher frequency in the use of creative manipulations of phrasal lexical items and wordplays in texts by WWF compared to the ones by Greenpeace, which show a predominance in the use of creative polysemy.

4.4.2 Topics

Focusing now on the relationship between the topic of the texts and the topic of the metaphors they contain, a similar table to the ones included in the previous section was developed to represent such relationship in the texts by Greenpeace (Table 4.11) and in the texts by WWF (Table 4.12).

TOPIC OF THE TEXT	TOPIC OF THE METAPHORS	TOTAL
Activism	Others	3
Agriculture	Related: Food	1
	Others	1
Air Travel	Air Travel	2
Climate Change	Related: Temperature, Water	2
	Others	5
Environment	Related: Pollution	2
Farming	Related: Food	1
	Others	2
Fashion	Fashion	2
	Others	1
Fire	Fire	4
	Others	1
Food	Food	4
	Others	4
Forests	Others	7
Fracking	Others	1
Fuel	Fuel	1
	Related: Transport	1
Insects	Insects	1
Marine Life	Marine Life	1
	Others	1
Media	Others	1
Oil	Related: Fire, Water	2
	Others	8
People	Others	7

Plastic	Plastic	1
	Related: Pollution, Packaging	7
	Others	9
Politics	Others	8
Pollution	Pollution	3
	Others	3
Recycling	Recycling	1
	Related: Glass	1
	Others	3
Sustainability	Related: Recycling	1
	Others	1
Technology	Related: Phones	1
Transport	Transport	2
	Related: Road, Race, Travel, Pollution	5
	Others	1
Water	Water	5
	Others	8
Wildlife	Wildlife	1

Table 4.11 Topics of texts and metaphors in the Greenpeace sub-corpus.

TOPIC OF THE TEXT	TOPIC OF THE METAPHOR	TOTAL
Activism	Others	5
Agriculture	Related: Food	1
	Others	3
Animals	Others	1
Cities	Others	1
Climate Change	Related: Pollution, Temperature, Water	4
	Others	5
Environment	Related: Sustainability	1
Fire	Fire	2
Food	Food	2
	Others	6
Forests	Related: Tree, Paper, Flora	6
Insects	Insects	4
Marine Life	Marine Life	1
	Related: Food, Water	2
	Others	4
People	Others	2
Plastic	Plastic	1
	Others	3
Pollution	Pollution	2
Renewable Energy	Related: Power	1
	Others	1
Sustainability	Others	5
Technology	Others	5
Water	Water	5
	Others	7
Wildlife	Wildlife	4
	Others	19

Table 4.12 Topics of texts and metaphors in the WWF sub-corpus.

When examining the two tables in a contrastive perspective, it can be noted that not all of topics are dealt by the two organisations, as some of them are covered only by Greenpeace and others only by WWF. For instance, WWF includes texts labelled as Animals, Cities, and Renewable Energy, whereas Greenpeace as Air Travel, Fashion, Fracking, Fuel, Media, Oil, Politics, and Transport, which are not present in the other. As a result, Greenpeace seems to have a more varied set of topics than WWF. However, most topics are comprised in the texts of both NGOs, which represent their core battles, namely, Climate Change, Environment, Fire, Food, Forests, Plastic, Sustainability, Water and Wildlife. Also in this case, the metaphors they use to describe such topics are varied and only a minority shows a correspondence of topics. This could be seen for example for

Insects, which is the topic of 5 texts, 4 belonging to WWF and one to Greenpeace, but all of them are about bees and the noun *bee* and other elements of the same semantic field are used creatively. Some examples of this were already explained in the previous section but another one could be UKWWF2019_Insects_Bees, a text that deals with the situation of bees in the UK, as some species are in danger. The title *Bees feel the sting of climate change in the East of England* includes the noun *sting* which figuratively refers to the harmful effect that, in this context, climate change causes on bees, but it is also the name of the needle-shaped part that bees use to sting, thus creating an example of wordplay with the topic of the entire article by using a word from the same semantic field. Another topic which is also a major concern for environmental organisations is Pollution, and again, in both organisations there are examples of metaphors that can be linked to the same topic. This is exemplified in the article ItaGreen2017_Pollution_Chi, which is about water pollution caused by the chemical company Miteni in Veneto (Italy). The title *Chi inquina paga, e la Miteni?*, lit. *Who pollutes pays, and Miteni?* displays a case of lexicalised constituent substitution, starting from the Italian proverb *chi rompe paga (e i cocci sono suoi)*, lit. *who breaks pays (and the fragments are theirs)*, meaning that who causes a damage must also pay for it (Proverbi.net). In this context, the verb *rompe* was substituted with *inquina* which is the actual damage caused by Miteni, hence the original meaning of the proverb was maintained, even though the title wonders whether the chemical company will ever pay for it because it denies any responsibilities for polluting waters in the Veneto region. Therefore, such substitution is motivated by the context, so that a pollution-related metaphor is used in a pollution-related text.

However, there are also texts that do not show a complete correspondence with the topic of the creative devices they include, as they overlap only partially. This is the case for Agriculture, which is described in both sub-corpora by food-related metaphors, or Climate Change, described by temperature and water-related metaphors in Greenpeace and WWF texts, but also by a pollution-related metaphor in the WWF sub-corpus. This example is found in ItaWWF2021_ClimateChange_Sempre, an article that describes the increase in catastrophic events, like floods, as a consequence of climate change. The subheading in question is *Nel nostro Paese le alluvioni sono aumentate in modo insostenibile*, lit. *In our country floods have increased in an unsustainable way*, which contains the adjective *insostenibile*, already described above, which could be labelled as

a pollution-related metaphor as it comprises the meaning of something that has a negative impact on the environment.

Turning on the Greenpeace sub-corpus, there are other topics that uses a topic-related metaphor, e.g., some food metaphors to describe texts about Farming, fire and water to describe texts about Oil, recycling for texts about Sustainability, and phones for technology-related texts. An example is the report USGreen2017_Technology_FromSmart, which analyses the business model of smartphones whose production and consumption had increased enormously in the ten years that followed their launch in 2007. Its title, *From smart to senseless*, includes the adjective *smart* which hints at *smartphone* to indicate this new generation of phones that allow users to access the web, send emails, and download apps. *Smart* is juxtaposed to its contrary, *senseless*, which is used here to refer to the unsustainable business model that characterised the first ten years of smartphones. Therefore, it creates a wordplay with an element of phones to establish a connection with the topic of the whole report, namely, Technology, which is indeed a hyperonym of phones.

While texts about Forests in the WWF sub-corpus contains related metaphors, e.g., about trees, paper, and flora, the same ones by Greenpeace only include non-related metaphors, e.g., about food, violence, or references to songs or films. This can be seen in the case of ItaGreen2012_Forests_Favole, a report that focuses on a specific cause of deforestation, i.e., paper used in the book industry. The title *Favole ammazza foreste!*, lit. *Fables killing forests!* is an example of ontological metaphor, as the noun *favole*, which stands for the book industry, is personified so that it could kill, or figuratively, destroy forests, so this violence-related metaphor is used in a text about forests.

Yet, for other topics, both organisations did not manage to find a creative solution that shares the same topic of the related text. This is the case for the Activism topic, whose metaphors could be labelled as (a) food metaphors and quotes in Greenpeace texts, (b) references to films and songs and phonological manipulations in WWF texts, and (c) idioms in both sub-corpora. In the case of the People topic, the creative solutions in such texts are related to: water, idioms, collocations, references to films, songs, and literature in the Greenpeace sub-corpus; fire and phonological manipulations in the WWF sub-corpus. An example of this could be USWWF2019_People_These, an article that describes how a community in Congo developed fuel-efficient cookstoves that reduce the

consumption of wood, and consequently, deforestation, so that gorillas could still thrive in their natural habitat. The subheading *Catching fire* is an expression which means that an event could become the centre of interest and enthusiasm (The free dictionary), and actually in the article it is explained that this stove project was so successful that it was exported to other Congolese provinces as well. But it also means to begin to burn, so it is a fire-related metaphor which creates a wordplay with a keyword in the article, namely, cookstoves, which is something where wood or fuel burns, even though the main topic of the article is People.

In conclusion, WWF and Greenpeace share most topics, which correspond to their core battles, e.g., preservation of wildlife, fight against pollution and climate change, the conservation of natural habitats such as oceans, seas, and forests. But Greenpeace seems to focus on other themes as well, such as the issues related to fossil fuels (especially oil) and air pollution as a consequence of road transportation and air travel, what happens in politics and how politicians and laws can influence the protection of the environment. However, most creative devices included in the titles and subheadings of such texts do not share the general topic of the entire article, as they also hint at other keywords in the text to manipulate language at the semantic, phonological, and morphological level in creative ways.

CONCLUSION

This dissertation set out to determine which kinds of creative techniques are employed in the titles and subheadings of environment texts, as well as their frequency and potential associations with a specific language or organisation. This was done by designing a corpus including diverse types of online texts published by the environmental NGOs Greenpeace and WWF in two languages, i.e., Italian and British/American English. The kind of analysis that was carried out followed the corpus-driven approach, as all the results were based on what was found in the corpus in question. Therefore, after grouping the creative solutions included in the corpus according to their type, it was possible to identify ten distinct categories, namely, wordplay, creative polysemy, idioms, creative PLIs, cultural and intertextual references, figures of speech, phonology, figurative use of language, word-formation devices, and word-creation devices. Considering raw data first, this study has found that generally the preferred creative device in environment texts is wordplay, which is used extensively in all the varieties of language and by both organisations, possibly due to the fact that this creative feature is obtained by merely adding a word or phrase that is directly linked to another word of the title or subheading or to the content of the text. It was also observed that the texts take advantage widely of the polysemy of words that originates from the specific context in which they are used, making it another very frequent device in the corpus. Another considerable number of examples concern instead manipulations and deformations of phrasal lexical items on the structural and semantic level of language, and such modifications are applied to well-known phrases and expressions to adapt them to the target context, always taking into account that the original form must remain accessible to readers for the device to be effective. Also other kinds of cultural and intertextual references undergo such manipulations and this technique was indeed quite frequent in the corpus as well. The phonological level of language is, instead, less exploited. More traditional creative techniques such as figures of speech, figurative use of language or non-modified idiomatic expressions are also a minority in the corpus, showing a preference towards other kinds of devices. However, the rarest creative solutions are those that concern the creation of novel words and a probable reason for this is that there was no particular need to name new concepts.

The analysis that focused on the texts that contain two or more examples of creative solutions has shown that the correspondence between the topic of the text and the one of the related metaphors is maintained only in a minority of cases, which could be linked to basic topics such as food or wildlife. In most texts, however, the relationship among topics follows distinct patterns, as in some cases only the creative devices share the same topic – different from the text that contains them – but in many others there seems to be no specific correlation between the topic of a text and the one chosen for the metaphors that describe it. Therefore, the results of this study indicate that the dominant driver for the tendency towards a certain creative device instead of another is the context, as all manipulations or choices of words are contextually dependent and can be explained in an exhaustive way only if considering the target context.

The same conclusion was drawn when comparing the English and the Italian sub-corpora, and between the Greenpeace and WWF ones. Specifically, such comparisons were made possible through the operation of normalisation, whereby raw counts regarding the number of occurrences of each creative device in the related sub-corpus were transformed into comparable data in order to assess the differences and similarities in the frequency of such metaphors. The results of this investigation show that the frequency of creative polysemy, word-creation and word-formation devices, and phonology are basically similar in the English and Italian sub-corpora, whereas major differences could be found in relation to the other solutions. In particular, the Italian sub-corpus shows a strong preference towards the wordplay device, whose frequency is much higher than the others and also compared to the English sub-corpus, which seems more balanced, and the preferred device is instead the creative manipulations of phrasal lexical items. If considering the Greenpeace and WWF sub-corpora, the categories of wordplay and creative PLIs are the most common in WWF texts, which have a much higher rate in contrast to Greenpeace texts, where the most used solution is creative polysemy. Finally, the analysis of topics has shown that their distribution in the different sub-corpora is not uniform, as some topics are only covered in a specific sub-corpus, according to the needs, issues and interests that are typical of a certain geographical area, culture, or organisation. However, the core topics in environmental discourse, such as climate change, fire, forests, water, plastic, wildlife, and food are found in all the sub-corpora taken into consideration. Moreover, they all share a similar pattern with respect to the relationships between the

general topic of the text in question and the topic of each metaphor it includes, as only a minority shows a complete correspondence, whereas most texts opt for creative solutions belonging to different semantic fields as, once again, the determining factor in such choice is the context.

The findings in this dissertation are subject to at least three limitations. First, the investigation focused on the titles and subheadings only, without considering possible creative formations in the rest of the text. Second, the corpus consisted of environmental texts written originally in two languages, i.e., Italian and English, and in the case of English, it considered two regional variants, i.e., American and British English. Third, the texts to be included were retrieved solely from two environmental NGOs, namely, Greenpeace and WWF. As a consequence, it would be interesting to assess the use of creative devices in other languages (also different varieties of the same language) or other environmental organisations and compare them with the results found for this corpus, in order to establish whether other cultures tend to cover other kinds of topics, whether other languages have a preference towards other kinds of lexical creativity or exploit distinct linguistic levels, and whether similar solutions are found in the rest of the text as well. All things considered, this study could be used as a starting point to further investigate the language, and in particular, the creative uses of language in environmental communication by adopting a corpus-driven approach, which allows researchers to gather examples and form their own hypothesis based exclusively on what they have observed in the corpus under investigation. And thanks to this analysis, they could even come to different conclusions and perhaps find other forces that affect the choice of the creative solution other than the context.

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Appendix 1
Composition of the final corpus

	TITLE	LINK	LANGUAGE	ORG.	TOPIC	PUBL. YEAR	TYPE OF PUBL.	TOKENS	ABBREVIATION
1.	Six Greenpeace non violent direct actions	https://www.greenpeace.org.uk/news/six-greenpeace-non-violent-direct-actions/	English UK	Greenpeace	Activism	2018	News	651	UKGreen2018_Activism_Six
2.	Airline bailouts will not fly	https://www.greenpeace.org.uk/news/airline-bailouts-petition-government/	English UK	Greenpeace	Air Travel	2020	News	589	UKGreen2020_Air Travel_Airline
3.	Court of Appeal clips Heathrow's wings as third runway forced into climate emergency landing	https://www.greenpeace.org.uk/news/court-of-appeal-clips-heathrows-wings-as-third-runway-forced-into-climate-emergency-landing/	English UK	Greenpeace	Air Travel	2020	News	467	UKGreen2020_Air Travel_Court
4.	4 of the biggest deals you should know about this Black Friday	https://www.greenpeace.org.uk/news/4-of-the-biggest-deals-for-the-planet-you-should-know-about-this-black-friday/	English UK	Greenpeace	Climate Change	2021	News	1,107	UKGreen2021_ClimateChange_4
5.	All roads must lead to a green recovery	https://www.greenpeace.org.uk/news/all-roads-must-lead-to-a-green-recovery/	English UK	Greenpeace	Climate Change	2020	News	425	UKGreen2020_ClimateChange_AllRoads
6.	Barclays climate resolution is all targets and no substance	https://www.greenpeace.org.uk/news/barclays-climate-resolution-is-all-targets-and-no-substance/	English UK	Greenpeace	Climate Change	2020	News	212	UKGreen2020_ClimateChange_Barclays
7.	What would it take to future-proof our planet?	https://www.greenpeace.org.uk/news/futureproof-climate-resilience-unearthed-huffpost/	English UK	Greenpeace	Climate Change	2020	News	548	UKGreen2020_ClimateChange_What
8.	Sacrifice zones: the places being destroyed by our toxic system – and the dangerous 'climate solutions' that could make them worse	https://www.greenpeace.org.uk/news/sacrifice-zones-geoengineering/	English UK	Greenpeace	Environment	2021	News	1,389	UKGreen2021_Environment_Sacrifice

9.	Fast fashion – this industry needs an urgent makeover	https://www.greenpeace.org.uk/news/fast-fashion-this-industry-needs-an-urgent-makeover/	English UK	Greenpeace	Fashion	2019	News	653	UKGreen2019_Fashion_Fast
10.	The UK's fast fashion habit is getting worse – and it's destroying the planet	https://www.greenpeace.org.uk/news/the-uks-fast-fashion-habit-is-getting-worse-and-its-destroying-the-planet/	English UK	Greenpeace	Fashion	2020	News	824	UKGreen2020_Fashion_TheUK
11.	Flame-grilling the Amazon: Greenpeace UK climbers drop giant wildfire banners over flagship Burger King	https://www.greenpeace.org.uk/news/flame-grilling-the-amazon-greenpeace-uk-climbers-drop-giant-wildfire-banners-over-flagship-burger-king/	English UK	Greenpeace	Fire	2019	News	505	UKGreen2019_Fire_Flame
12.	Greenpeace present Burger King UK CEO with award for flame-grilling The Amazon	https://www.greenpeace.org.uk/news/greenpeace-present-burger-king-uk-ceo-with-award-for-flame-grilling-the-amazon/	English UK	Greenpeace	Fire	2019	News	227	UKGreen2019_Fire_Greenpeace
13.	Revealed: how Tesco fuelled record breaking fires in Brazil's wetlands	https://www.greenpeace.org.uk/news/ tesco-pantanal-wetland-fires-brazil-meat/	English UK	Greenpeace	Fire	2021	News	811	UKGreen2021_Fire_Revealed
14.	Watch: Tesco's burning secret	https://www.greenpeace.org.uk/news/watch-tescos-burning-secret/	English UK	Greenpeace	Fire	2021	News	701	UKGreen2021_Fire_Watch
15.	Spice up your Veganuary with these tasty dishes from David Olu	https://www.greenpeace.org.uk/news/vegan-plant-based-recipes-david-olu-veganuary/	English UK	Greenpeace	Food	2022	News	713	UKGreen2022_Food_Spice
16.	10 tips to eat more plant-based food (or even go vegan)	https://www.greenpeace.org.uk/news/10-tips-plant-based-food-go-vegan/	English UK	Greenpeace	Food	2020	News	1,270	UKGreen2020_Food_10
17.	How much meat should I be eating?	https://www.greenpeace.org.uk/news/how-much-meat-should-i-be-eating/	English UK	Greenpeace	Food	2020	News	781	UKGreen2020_Food_HowMuch
18.	Winging it: how the UK's chicken habit is fuelling the climate and nature emergency	https://www.greenpeace.org.uk/wp-content/uploads/2020/01/Greenpeace_WingingIt.pdf	English UK	Greenpeace	Forests	2020	Report	3,234	UKGreen2020_Forests_Winging
19.	All those times the anti-fracking campaign rocked	https://www.greenpeace.org.uk/news/all-those-times-the-anti-fracking-campaign-rocked/	English UK	Greenpeace	Fracking	2019	News	501	UKGreen2019_Fracking_All

20.	Uncovered: the rich list “Codfathers” dominating the UK’s fishing industry	https://www.greenpeace.org.uk/news/uncovered-rich-list-codfathers-dominating-uks-fishing-industry/	English UK	Greenpeace	Marine Life	2018	News	1,064	UKGreen2018_MarineLife_Uncovered
21.	The great indoors: 50+ green-themed books, films and shows to enjoy in lockdown	https://www.greenpeace.org.uk/news/the-great-indoors-50-green-themed-books-films-and-shows-to-enjoy-in-lockdown/	English UK	Greenpeace	Media	2020	News	2,030	UKGreen2020_Media_TheGreat
22.	The tide might finally be turning on the oil industry	https://www.greenpeace.org.uk/news/oil-industry-shell-chevron-exxon-climate/	English UK	Greenpeace	Oil	2021	News	1,386	UKGreen2021_Oil_TheTide
23.	The oil and gas industry is failing its offshore workers. It’s time to give them a way out	https://www.greenpeace.org.uk/news/the-oil-and-gas-industry-is-failing-its-offshore-workers-its-time-to-give-them-a-way-out/	English UK	Greenpeace	People	2021	News	1,255	UKGreen2021_People_TheOil
24.	Testing the Waters – Microplastics in Scottish Seas	https://www.greenpeace.org.uk/wp-content/uploads/2019/06/Testing_the_waters_final_web.pdf	English UK	Greenpeace	Plastic	2019	Report	2,799	UKGreen2019_Plastic_Testing
25.	Unpacked: how supermarkets can cut plastic packaging in half by 2025	https://www.greenpeace.org.uk/wp-content/uploads/2020/08/Greenpeace_Unpacked_Report.pdf	English UK	Greenpeace	Plastic	2020	Report	8,367	UKGreen2020_Plastic_Unpacked
26.	Upstream: microplastics in UK Rivers	https://www.greenpeace.org.uk/wp-content/uploads/2019/06/plastics_v08.pdf	English UK	Greenpeace	Plastic	2019	Report	4,456	UKGreen2019_Plastic_Upstream
27.	Boris PM – Will he lie in front of the bulldozers or drive them?	https://www.greenpeace.org.uk/news/boris-pm-will-he-lie-in-front-of-the-bulldozers-or-drive-them/	English UK	Greenpeace	Politics	2019	News	195	UKGreen2019_Politics_Boris
28.	What happened at COP26?	https://www.greenpeace.org.uk/news/what-happened-at-cop26/	English UK	Greenpeace	Politics	2021	News	2,412	UKGreen2021_Politics_What
29.	30+ ways to green your home during lockdown	https://www.greenpeace.org.uk/news/30-ways-to-green-your-home-on-lockdown/	English UK	Greenpeace	Recycling	2020	News	2,453	UKGreen2020_Recycling_30+
30.	Say YAAASS to the Glass!	https://www.greenpeace.org.uk/news/say-yaaass-to-the-glass/	English UK	Greenpeace	Recycling	2019	News	666	UKGreen2019_Recycling_Say

31.	7 ways the UK's transport system is unfair	https://www.greenpeace.org.uk/news/uk-transport-unfair-car-dependence-social-justice/	English UK	Greenpeace	Transport	2021	News	1,106	UKGreen2021_Transport_7
32.	Boris Johnson gets a surprise visit from toy cars	https://www.greenpeace.org.uk/news/boris-johnson-surprise-visit-toy-cars-petrol-diesel-2030/	English UK	Greenpeace	Transport	2020	News	584	UKGreen2020_Transport_Boris
33.	Greenpeace races toy cars under Downing Street gates urging PM to put electric vehicles on 'fast track to 2030'	https://www.greenpeace.org.uk/news/greenpeace-races-toy-cars-under-downing-street-gates-urging-pm-to-put-electric-vehicles-on-fast-track-to-2030/	English UK	Greenpeace	Transport	2020	News	613	UKGreen2020_Transport_Greenpeace
34.	Polluting plug-in hybrids are the car industry's "wolf in sheep's clothing"	https://www.greenpeace.org.uk/news/polluting-plug-in-hybrids-are-the-car-industrys-wolf-in-sheeps-clothing/	English UK	Greenpeace	Transport	2020	News	568	UKGreen2020_Transport_Polluting
35.	VW chief admits end of the road for petrol and diesel cars is in sight – Greenpeace reaction	https://www.greenpeace.org.uk/news/vw-chief-admits-end-road-petrol-diesel-cars-sight-greenpeace-reaction/	English UK	Greenpeace	Transport	2018	News	238	UKGreen2018_Transport_VW
36.	26.5 million tonne carbon bomb ticks quietly on UK seabed, as 69% of UK public call for bottom trawling ban	https://www.greenpeace.org.uk/news/26-5-million-tonne-carbon-bomb-ticks-quietly-on-uk-seabed-as-69-of-uk-public-call-for-bottom-trawling-ban/	English UK	Greenpeace	Water	2021	News	718	UKGreen2021_Water_26.5
37.	As it happened: Greenpeace blocks destructive fishing in the North Sea	https://www.greenpeace.org.uk/news/live-activists-north-sea-destructive-fishing/	English UK	Greenpeace	Water	2020	News	4,006	UKGreen2020_Water_As
38.	World Orangutan Day – 10 furry facts	https://www.greenpeace.org.uk/news/world-orangutan-day-10-facts/	English UK	Greenpeace	Wildlife	2018	News	410	UKGreen2018_Wildlife_World
39.	Send them a sign that #wewontforget	https://www.wwf.org.uk/what-you-can-do/send-them-sign	English UK	WWF	Activism	???	News (updates)	420	UKWWF_Activism_Send
40.	Bees feel the sting of climate change in the East of England	https://www.wwf.org.uk/updates/bees-feel-sting-climate-change	English UK	WWF	Insects	2019	News (updates)	953	UKWWF2019_Insects_Bees

41.	How to bee friendly	https://www.wwf.org.uk/updates/how-bee-friendly	English UK	WWF	Insects	???	News (updates)	656	UKWWF_Insects_How
42.	Top 10 facts about bees	https://www.wwf.org.uk/learn/fascinating-facts/bees	English UK	WWF	Insects	2020	Facts	658	UKWWF2020_Insects_Top
43.	Top 10 facts about dolphins	https://www.wwf.org.uk/learn/fascinating-facts/dolphins	English UK	WWF	Marine Life	???	Facts	522	UKWWF_MarineLife_TopDolphins
44.	Top 10 facts about sharks	https://www.wwf.org.uk/learn/fascinating-facts/sharks	English UK	WWF	Marine Life	2019	Facts	439	UKWWF2019_MarineLife_TopSharks
45.	Ten tips to reduce your plastic footprint	https://www.wwf.org.uk/updates/ten-tips-reduce-your-plastic-footprint	English UK	WWF	Plastic	2018	News (updates)	676	UKWWF2018_Plastic_Ten
46.	The big smoke	https://www.wwf.org.uk/sites/default/files/2021-05/uk_financed_emissions_v11.pdf	English UK	WWF	Pollution	2021	Report	9,558	UKWWF2021_Pollution_TheBig
47.	Emission possible	https://www.wwf.org.uk/emission-possible	English UK	WWF	Sustainability	2021	News (updates)	301	UKWWF2021_Sustainability_Emission
48.	Green Christmas gift guide	https://www.wwf.org.uk/green-christmas-gift-guide	English UK	WWF	Sustainability	???	News (updates)	351	UKWWF_Sustainability_Green
49.	Flushed away	https://www.wwf.org.uk/sites/default/files/2017-12/Flushed%20Away__Nov2017.pdf	English UK	WWF	Water	2017	Report	13,702	UKWWF2017_Water_Flushed
50.	10 facts about Adélie Penguins	https://www.wwf.org.uk/learn/fascinating-facts/adelie-penguins	English UK	WWF	Wildlife	???	Facts	617	UKWWF_Wildlife_10
51.	Penguin: 'egg-straordinary' bird in a melting world	https://www.wwf.org.uk/updates/penguin-egg-straordinary-bird-melting-world	English UK	WWF	Wildlife	2018	News (updates)	813	UKWWF2018_Wildlife_Penguin
52.	Polar bear: icon on ice	https://www.wwf.org.uk/learn/wildlife/polar-bears	English UK	WWF	Wildlife	2016	News (updates)	382	UKWWF2016_Wildlife_Polar
53.	Top 10 facts about elephants	https://www.wwf.org.uk/learn/fascinating-facts/elephants	English UK	WWF	Wildlife	???	Facts	659	UKWWF_Wildlife_TopElephants
54.	Top 10 facts about emperor penguins	https://www.wwf.org.uk/learn/fascinating-facts/emperor-penguins	English UK	WWF	Wildlife	???	Facts	840	UKWWF_Wildlife_TopEmperor
55.	Top ten facts about Amur Leopards	https://www.wwf.org.uk/learn/fascinating-facts/amur-leopards	English UK	WWF	Wildlife	???	Facts	405	UKWWF_Wildlife_TopAmur

56.	Wildlife in a warming world	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/558gtvwcut_WWF__Wildlife_in_a_Warming_World__2018_FINAL.pdf?_ga=2.245276417.589073638.1636367894-1870862106.1634201526	English UK	WWF	Wildlife	2018	Report	9,002	UKWWF2018_Wildlife_Wildlife
57.	Houston, we have a solution	https://www.greenpeace.org/usa/houston-we-have-a-solution/	English US	Greenpeace	Activism	2019	Blog (news)	688	USGreen2019_Activism_Houston
58.	What happens in the Arctic doesn't stay in the Arctic	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/3fafc5a7-3fafc5a7-report_arctic_07_06_16.pdf	English US	Greenpeace Research Laboratories	Climate Change	2016	Report	4,408	USGreen2016_ClimateChange_What
59.	Contaminating the courts	https://www.greenpeace.org/usa/reports/contaminating-the-courts/	English US	Greenpeace	Environment	2018	Report	17,364	USGreen2018_Environment_Contaminating
60.	Toxic threads: putting pollution on parade	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/4ae36a1c-4ae36a1c-toxicthreads02.pdf	English US	Greenpeace International	Fashion	2012	Report	6,816	USGreen2012_Fashion_Toxic
61.	Eye on the Taiga	https://www.greenpeace.org/static/planet4-international-stateless/2017/05/b1d0076e-eye-on-the-taiga_greenpeace_full_report.pdf	English US	Greenpeace	Forests	2017	Report	11,466	USGreen2017_Forests_Eye
62.	How the palm oil industry is cooking the climate	https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/report/2010/2/how-the-palm-oil-industry-is-c.pdf	English US	Greenpeace International	Forests	2007	Report	3,049	USGreen2007_Forests_How
63.	Slaughtering the Amazon	https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/slaughtering-the-amazon.pdf	English US	Greenpeace International	Forests	2009	Report	2,925	USGreen2009_Forests_Slaughtering
64.	Biden must get federal lands out of the fossil fuel business	https://www.greenpeace.org/usa/biden-must-get-federal-lands-out-of-the-fossil-fuel-business/	English US	Greenpeace	Fuel	2021	Blog (news)	910	USGreen2021_Fuel_Biden

65.	Fossil fuel racism	https://www.greenpeace.org/usa/reports/fossil-fuel-racism/	English US	Greenpeace	Fuel	2021	Report	16,047	USGreen2021_Fuel_Fossil
66.	Plan bee – living without pesticides	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/4cf53e5c-4cf53e5c-plan-bee.pdf	English US	Greenpeace International	Insects	2014	Report	19,073	USGreen2014_Insects_Plan
67.	Where have all the tuna gone?	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/bba1c00a-bba1c00a-tonno.pdf	English US	Greenpeace	Marine Life	2006	Report	8,014	USGreen2006_MarineLife_Where
68.	Earth to Trump: there's no such thing as "beautiful, clean coal"	https://www.greenpeace.org/usa/earth-to-trump-theres-no-such-thing-as-beautiful-clean-coal/	English US	Greenpeace	Oil	2018	Blog (news)	484	USGreen2018_Oil_Earth
69.	In the pipeline	https://www.greenpeace.org.uk/wp-content/uploads/2019/08/In_the_pipeline.pdf?_ga=2.21594813.720247635.1636553551-641823620.1635179212	English US	Greenpeace	Oil	2019	Report	16,939	USGreen2019_Oil_InThe
70.	Oil in the cloud	https://www.greenpeace.org/usa/reports/oil-in-the-cloud/	English US	Greenpeace	Oil	2020	Report	6,771	USGreen2020_Oil_Oil
71.	The snowball keeps rolling	https://www.greenpeace.org/usa/the-snowball-keeps-rolling/	English US	Greenpeace	Oil	2018	Blog (news)	1,044	USGreen2018_Oil_TheSnowball
72.	The truth about Energy Transfer Partners	https://www.greenpeace.org/usa/the-truth-about-energy-transfer-partners/	English US	Greenpeace	Oil	2018	Blog (news)	732	USGreen2018_Oil_TheTruth
73.	Green is the new black: how black staff are working to center justice, solidarity and liberation at Greenpeace	https://www.greenpeace.org/usa/green-is-the-new-black-how-black-staff-are-working-to-center-justice-solidarity-and-liberation-at-greenpeace/	English US	Greenpeace	People	2020	Blog (news)	2,395	USGreen2020_People_Green
74.	Supply chained	https://www.greenpeace.org/usa/wp-content/uploads/2015/11/Supply-chained.pdf	English US	Greenpeace	People	2015	Report	5,414	USGreen2015_People_Supply
75.	Packaging away the planet	https://www.greenpeace.org/usa/reports/packaging-away-the-planet-2019/	English US	Greenpeace	Plastic	2019	Report	16,319	USGreen2019_Plastic_Packaging
76.	Plastic free future: holiday wish list	https://www.greenpeace.org/usa/plastic-free-future-holiday-wish-list/	English US	Greenpeace	Plastic	2020	Blog (news)	790	USGreen2020_Plastic_Plastic

77.	Sri Lanka's shores are flooding with plastic	https://www.greenpeace.org/usa/sri-lankas-shores-are-flooding-with-plastic/	English US	Greenpeace	Plastic	2021	Blog (news)	539	USGreen2021_Plastic_SriLanka
78.	The climate emergency unpacked	https://prod.greenpeaceusa.info/usa/wp-content/uploads/2021/09/1001_GP_Unpacked_Report_ENG_FINAL.pdf	English US	Greenpeace	Plastic	2021	Report	11,001	USGreen2021_Plastic_TheClimate
79.	Throwing away the future	https://www.greenpeace.org/usa/wp-content/uploads/2019/09/report-throwing-away-the-future-false-solutions-plastic-pollution-2019.pdf	English US	Greenpeace	Plastic	2019	Report	6,708	USGreen2019_Plastic_Throwing
80.	Election red alert — all hands on deck	https://www.greenpeace.org/usa/election-red-alert-all-hands-on-deck/	English US	Greenpeace	Politics	2020	Blog (news)	1,904	USGreen2020_Politics_Election
81.	No climate, no deal: how progressives are holding the line for the full Build Back Better Act	https://www.greenpeace.org/usa/no-climate-no-deal-how-progressives-are-holding-the-line-for-the-full-build-back-better-act/	English US	Greenpeace	Politics	2021	Blog (news)	703	USGreen2021_Politics_NoClimate
82.	Not pretty fly for a white guy: on Pence's debate fail	https://www.greenpeace.org/usa/not-pretty-fly-for-a-white-guy-how-pence-failed-at-the-vice-presidential-debate/	English US	Greenpeace	Politics	2020	Blog (news)	746	USGreen2020_Politics_NotPretty
83.	Amazon is delivering destruction	https://www.greenpeace.org/usa/amazon-is-delivering-destruction/	English US	Greenpeace	Pollution	2020	Blog (news)	700	USGreen2020_Pollution_Amazon
84.	Polluting democracy	https://www.greenpeace.org/usa/wp-content/uploads/2015/07/Polluting Democracy.web_.pdf	English US	Greenpeace	Pollution	2015	Report	5,083	USGreen2015_Pollution_Polluting
85.	Circular claims fall flat: comprehensive U.S. survey of plastics recyclability	https://www.greenpeace.org/usa/wp-content/uploads/2020/02/Greenpeace-Report-Circular-Claims-Fall-Flat.pdf	English US	Greenpeace	Recycling	2020	Report	12,692	USGreen2020_Recycling_Circular
86.	Recycling isn't dead, but plastic is killing it	https://www.greenpeace.org/usa/recycling-isnt-dead-but-plastic-is-killing-it/	English US	Greenpeace	Recycling	2020	Blog (news)	390	USGreen2020_Recycling_Recycling
87.	Reusables are doable	https://www.greenpeace.org/usa/reports/reusables-are-doable/	English US	Greenpeace	Recycling	2020	Report	5,060	USGreen2020_Recycling_Reusables

88.	Carting away the oceans	https://www.greenpeace.org/usa/reports/carting-away-the-oceans-10/	English US	Greenpeace	Sustainability	2018	Report	21,373	USGreen2018_Sustainability_Carting
89.	From smart to senseless	https://www.greenpeace.org/usa/wp-content/uploads/2017/03/FINAL-10YearsSmartphones-Report-Design-230217-Digital.pdf	English US	Greenpeace	Technology	2017	Report	2,786	USGreen2017_Technology_FromSmart
90.	Deep sea mining: the new bad guy in town	https://www.greenpeace.org/usa/deep-sea-mining-the-new-bad-guy-in-town/	English US	Greenpeace	Water	2021	Blog (news)	552	USGreen2021_Water_Deep
91.	Ghost gear: the abandoned fishing nets haunting our oceans	https://www.greenpeace.org/static/planet4-international-stateless/2019/11/8f290a4f-ghostgearfishingreport2019_greenpeace.pdf	English US	Greenpeace	Water	2019	Report	6,398	USGreen2019_Water_Ghost
92.	In deep water	https://drive.google.com/file/d/1m-bCz8YDOhBHPwOvtMeUjh702xqVb1l-/view	English US	Greenpeace International	Water	2019	Report	10,565	USGreen2019_Water_InDeep
93.	In hot water	https://www.greenpeace.org/static/planet4-international-stateless/2019/11/018c3eae-30x30-ocean-climate-report-greenpeace-2019.pdf	English US	Greenpeace International	Water	2019	Report	22,752	USGreen2019_Water_InHot
94.	Not too big to fail	https://www.greenpeace.org/usa/not-too-big-to-fail/	English US	Greenpeace	Water	2021	Blog (news)	868	USGreen2021_Water_NotToo
95.	Preventing the rise of deep sea mining	https://www.greenpeace.org/usa/preventing-the-rise-of-deep-sea-mining/	English US	Greenpeace	Water	2021	Blog (news)	865	USGreen2021_Water_Preventing
96.	Setting sail for science	https://www.greenpeace.org/usa/setting-sail-science/	English US	Greenpeace	Water	2019	Blog (news)	675	USGreen2019_Water_Setting
97.	Setting sail to protect the Antarctic	https://www.greenpeace.org/usa/setting-sail-to-protect-the-antarctic/	English US	Greenpeace	Water	2018	Blog (news)	433	USGreen2018_Water_Setting
98.	Deep trouble	https://www.greenpeace.org/static/planet4-international-stateless/c86ff110-pto-deep-trouble-report-final-1.pdf	English US	Greenpeace International	Water	2020	Report	13,545	USGreen2020_Water_Deep
99.	How cover crops help keep soil healthy and productive	https://www.worldwildlife.org/magazine/issues/spring-2018/articles/how-cover-crops-help-keep-soil-healthy-and-productive#:~:text=By%20keeping	English US	WWF	Agriculture	2018	Magazine	477	USWWF2018_Agriculture_How

		%20roots%20in%20the,during%20floods%20and%20droughts%20alike.							
100.	Soy: the biggest food crop we never talk about	https://www.worldwildlife.org/magazine/issues/winter-2015/articles/soy-the-biggest-food-crop-we-never-talk-about	English US	WWF	Agriculture	2015	Magazine	385	USWWF2015_Agriculture_Soy
101.	Sugarcane farming's toll on the environment	https://www.worldwildlife.org/magazine/issues/summer-2015/articles/sugarcane-farming-s-toll-on-the-environment	English US	WWF	Agriculture	2015	Magazine	313	USWWF2015_Agriculture_Sugarcane
102.	Detection dogs and wildlife crime	https://www.worldwildlife.org/magazine/issues/winter-2014/articles/detection-dogs-and-wildlife-crime	English US	WWF	Animals	2014	Magazine	399	USWWF2014_Animals_Detection
103.	Flowing forward	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/7sxn0x8ipr_Flowing_Forward_Freshwater_ecosystem_adaptation_to_climate_change_in_water_resources_management_and_biodiversity_conservation.pdf?_ga=2.249534595.589073638.1636367894-1870862106.1634201526	English US	WWF	Climate Change	2010	Publication	25,627	USWWF2010_ClimateChange_Flowing
104.	The climate crisis is here, but we can still turn the tide	https://www.worldwildlife.org/stories/the-climate-crisis-is-here-but-we-can-still-turn-the-tide	English US	WWF	Climate Change	2021	Stories	469	USWWF2021_ClimateChange_TheClimate
105.	What can we do about climate change?	https://www.worldwildlife.org/magazine/issues/fall-2015/articles/what-can-we-do-about-climate-change	English US	WWF	Climate Change	2015	Magazine	481	USWWF2015_ClimateChange_What
106.	Monks and nuns go green	https://www.worldwildlife.org/magazine/issues/summer-2014/articles/monks-and-nuns-go-green	English US	WWF	Environment	2014	Magazine	244	USWWF2014_Environment_Monks
107.	Bittersweet: chocolate's impact on the environment	https://www.worldwildlife.org/magazine/issues/spring-2017/articles/bittersweet-chocolate-s-impact-on-the-environment	English US	WWF	Food	2017	Magazine	454	USWWF2017_Food_Bittersweet

108.	How climate change could impact a beloved spice	https://www.worldwildlife.org/magazine/issues/spring-2019/articles/how-climate-change-could-impact-a-beloved-spice	English US	WWF	Food	2019	Magazine	393	USWWF2019_Food_How
109.	Pack it in	https://www.worldwildlife.org/magazine/issues/fall-2014/articles/pack-it-in	English US	WWF	Food	2014	Magazine	612	USWWF2014_Food_Pack
110.	Small steps to reduce food waste	https://www.worldwildlife.org/stories/small-steps-to-reduce-food-waste	English US	WWF	Food	2020	Magazine	517	USWWF2020_Food_Small
111.	Use your noodle	https://www.worldwildlife.org/magazine/issues/winter-2013/articles/use-your-noodle	English US	WWF	Food	2013	Magazine	294	USWWF2013_Food_Use
112.	What is the environmental impact of sushi?	https://www.worldwildlife.org/magazine/issues/winter-2017/articles/what-is-the-environmental-impact-of-sushi	English US	WWF	Food	2017	Magazine	512	USWWF2017_Food_WhatIs
113.	What's the environmental impact of pet food?	https://www.worldwildlife.org/magazine/issues/spring-2016/articles/what-s-the-environmental-impact-of-pet-food	English US	WWF	Food	2016	Magazine	361	USWWF2016_Food_WhatS
114.	Why climate change could be bad for beer	https://www.worldwildlife.org/magazine/issues/winter-2020/articles/why-climate-change-could-be-bad-for-beer	English US	WWF	Food	2020	Magazine	382	USWWF2020_Food_Why
115.	How forest restoration takes root	https://www.worldwildlife.org/stories/how-forest-restoration-takes-root	English US	WWF	Forests	2021	Stories	776	USWWF2021_Forests_How
116.	Mangroves may be one of nature's best defenses against a changing climate	https://www.worldwildlife.org/magazine/issues/winter-2016/articles/mangroves-may-be-one-of-nature-s-best-defenses-against-a-changing-climate	English US	WWF	Forests	2016	Magazine	504	USWWF2016_Forests_Mangroves
117.	Palming off a national park	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/5m96dujgck_Palming_Off_a_National_Park_report_2013.pdf?_ga=2.245265281.589073638.1636367894-1870862106.1634201526	English US	WWF	Forests	2013	Publication	4,329	USWWF2013_Forests_Palming
118.	Price of toilet paper for the planet	https://www.worldwildlife.org/magazine/issues/spring-	English US	WWF	Forests	2015	Magazine	396	USWWF2015_Forests_Price

		2015/articles/price-of-toilet-paper-for-the-planet							
119.	Reclaimed wood products take a load off of forests	https://www.worldwildlife.org/magazine/issues/summer-2015/articles/reclaimed-wood-products-take-a-load-off-of-forests	English US	WWF	Forests	2015	Magazine	404	USWWF2015_Forests_Reclaimed
120.	A whale of a feast	https://www.worldwildlife.org/stories/a-whale-of-a-feast	English US	WWF	Marine Life	2013	Stories	286	USWWF2013_MarineLife_AWhale
121.	Five ways sharks and rays help the world	https://www.worldwildlife.org/stories/five-ways-sharks-and-rays-help-the-world	English US	WWF	Marine Life	2020	Stories	682	USWWF2020_MarineLife_Five
122.	Turning the tide	https://wwfint.awsassets.panda.org/downloads/wwf_turning_the_tide_041019_1.pdf	English US	WWF	Marine Life	2019	Publication	7,562	USWWF2019_MarineLife_Turning
123.	Climate Crowd on the ground	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/1jtztqqzs_Climate_Crowd_On_The_Ground.pdf?_ga=2.153329018.357394600.1641131068-235976923.1640088692	English US	WWF	People	2021	Publication	5,372	USWWF2021_People_Climate
124.	These handmade cookstoves save fuel—and help save gorillas	https://www.worldwildlife.org/magazine/issues/summer-2019/articles/these-handmade-cookstoves-save-fuel-and-help-save-gorillas	English US	WWF	People	2019	Magazine	281	USWWF2019_People_These
125.	Plastic in the ocean	https://www.worldwildlife.org/magazine/issues/fall-2019/articles/plastic-in-the-ocean	English US	WWF	Plastic	2019	Magazine	1,778	USWWF2019_Plastic_Plastic
126.	Stemming the tide of plastics in our oceans	https://www.worldwildlife.org/magazine/issues/fall-2016/articles/stemming-the-tide-of-plastics-in-our-oceans	English US	WWF	Plastic	2016	Magazine	318	USWWF2016_Plastic_Stemming
127.	Power forward	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/7mmtmyl16k_Power_Forward_FINAL_hi_res.pdf?_ga=2.81613971.589073638.1636367894-1870862106.1634201526	English US	WWF	Renewable Energy	2021	Publication	8,668	USWWF2021_RenewableEnergy_Power

128.	Solar power in America	https://www.worldwildlife.org/magazine/issues/winter-2014/articles/solar-power-in-america	English US	WWF	Renewable Energy	2014	Magazine	488	USWWF2014_RenewableEnergy_Solar
129.	LEGO Group builds a more sustainable future	https://www.worldwildlife.org/magazine/issues/winter-2018/articles/lego-group-builds-a-more-sustainable-future	English US	WWF	Sustainability	2018	Magazine	218	USWWF2018_Sustainability_LEGO
130.	A new tool helps recreational fishermen reduce bycatch	https://www.worldwildlife.org/magazine/issues/summer-2014/articles/a-new-tool-helps-recreational-fishermen-reduce-bycatch	English US	WWF	Technology	2014	Magazine	330	USWWF2014_Technology_ANew
131.	Capturing atmospheric data in the Amazon	https://www.worldwildlife.org/magazine/issues/spring-2016/articles/capturing-atmospheric-data-in-the-amazon	English US	WWF	Technology	2016	Magazine	523	USWWF2016_Technology_Capturing
132.	Empowering women in Madagascar through solar technology	https://www.worldwildlife.org/magazine/issues/winter-2014/articles/empowering-women-in-madagascar-through-solar-technology	English US	WWF	Technology	2014	Magazine	195	USWWF2014_Technology_Empowering
133.	How a simple technology is saving turtles	https://www.worldwildlife.org/magazine/issues/summer-2016/articles/how-a-simple-technology-is-saving-turtles	English US	WWF	Technology	2016	Magazine	428	USWWF2016_Technology_HowA
134.	How drones help black-footed ferrets	https://www.worldwildlife.org/magazine/issues/winter-2015/articles/how-drones-help-black-footed-ferrets	English US	WWF	Technology	2015	Magazine	272	USWWF2015_Technology_HowDrones
135.	Connected & flowing	https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_ConnectedFlowing_Report_WebSpreads.pdf	English US	WWF	Water	2020	Publication	29,258	USWWF2020_Water_Connected
136.	Fishing for proteins	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/4t10lu99oi_Report_food_and_fish_Final.pdf?_ga=2.48798882.589073638.1636367894-1870862106.1634201526	English US	WWF	Water	2016	Publication	15,982	USWWF2016_Water_Fishing

137.	In too deep	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/1kgrh1yzmx_WWF_InTooDeep_What_we_know_and_dont_know_about_DeepSeabedMining_report_February_2021.pdf?_ga=2.77578129.589073638.1636367894-1870862106.1634201526	English US	WWF	Water	2021	Publication	2,043	USWWF2021_Water_InToo
138.	Moving Yangtze finless porpoises to a safer home	https://www.worldwildlife.org/magazine/issues/spring-2016/articles/moving-yangtze-finless-porpoises-to-a-safer-home	English US	WWF	Water	2016	Magazine	280	USWWF2016_Water_Moving
139.	Securing a future that flows	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/hon7jyjx2_WWF_River_Protection_Report.pdf?_ga=2.258506638.589073638.1636367894-1870862106.1634201526	English US	WWF	Water	2016	Publication	5,184	USWWF2016_Water_Securing
140.	Shifting course: climate adaptation for water management institutions	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/3nd909w4m7_Shifting_Course.pdf?_ga=2.81613971.589073638.1636367894-1870862106.1634201526	English US	WWF	Water	2011	Publication	8,110	USWWF2011_Water_Shifting
141.	Sustainable toilets and their role in freshwater conservation	https://www.worldwildlife.org/magazine/issues/fall-2016/articles/sustainable-toilets-and-their-role-in-freshwater-conservation	English US	WWF	Water	2016	Magazine	467	USWWF2016_Water_Sustainable
142.	Encounters of the grizzly kind	https://www.worldwildlife.org/magazine/issues/spring-2014/articles/encounters-of-the-grizzly-kind	English US	WWF	Wildlife	2014	Magazine	259	USWWF2014_Wildlife_Encounters
143.	Five rhinos find a new home in Nepal	https://www.worldwildlife.org/magazine/issues/winter-2016/articles/five-rhinos-find-a-new-home-in-nepal	English US	WWF	Wildlife	2016	Magazine	315	USWWF2016_Wildlife_Five
144.	Meet the aye-aye, the world's weirdest primate	https://www.worldwildlife.org/magazine/issues/spring-2021/articles/meet-the-aye-aye-the-world-s-weirdest-primate	English US	WWF	Wildlife	2021	Magazine	397	USWWF2021_Wildlife_Meet

145.	Polar bear research between two countries	https://www.worldwildlife.org/magazine/issues/spring-2015/articles/polar-bear-research-between-two-countries	English US	WWF	Wildlife	2015	Magazine	313	USWWF2015_Wildlife_Polar
146.	Stranger Things: The astonishing acoustics of the white bellbird	https://www.worldwildlife.org/magazine/issues/winter-2021/articles/stranger-things-the-astonishing-acoustics-of-the-white-bellbird	English US	WWF	Wildlife	2021	Magazine	247	USWWF2021_Wildlife_Stranger
147.	The truth about white tigers	https://www.worldwildlife.org/stories/the-truth-about-white-tigers	English US	WWF	Wildlife	2021	Stories	700	USWWF2021_Wildlife_TheTruth
148.	Tracking tigers	https://www.worldwildlife.org/magazine/issues/winter-2013/articles/tracking-tigers	English US	WWF	Wildlife	2013	Magazine	222	USWWF2013_Wildlife_Tracking
149.	Using chili bombs to protect both elephants and farmers	https://www.worldwildlife.org/magazine/issues/summer-2016/articles/using-chili-bombs-to-protect-both-elephants-and-farmers	English US	WWF	Wildlife	2016	Magazine	267	USWWF2016_Wildlife_Using
150.	Silence of the snares	https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/dndcz1okh_Southeast_Asia_Snaring_Crisis_WWF_9July2020_V2_LowRes.pdf?_ga=2.86876060.589073638.1636367894-1870862106.1634201526	English US	WWF International	Wildlife	2020	Publication	12,588	USWWF2020_Wildlife_Silence
151.	In azione a Ravenna contro la deforestazione e gli allevamenti intensivi	https://www.greenpeace.org/italy/storia/14494/in-azione-a-ravenna-contro-la-deforestazione-e-gli-allevamenti-intensivi/	Italian	Greenpeace	Activism	2021	Storia (articolo)	650	ItaGreen2021_Activism_InAzione
152.	Mode insostenibili per le foreste	https://www.greenpeace.org/italy/storia/5608/mode-insostenibili-per-le-foreste/	Italian	Greenpeace	Agriculture	2019	Storia (articolo)	591	ItaGreen2019_Agriculture_Mode
153.	Basta cibo che divora le foreste	https://www.greenpeace.org/italy/storia/7261/basta-cibo-che-divora-le-foreste/	Italian	Greenpeace	Agriculture	2020	Storia (articolo)	816	ItaGreen2020_Agriculture_Basta
154.	Dichiarare l'emergenza climatica o no? Questo è il dilemma	https://www.greenpeace.org/italy/storia/5788/dichiarare-lemergenza-climatica-o-no-questo-e-il-dilemma/	Italian	Greenpeace	Climate Change	2019	Storia (articolo)	1,143	ItaGreen2019_ClimateChange_Dichiarare

155.	L'Italia alla canna del gas…serra	https://www.greenpeace.org/italy/storia/5533/litalia-alla-canna-del-gas-serra/	Italian	Greenpeace	Climate Change	2019	Storia (articolo)	256	ItaGreen2019_ClimateChange_LItalia
156.	Epidemie e allevamenti intensivi: l'aviaria torna a diffondersi in Italia	https://www.greenpeace.org/italy/storia/15494/epidemie-e-allevamenti-intensivi-laviaria-torna-a-diffondersi-in-italia/	Italian	Greenpeace	Farming	2022	Storia (articolo)	808	ItaGreen2022_Farming_Epidemie
157.	L'insostenibilità degli allevamenti intensivi in Italia	https://www.greenpeace.org/italy/storia/12525/linsostenibilita-degli-allevamenti-intensivi-in-italia/	Italian	Greenpeace	Farming	2020	Storia (articolo)	622	ItaGreen2020_Farming_LInsostenibilità
158.	Il peso della carne	https://www.greenpeace.org/static/planet4-italy-stateless/2020/10/b3ee8b89-report-il-peso-della-carne.pdf	Italian	Greenpeace	Farming	2020	Rapporto	4,370	ItaGreen2020_Farming_IlPeso
159.	Incendi: quello che accade in Amazzonia non resta in Amazzonia	https://www.greenpeace.org/italy/storia/6036/incendi-quello-che-accade-in-amazzonia-non-resta-in-amazzonia/	Italian	Greenpeace	Fire	2019	Storia (articolo)	683	ItaGreen2019_Fire_Incendi
160.	Pomodorini fuori stagione, con contorno di plastica usa e getta.	https://www.greenpeace.org/italy/storia/6966/pomodorini-fuori-stagione-con-contorno-di-plastica-usa-e-getta/	Italian	Greenpeace	Food	2020	Storia (articolo)	749	ItaGreen2020_Food_Pomodorini
161.	Tonno Mareblu, sei proprio insostenibile!	https://www.greenpeace.org/italy/storia/1538/tonno-mareblu-sei-proprio-insostenibile/	Italian	Greenpeace	Food	2016	Storia (articolo)	254	ItaGreen2016_Food_Tonno
162.	Qua la zampa! Whiskas ci ha ascoltato!	https://www.greenpeace.org/italy/storia/603/greenpeace-whiskas-gatti/	Italian	Greenpeace	Food	2016	Storia (articolo)	658	ItaGreen2016_Food_Qua
163.	Mareblu e la sostenibilità: solo promesse da marinaio	https://www.greenpeace.org/italy/storia/1403/mareblu-e-la-sostenibilita/	Italian	Greenpeace	Food	2016	Storia (articolo)	938	ItaGreen2016_Food_Mareblu
164.	Muta come un pesce	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/7fa0b82f-7fa0b82f-muta_come_un_pesce.pdf	Italian	Greenpeace	Food	2016	Rapporto	2,518	ItaGreen2016_Food_Muta
165.	La produzione industriale di materie prime agricole si sta mangiando le foreste del Pianeta	https://www.greenpeace.org/italy/storia/5529/la-produzione-industriale-di-materie-prime-agricole-si-sta-mangiando-le-foreste-del-pianeta/	Italian	Greenpeace	Forests	2019	Storia (articolo)	621	ItaGreen2019_Forests_LaProduzione

166.	Favole ammazza foreste!	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/ed93d43d-ed93d43d-favole_ammazza_foreste.pdf	Italian	Greenpeace	Forests	2012	Rapporto	3,097	ItaGreen2012_Forests_Favole
167.	Licenza di uccidere	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/f69bb142-f69bb142-gp_licenza-di-uccidere_briefing.pdf	Italian	Greenpeace	Forests	2013	Briefing	2,373	ItaGreen2013_Forests_Licenza
168.	In azione su una piattaforma in Sicilia: basta bruciarci il futuro!	https://www.greenpeace.org/italy/storia/5650/in-azione-su-una-piattaforma-in-sicilia-basta-bruciarci-il-futuro/	Italian	Greenpeace	Oil	2019	Storia (articolo)	510	ItaGreen2019_Oil_InAzione
169.	Goliat, l'elefante bianco	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/a4562f98-a4562f98-goliat_lelefante_bianco.pdf	Italian	Greenpeace	Oil	2015	Briefing	1,583	ItaGreen2015_Oil_Goliat
170.	Eni, le bugie hanno le zampe corte!	https://www.greenpeace.org/italy/storia/12687/eni-le-bugie-hanno-le-zampe-corte/	Italian	Greenpeace	Oil	2020	Storia (articolo)	503	ItaGreen2020_Oil_Eni
171.	Trivelle, gas e clima: tra i selfie e il fare ci va di mezzo il nostro mare	https://www.greenpeace.org/italy/storia/5425/trivelle-gas-clima-tra-selfie-e-fare-di-mezzo-il-mare/	Italian	Greenpeace	Oil	2019	Storia (articolo)	686	ItaGreen2019_Oil_Trivelle
172.	"Il Paradiso può attendere": come non smettere mai di difendere il Pianeta	https://www.greenpeace.org/italy/storia/13688/il-paradiso-puo-attendere-come-non-smettere-mai-di-difendere-il-pianeta/	Italian	Greenpeace	People	2021	Storia (articolo)	505	ItaGreen2021_People_IlParadiso
173.	Il lato oscuro dell'industria del tonno	https://www.greenpeace.org/italy/storia/1435/il-lato-oscuro-industria-tonno/	Italian	Greenpeace	People	2015	Storia (articolo)	497	ItaGreen2015_People_IlLato
174.	Una vita da prosumer	https://www.greenpeace.org/italy/storia/587/una-vita-da-prosumer/	Italian	Greenpeace	People	2017	Storia (articolo)	897	ItaGreen2017_People_Una
175.	Se questo è un Nobel	https://www.greenpeace.org/italy/storia/1052/nobel-ogm/	Italian	Greenpeace	People	2016	Storia (articolo)	1,089	ItaGreen2016_People_Se

176.	Plastica in mare: una bomba tossica a orologeria	https://www.greenpeace.org/italy/storia/1480/plastica-in-mare-una-bomba-tossica-a-orologeria/	Italian	Greenpeace	Plastic	2016	Storia (articolo)	467	ItaGreen2016_Plastic_Plastica
177.	Abbiamo le prove: anche il nostro mare è una zuppa di plastica!	https://www.greenpeace.org/italy/storia/518/mare-zuppa-di-plastica/	Italian	Greenpeace	Plastic	2018	Storia (articolo)	420	ItaGreen2018_Plastic_Abbiamo
178.	In azione a Camogli! Il Mediterraneo non è usa e getta!	https://www.greenpeace.org/italy/storia/1761/in-azione-a-camogli-il-mediterraneo-non-e-usa-e-getta/	Italian	Greenpeace	Plastic	2017	Storia (articolo)	289	ItaGreen2017_Plastic_InAzione
179.	Plastica usa e getta: continua l'inazione del governo mentre i mari soffocano	https://www.greenpeace.org/italy/storia/13956/plastica-usa-e-getta-continua-linazione-del-governo-mentre-i-mari-soffocano/	Italian	Greenpeace	Plastic	2021	Storia (articolo)	576	ItaGreen2021_Plastic_Plastica
180.	Vi raccontiamo come la plastica usa e getta soffoca il Pianeta	https://www.greenpeace.org/italy/storia/4892/vi-raccontiamo-come-la-plastica-usa-e-getta-soffoca-il-pianeta/	Italian	Greenpeace	Plastic	2019	Storia (articolo)	282	ItaGreen2019_Plastic_Vi
181.	Un santuario di balle	https://www.greenpeace.org/static/planet4-italy-stateless/2020/06/130e3cb4-inchiesta_greenpeace_integrale_un_santuario_di_balle.pdf	Italian	Greenpeace	Plastic	2020	Rapporto	9,338	ItaGreen2020_Plastic_Un
182.	Stessa spiaggia, stessa plastica	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/f6ea522e-f6ea522e-stessa_spiaggia_stessa_plastica_def.pdf	Italian	Greenpeace	Plastic	2018	Briefing	1,211	ItaGreen2018_Plastic_Stessa
183.	L'insostenibile peso delle bottiglie di plastica	https://www.greenpeace.org/static/planet4-italy-stateless/2021/07/27cdee4e-linsostenibile-peso-delle-bottiglie-di-plastica.pdf	Italian	Greenpeace	Plastic	2021	Rapporto	1,105	ItaGreen2021_Plastic_LInsostenibile
184.	Il trucco c'è ma non si vede	https://www.greenpeace.org/static/planet4-italy-stateless/2021/02/5b1adcfe-il-trucco-ce%CC%80-ma-non-si-vede.pdf	Italian	Greenpeace	Plastic	2021	Rapporto	5,703	ItaGreen2021_Plastic_IlTrucco

185.	In azione! Affondate il CETA, non la giustizia!	https://www.greenpeace.org/italy/storia/569/in-azione-affondate-il-ceta-non-la-giustizia/	Italian	Greenpeace	Politics	2017	Storia (articolo)	343	ItaGreen2017_Politics_InAzione
186.	Tanto rumore per nulla: in fatto di clima questo governo è fin troppo simile ai precedenti	https://www.greenpeace.org/italy/storia/5622/tanto-rumore-per-nulla-clima-governo/	Italian	Greenpeace	Politics	2019	Storia (articolo)	809	ItaGreen2019_Politics_Tanto
187.	La paura di Renzi fa 17 (aprile)	https://www.greenpeace.org/italy/storia/1009/la-paura-di-renzi-fa-17-aprile/	Italian	Greenpeace	Politics	2016	Storia (articolo)	262	ItaGreen2016_Politics_La
188.	Una banca insostenibile: Intesa Sanpaolo contro il clima, l'ambiente e le comunità	https://www.greenpeace.org/italy/rapporto/13553/una-banca-insostenibile-intesa-sanpaolo-contro-il-clima-lambiente-e-le-comunita/	Italian	Greenpeace	Pollution	2021	Rapporto (articolo)	92	ItaGreen2021_Pollution_Una
189.	Fondi pubblici in pasto ai maiali	https://www.greenpeace.org/italy/storia/11735/fondi-pubblici-in-pasto-ai-maiali/	Italian	Greenpeace	Pollution	2020	Storia (articolo)	267	ItaGreen2020_Pollution_Fondi
190.	Finanza fossile	https://www.greenpeace.org/static/planet4-italy-stateless/2020/04/3ad0ddc1-finanza_fossile_high-4.pdf	Italian	Greenpeace	Pollution	2020	Rapporto	6,438	ItaGreen2020_Pollution_Finanza
191.	Chi inquina paga, e la Miteni?	https://www.greenpeace.org/italy/storia/1648/chi-inquina-paga-e-la-miteni/	Italian	Greenpeace	Pollution	2017	Storia (articolo)	593	ItaGreen2017_Pollution_Chi
192.	Non sprechiamo la ripartenza	https://www.greenpeace.org/italy/storia/12089/non-sprechiamo-la-ripartenza/	Italian	Greenpeace	Sustainability	2020	Storia (articolo)	1,125	ItaGreen2020_Sustainability_Non
193.	L'odissea della mobilità: ecco perché dobbiamo trasformare le nostre città	https://www.greenpeace.org/italy/storia/12432/lodissea-della-mobilita-ecco-perche-dobbiamo-trasformare-le-citta-italiane/	Italian	Greenpeace	Transport	2020	Storia (articolo)	1,197	ItaGreen2020_Transport_LOdissea
194.	6 ragioni per cui l'industria dell'auto deve immediatamente cambiare strada	https://www.greenpeace.org/italy/storia/1623/6-ragioni-per-cui-lindustria-dellauto-deve-immediatamente-cambiare-strada/	Italian	Greenpeace	Transport	2017	Storia (articolo)	679	ItaGreen2017_Transport_6
195.	L'insostenibile mobilità di Roma	https://www.greenpeace.org/static/planet4-italy-	Italian	Greenpeace	Transport	2021	Rapporto	11,496	ItaGreen2021_Transport_LInsostenibile

		stateless/2021/10/e5d86612-mobilita_roma_3.pdf							
196.	Non ce la beviamo	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/2af8795e-2af8795e-report_non_ce_la_beviamo.pdf	Italian	Greenpeace	Water	2017	Rapporto	4,545	ItaGreen2017_Water_Non
197.	Troppo rumor per nulla	https://www.greenpeace.org/static/planet4-italy-stateless/2018/11/3fcc1d13-3fcc1d13-tanto_rumor_per_nulla.pdf	Italian	Greenpeace	Water	2018	Briefing	3,138	ItaGreen2018_Water_Troppo
198.	Ora della Terra: a qualcuno piace al buio	https://www.wwf.it/pandanews/ambiente/ora-della-terra-a-qualcuno-piace-al-buio/	Italian	WWF	Activism	2014	Notizie (news)	164	ItaWWF2014_Activism_Ora
199.	Sulla strada del mondo che verrà	https://www.wwf.it/pandanews/wwf-life/progetti-e-iniziative/sulla-strada-del-mondo-che-verra/	Italian	WWF	Activism	2021	Notizie (news)	604	ItaWWF2021_Activism_Sulla
200.	Earth Hour sabato 24 l'ola di buio WWF farà il giro del mondo	https://www.wwf.it/pandanews/ambiente/earth-hour-sabato-24-lola-di-buio-wwf-fara-il-giro-del-mondo/	Italian	WWF	Activism	2018	Notizie (news)	1,064	ItaWWF2018_Activism_Earth
201.	Iniziata la ola di buio per Earth Hour	https://www.wwf.it/pandanews/ambiente/iniziata-la-ola-di-buio-per-earth-hour/	Italian	WWF	Activism	2015	Notizie (news)	915	ItaWWF2015_Activism_Iniziata
202.	2021 effetto clima: l'anno nero dell'agricoltura italiana	https://www.wwf.it/cosa-facciamo/pubblicazioni/clima-lanno-nero-dellagricoltura-italiana/	Italian	WWF	Agricultur e	2021	Report	4,481	ItaWWF2021_Agriculture_2021
203.	Report Urban Nature 2021 verso città "nature positive"	https://www.wwf.it/cosa-facciamo/pubblicazioni/verso-citta-nature-positive-report-urban-nature-2021/	Italian	WWF	Cities	2021	Report	26,116	ItaWWF2021_Cities_Report
204.	Sempre più alluvioni devastano l'Italia	https://www.wwf.it/pandanews/clima/italia-paese-di-alluvioni/	Italian	WWF	Climate Change	2021	Notizie (news)	451	ItaWWF2021_ClimateChange_Sempre
205.	"Planet Escape room", siamo tutti in gioco	https://www.wwf.it/pandanews/ambiente/planet-escape-room-siamo-tutti-in-gioco/	Italian	WWF	Climate Change	2020	Notizie (news)	4,816	ItaWWF2020_ClimateChange_Planet
206.	Calore e siccità, Italia a secco	https://www.wwf.it/pandanews/ambiente/calore-e-siccita-italia-a-secco/	Italian	WWF	Climate Change	2017	Notizie (news)	581	ItaWWF2017_ClimateChange_Calore

207.	Nature 4 Climate	https://www.wwf.it/cosa-facciamo/pubblicazioni/nature4climate-report-wwf-clima-specie/	Italian	WWF	Climate Change	2021	Report	6,603	ItaWWF2021_ClimateChange_Nature
208.	Shock ecology	https://www.wwf.it/cosa-facciamo/pubblicazioni/shock-ecology/	Italian	WWF	Climate Change	2020	Report	5,119	ItaWWF2020_ClimateChange_Shock
209.	Clima, siamo alla frutta	https://www.wwf.it/pandanews/clima/clima-siamo-alla-frutta/	Italian	WWF	Climate Change	2021	Notizie (news)	655	ItaWWF2021_ClimateChange_Clima
210.	Il 2019 è stato un anno di fuoco per le foreste nel mondo	https://www.wwf.it/pandanews/ambiente/il-2019-e-stato-un-anno-di-fuoco-per-le-foreste-nel-mondo/	Italian	WWF	Fire	2019	Notizie (news)	1,126	ItaWWF2019_Fire_Il
211.	Mediterraneo di fuoco	https://www.wwf.it/pandanews/ambiente/emergenze/mediterraneo-fiamme-2021-grecia-turchia-italia-bruciano	Italian	WWF	Fire	2021	Notizie (news)	962	ItaWWF2021_Fire_Mediterraneo
212.	Le azioni del WWF per salvare i polmoni del pianeta	https://www.wwf.it/pandanews/ambiente/le-azioni-del-wwf-per-salvare-i-polmoni-del-pianeta/	Italian	WWF	Forests	2019	Notizie (news)	522	ItaWWF2019_Forests_LeAzioni
213.	Riparte nelle Marche il progetto Bee Safe	https://www.wwf.it/pandanews/wwf-life/progetti-e-iniziative/riparte-nelle-marche-il-progetto-bee-safe/	Italian	WWF	Insects	2021	Notizie (news)	825	ItaWWF2021_Insects_Riparte
214.	Tutti a bordo! Per la pesca sostenibile	https://www.wwf.it/pandanews/ambiente/tutti-a-bordo-per-la-pesca-sostenibile/	Italian	WWF	Marine Life	2013	Notizie (news)	376	ItaWWF2013_MarineLife_Tutti
215.	Troppo rumore per i cetacei	https://www.wwf.it/pandanews/animali/report-cetacei-inquinamento-acustico-wwf/	Italian	WWF	Marine Life	2021	Notizie (news)	412	ItaWWF2021_MarineLife_Troppo
216.	Mediterraneo in trappola	https://www.wwf.it/cosa-facciamo/pubblicazioni/mediterraneo-in-trappola-come-salvare-il-mare-dalla-plastica/	Italian	WWF	Plastic	2018	Report	4,924	ItaWWF2018_Plastic_Mediterraneo
217.	Campania, la terra dei veleni	https://www.wwf.it/pandanews/ambiente/emergenze/ancora-discariche-abusive-in-campania/	Italian	WWF	Pollution	2022	Notizie (news)	386	ItaWWF2022_Pollution_Campania
218.	Laudato sì per la transizione energetica e una finanza sostenibile	https://www.wwf.it/pandanews/ambiente/laudato-si-per-la-transizione-energetica-e-una-finanza-sostenibile/	Italian	WWF	Sustainability	2017	Notizie (news)	323	ItaWWF2017_Sustainability_Laudato

219.	San Valentino: 5 simboli d'amore… per il pianeta	https://www.wwf.it/pandanews/ambiente/san-valentino-5-simboli-damore-per-il-pianeta/	Italian	WWF	Sustainability	2019	Notizie (news)	506	ItaWWF2019_Sustainability_San
220.	Il lago di Barrea ridotto a una pozzanghera	https://www.wwf.it/pandanews/ambiente/il-lago-di-barrea-ridotto-a-una-pozzanghera/	Italian	WWF	Water	2016	Notizie (news)	468	ItaWWF2016_Water_IlLago
221.	Canale di Sicilia rischi "esplosivi"	https://www.wwf.it/pandanews/ambiente/canale-di-sicilia-rischi-esplosivi/	Italian	WWF	Water	2013	Notizie (news)	1,029	ItaWWF2013_Water_Canale
222.	Mediterraneo, l'invasione delle specie aliene	https://www.wwf.it/pandanews/ambiente/mediterraneo-linvasione-delle-specie-aliene/	Italian	WWF	Water	2017	Notizie (news)	641	ItaWWF2017_Water_Mediterraneo
223.	Acqua in bocca, quello che il cibo non dice	https://www.wwf.it/pandanews/ambiente/acqua-in-bocca-quello-che-il-cibo-non-dice/	Italian	WWF	Water	2014	Notizie (news)	1,331	ItaWWF2014_Water_Acqua
224.	Il pianeta rischia di andare in "rosso"	https://www.wwf.it/pandanews/animali/allarme-estinzioni-pianeta-rischia-di-andare-in-rosso/	Italian	WWF	Wildlife	2021	Notizie (news)	854	ItaWWF2021_Wildlife_Il
225.	Estinzioni: non mandiamo il pianeta in rosso	https://www.wwf.it/cosa-facciamo/pubblicazioni/report-wwf-estinzioni/	Italian	WWF	Wildlife	2021	Report	5,391	ItaWWF2021_Wildlife_Estinzioni
226.	Crimini di natura l'UE rafforza il contrasto	https://www.wwf.it/pandanews/animali/crimini-di-natura-ue-rivede-la-direttiva/	Italian	WWF	Wildlife	2021	Notizie (news)	486	ItaWWF2021_Wildlife_Crimini
227.	Basta con la disinformazione sulla pelle dei lupi	https://www.wwf.it/pandanews/ambiente/basta-con-la-disinformazione-sulla-pelle-dei-lupi/	Italian	WWF	Wildlife	2019	Notizie (news)	416	ItaWWF2019_Wildlife_Basta
228.	Lupo: le cinque favole da sfatare	https://www.wwf.it/pandanews/ambiente/lupo-le-cinque-favole-da-sfatare/	Italian	WWF	Wildlife	2015	Notizie (news)	1,151	ItaWWF2015_Wildlife_Lupo
229.	La sopravvivenza degli animali non è scontata	https://www.wwf.it/pandanews/animali/black-friday-sopravvivenza-animali-non-sconto/	Italian	WWF	Wildlife	2021	Notizie (news)	991	ItaWWF2021_Wildlife_La
230.	A che serve gridare "al lupo"	https://www.wwf.it/pandanews/ambiente/a-che-serve-gridare-al-lupo/	Italian	WWF	Wildlife	2013	Notizie (news)	267	ItaWWF2013_Wildlife_A

Appendix 2
Metaphors in the corpus

	TITLE	TYPE OF METAPHOR	TOPIC OF METAPHOR	SUBHEADINGS	TYPE OF METAPHOR	TOPIC OF METAPHOR	TOPIC OF THE TEXT	ABBREVIATION
1.	Six Greenpeace non violent direct actions	-	-	**Monkey business** at Burger King HQ	Idiomatic expression	Other - creative polysemy	Activism	UKGreen2018_Activism_Six
2.	**Airline bailouts will not fly**	Wordplay	Air Travel	-	-	-	Air Travel	UKGreen2020_AirTravel_Airline
3.	**Court of Appeal clips Heathrow's wings** as third runway forced into **climate emergency landing**	Idiom – Creative polysemy / collocation	Companies – Air Travel	-	-	-	Air Travel	UKGreen2020_AirTravel_Court
4.	4 of the biggest deals you should know about this Black Friday	-	-	1. The Paris climate agreement: still a **hot deal** – just please no hotter than 1.5ºC	Creative polysemy	Temperature	Climate Change	UKGreen2021_ClimateChange_4
5.	**All roads must lead to** a green recovery	Lexicalised constituent substitution	Road	Ahead of chancellor Rishi Sunak's speech in parliament today, a small group of Greenpeace activists sent the message that **all signs point to** a green recovery.	Creative polysemy	Road	Climate Change	UKGreen2020_ClimateChange_AllRoads
				The green recovery is **a turning we cannot afford to miss**	Creative polysemy	Road		
				The road out of this crisis cannot be toward a worsening climate crisis	Creative polysemy	Road		
6.	Barclays climate resolution is **all targets and no substance**	Lexicalised constituent substitution	Idiomatic expression	-	-	-	Climate Change	UKGreen2020_ClimateChange_Barclays
7.	What would it take to future-proof our planet?	-	-	A renewable energy revolution is rising against **a tide of** climate disasters	Creative polysemy	Water	Climate Change	UKGreen2020_ClimateChange_What
8.	Sacrifice zones: the places being destroyed by our **toxic system** – and the dangerous 'climate solutions' that could make them worse	Creative polysemy	Pollution	-	-	-	Environment	UKGreen2021_Environment_Sacrifice

9.	Fast fashion – this industry needs an urgent **makeover**	Wordplay	Fashion	-	-	-	Fashion	UKGreen2019_Fashion_Fast
10.	The UK's fast fashion habit is getting worse – and it's destroying the planet	-	-	**Our appetite for fast fashion is poisoning** the environment	Wordplay	Food	Fashion	UKGreen2020_Fashion_TheUK
				The antidote is more conscious fashion production – and consumption	Wordplay	Poison		
11.	**Flame-grilling** the Amazon: Greenpeace UK climbers drop giant wildfire banners over flagship Burger King	Wordplay	Fire - companies	-	-	-	Fire	UKGreen2019_Fire_Flame
12.	Greenpeace present Burger King UK CEO with award for **flame-grilling** The Amazon	Wordplay	Fire - companies	-	-	-	Fire	UKGreen2019_Fire_Greenpeace
13.	Revealed: how Tesco **fuelled** record breaking **fires** in Brazil's wetlands	Literalising of idiomatic readings	Idiomatic expression	-	-	-	Fire	UKGreen2021_Fire_Revealed
14.	Watch: Tesco's **burning** secret	Creative polysemy	Fire	Tesco is **fanning the flames** of the forest fires raging across Brazil. The UK supermarket buys meat from companies owned by Amazon rainforest destroyers, and sells chicken and pork fed on soya from deforested land elsewhere in Brazil. Here's what you need to know – and what you can do to help stop them.	Literalising of idiomatic readings	Fire	Fire	UKGreen2021_Fire_Watch
15.	**Spice up** your **Veganuary** with these tasty dishes from David Olu	Creative polysemy	Food	-	-	-	Food	UKGreen2022_Food_Spice
		Blend						
16.	10 tips to eat more plant-based food (or even go vegan)	-	-	6. **Pack for snack attacks**	Same rhyme	Food	Food	UKGreen2020_Food_10
17.	How much meat should I be eating?	-	-	**What's the beef with** our food system?	Creative polysemy	Colloquial	Food	UKGreen2020_Food_HowMuch

18.	**Winging it**: how the UK's chicken habit is fuelling the climate and nature emergency	Wordplay	Idiomatic expression	-	-	-	Forests	UKGreen2020_Forests_Winging
19.	All those times the anti-fracking campaign **rocked**	Wordplay	Rocks	That time **a quiet village made a lot of noise**	Idiomatic expression + oxymoron	Noise	Fracking	UKGreen2019_Fracking_All
20.	Uncovered: the rich list "**Codfathers**" dominating the UK's fishing industry	Creative compound	Fish	-	-	-	Marine Life	UKGreen2018_MarineLife_Uncovered
21.	The great indoors: 50+ green-themed books, films and shows to enjoy in lockdown	**-**	**-**	**For your ears only**	Lexicalised constituent substitution	Idiomatic expression	Media	UKGreen2020_Media_TheGreat
22.	**The tide might finally be turning** on the oil industry	Idiomatic expression	Water	-	-	-	Oil	UKGreen2021_Oil_TheTide
23.	The oil and gas industry is failing its offshore workers. It's time to give them a way out	-	-	The government's **new wave** of oil and gas licences keeps us tied to a declining industry. Offshore workers deserve better.	Creative polysemy	Water	People	UKGreen2021_People_TheOil
24.	**Testing the Waters** – Microplastics in Scottish Seas	Literalising of idiomatic readings	Water	-	-	-	Plastic	UKGreen2019_Plastic_Testing
25.	**Unpacked**: how supermarkets can cut plastic packaging in half by 2025	Creative polysemy	Packaging	-	-	-	Plastic	UKGreen2020_Plastic_Unpacked
26.	**Upstream**: microplastics in UK Rivers	Creative polysemy	Water	-	-	-	Plastic	UKGreen2019_Plastic_Upstream
27.	Boris PM – Will he lie in front of the **bulldozers or drive them**?	Wordplay	Transport	-	-	-	Politics	UKGreen2019_Politics_Boris
28.	What happened at COP26?	**-**	**-**	**The good, the bad, and the blah blah blah**...	Lexicalised constituent substitution	Film	Politics	UKGreen2021_Politics_What
29.	30+ ways to green your home during lockdown	**-**	**-**	**Don't throw in the towel**	Literalising of idiomatic readings	Idiomatic expression	Recycling	UKGreen2020_Recycling_30+

				Let it grow! Let it grow!	Lexicalised constituent substitution	Song		
30.	Say **YAAASS** to the **Glass**!	Same rhyme	Phonology	**Pain in the glass**	Lexicalised constituent substitution	Vulgar expression	Recycling	UKGreen2019_Recycling_Say
31.	7 ways the UK's transport system is unfair	-	-	The UK's transport system is unfair, and **it's driving massive inequalities and climate change**.	Creative polysemy	Transport	Transport	UKGreen2021_Transport_7
32.	Boris Johnson gets a surprise visit from toy cars	-	-	Remote-controlled toy cars sped under the gates of Downing Street towards Boris Johnson's front door with a message from Greenpeace: we'll **lose the race** against the climate crisis unless the government phases out new fossil-fueled cars and vans by 2030.	Wordplay	Race	Transport	UKGreen2020_Transport_Boris
33.	Greenpeace **races toy cars** under Downing Street gates urging PM to put electric vehicles on '**fast track** to 2030'	Wordplay	Road	-	-	-	Transport	UKGreen2020_Transport_Greenpeace
34.	Polluting plug-in hybrids are the car industry's "**wolf in sheep's clothing**"	Idiomatic expression	Appearance	-	-	-	Transport	UKGreen2020_Transport_Polluting
35.	VW chief admits **end of the road** for petrol and diesel cars is in sight – Greenpeace reaction	Creative polysemy	Idiomatic expression	-	-	-	Transport	UKGreen2018_Transport_VW
36.	26.5 million tonne **carbon bomb ticks** quietly on UK seabed, as 69% of UK public call for bottom trawling ban	Wordplay	Weapons	-	-	-	Water	UKGreen2021_Water_26.5
37.	As it happened: Greenpeace blocks destructive fishing in the North Sea	-	-	Back in London for **a hot minute! (or rather a cold, soggy one)**	Creative polysemy	Temperature	Water	UKGreen2020_Water_As
				Going dark - how bottom trawlers hide their movements	Creative polysemy	Colours		

				Lean, mean, breakfast lunch & dinner machine	Lexicalised constituent substitution	Idiomatic expression		
38.	World Orangutan Day – 10 **furry facts**	Metonymy	Wildlife	8) **Nailed it**	Creative polysemy	Wildlife	Wildlife	UKGreen2018_Wildlife_World
				3) **Nest is best**	Same rhyme	Wildlife		
39.	**Send them a sign** that #wewontforget	Creative polysemy	Idiomatic expression	-	-	-	Activism	UKWWF_Activism_Send
40.	**Bees feel the sting** of climate change in the East of England	Wordplay	Insects	-	-	-	Insects	UKWWF2019_Insects_Bees
41.	How to **bee** friendly	Phonology	Insects	Here are our top tips to help you **"bee"** friendly come rain, shine or snow! With a changing climate and increasing habitat loss, bees need all the help they can get.	Phonology	Insects	Insects	UKWWF_Insects_How
				2. Treat your **buzzing friends** to some sugar and **let it 'bee'**	Metonymy - phonology	Insects		
42.	Top 10 facts about bees	-	-	1. **Busy bees**	Creative polysemy	Idiomatic expression	Insects	UKWWF2020_Insects_Top
				2. **Honey I'm home**!	Wordplay	Idiomatic expression		
				7. **Bee Gees**	Literalising of idiomatic readings	Band		
43.	Top 10 facts about dolphins	-	-	5. **How do you eat a fish?**	Lexicalised constituent substitution	Food	Marine Life	UKWWF_MarineLife_TopDolphins
44.	Top 10 facts about sharks	-	-	6. Most sharks are **cold-blooded**	Literalising of idiomatic readings	Temperature	Marine Life	UKWWF2019_MarineLife_TopSharks
45.	Ten tips to reduce your plastic footprint	-	-	4. **Straws suck**	Wordplay	Plastic	Plastic	UKWWF2018_Plastic_Ten
46.	**The big smoke**	Literalising of idiomatic readings	Pollution	-	-	-	Pollution	UKWWF2021_Pollution_TheBig

47.	**Emission possible**	Lexicalised constituent substitution	Film	-	-	-	Sustainability	UKWWF2021_Sustainability_Emission
48.	Green Christmas gift guide	**-**	**-**	**Critically endangered socks**	Lexicalised constituent substitution	Wildlife	Sustainability	UKWWF_Sustainability_Green
49.	**Flushed away**	Wordplay	Water	-	-	-	Water	UKWWF2017_Water_Flushed
50.	10 facts about Adélie Penguins	-	-	3. **Get off my rock**!	Lexicalised constituent substitution	Idiomatic expression - vulgar	Wildlife	UKWWF_Wildlife_10
				4. **Naughty but nice**	Modifying unmodifiable phrasal lexical items	Christmas		
				5. **Dressed to impress**	Wordplay	Fashion		
				7. **Fast food**	Literalising of idiomatic readings	Food		
51.	Penguin: '**egg-straordinary**' bird in a melting world	Orthographic blend	Phonology	Over the Easter break, we talk about the differences between the chocolate eggs we enjoy, and the eggs of several species of penguin and what they have to endure in order to survive. Plus, how ocean plastic and climate change are threatening their **'egg-istence**.'	Orthographic blend	Phonology	Wildlife	UKWWF2018_Wildlife_Penguin
52.	Polar bear: **icon on ice**	Lexicalised constituent substitution	Idiomatic expression	-	-	-	Wildlife	UKWWF2016_Wildlife_Polar
53.	Top 10 facts about elephants	-	-	5. **They've got thick skin**	Literalising of idiomatic readings	Wildlife	Wildlife	UKWWF_Wildlife_TopElephants
				9. **An elephant never forgets**	Literalising of idiomatic readings	Memory		
54.	Top 10 facts about emperor penguins	-	-	1. **Ice, ice, baby**	Song	Song	Wildlife	UKWWF_Wildlife_TopEmperor

				6. '**Baby, its cold outside**'	Literalising of idiomatic readings	Song		
				7. **Dive, dive, dive**!	Song	Song		
55.	Top ten facts about Amur Leopards	-	-	5. They own both a **summer and winter wardrobe**	Figurative	Fashion	Wildlife	UKWWF_Wildlife_TopAmur
56.	Wildlife in a **warming world**	Creative polysemy	Temperature	-	-	-	Wildlife	UKWWF2018_Wildlife_Wildlife
57.	**Houston, we have a solution**	Lexicalised constituent substitution	Quote	-	-	-	Activism	USGreen2019_Activism_Houston
58.	**What happens in the Arctic doesn't stay in the Arctic**	Lexicalised constituent substitution	Slogan	-	-	-	Climate Change	USGreen2016_ClimateChange_What
59.	**Contaminating** the courts	Creative polysemy	Pollution	-	-	-	Environment	USGreen2018_Environment_Contaminating
60.	Toxic threads: **putting pollution on parade**	Wordplay	Fashion	-	-	-	Fashion	USGreen2012_Fashion_Toxic
61.	**Eye on the Taiga**	Lexicalised constituent substitution	Song	-	-	-	Forests	USGreen2017_Forests_Eye
62.	How the palm oil industry is **cooking** the climate	Wordplay	Food	Forests as **ticking climate bombs**	Lexicalised constituent substitution	Weapons	Forests	USGreen2007_Forests_How
				Palm oil's **boom**!	Creative polysemy	Weapons		
				Tick tick tick… time for action	Onomatopoeia	Weapons		
63.	**Slaughtering** the Amazon	Ontological metaphor	Violence	-	-	-	Forests	USGreen2009_Forests_Slaughtering
64.	Biden must get federal lands out of the fossil fuel business	-	-	Biden has an opportunity to fulfill a key campaign promise, **put the brakes on** the reckless fossil fuel expansion, and **kick-start** a just transition to a renewable economy for workers and communities.	Wordplay	Transport	Fuel	USGreen2021_Fuel_Biden

65.	**Fossil fuel** racism	Creative polysemy	Fuel	-	-	-	Fuel	USGreen2021_Fuel_Fossil
66.	**Plan bee** – living without pesticides	Phonology	Insects	-	-	-	Insects	USGreen2014_Insects_Plan
67.	**Where have all the tuna gone?**	Lexicalised constituent substitution	Song	-	-	-	Marine Life	USGreen2006_MarineLife_Where
68.	**Earth to Trump**: there's no such thing as "beautiful, clean coal"	Creative polysemy	Idiomatic expression	-	-	-	Oil	USGreen2018_Oil_Earth
69.	**In the pipeline**	Creative polysemy	Idiomatic expression	-	-	-	Oil	USGreen2019_Oil_InThe
70.	**Oil in the cloud**	Lexicalised constituent substitution	Idiomatic expression	-	-	-	Oil	USGreen2020_Oil_Oil
71.	**The snowball keeps rolling**	Idiomatic expression	Problem	-	-	-	Oil	USGreen2018_Oil_TheSnowball
72.	**The truth about Energy Transfer Partners**	Lexicalised constituent substitution	Literature	-	-	-	Oil	USGreen2018_Oil_TheTruth
73.	**Green is the new black**: how black staff are working to center justice, solidarity and liberation at Greenpeace	Creative polysemy	Idiomatic expression	-	-	-	People	USGreen2020_People_Green
74.	**Supply chained**	Lexicalised constituent substitution	Collocation	-	-	-	People	USGreen2015_People_Supply
75.	**Packaging away** the planet	Lexicalised constituent substitution	Packaging	-	-	-	Plastic	USGreen2019_Plastic_Packaging
76.	Plastic free future: holiday wish list	**-**	**-**	**All the Greenpeace Plastic Campaign wants for the holidays is YOUR** continued activism fighting for a plastic-free future.	Lexicalised constituent substitution	Song	Plastic	USGreen2020_Plastic_Plastic
77.	Sri Lanka's shores **are flooding with** plastic	Wordplay	Water	-	-	-	Plastic	USGreen2021_Plastic_SriLanka
78.	The climate emergency **unpacked**	Creative polysemy	Packaging	-	-	-	Plastic	USGreen2021_Plastic_TheClimate

79.	**Throwing away the future**	Creative polysemy	Pollution	-	-	-	Plastic	USGreen2019_Plastic_Throwing
80.	Election red alert — **all hands on deck**	Wordplay	Idiomatic expression	-	-	-	Politics	USGreen2020_Politics_Election
81.	**No climate, no deal**: how progressives are holding the line for the full Build Back Better Act	Lexicalised constituent substitution	Slogan	-	-	-	Politics	USGreen2021_Politics_NoClimate
82.	**Not pretty fly for a white guy**: on Pence's debate fail	Modifying unmodifiable phrasal lexical items	Song	Here were the best **fly or die** moments from last night's VP debate.	Lexicalised constituent substitution	Idiomatic expression	Politics	USGreen2020_Politics_NotPretty
83.	Amazon **is delivering destruction**	Wordplay	Express delivery - companies	-	-	-	Pollution	USGreen2020_Pollution_Amazon
84.	**Polluting democracy**	Creative polysemy	Pollution	-	-	-	Pollution	USGreen2015_Pollution_Polluting
85.	**Circular claims fall flat**: comprehensive U.S. survey of plastics recyclability	Wordplay	Idiomatic expression	-	-	-	Recycling	USGreen2020_Recycling_Circular
86.	**Recycling isn't dead, but plastic is killing it**	Ontological metaphor	Violence	-	-	-	Recycling	USGreen2020_Recycling_Recycling
87.	**Reusables are doable**	Same suffix	Recycling	-	-	-	Recycling	USGreen2020_Recycling_Reusables
88.	**Carting away** the oceans	Wordplay	Supermarket	-	-	-	Sustainability	USGreen2018_Sustainability_Carting
89.	**From smart to senseless**	Wordplay	Phones	-	-	-	Technology	USGreen2017_Technology_FromSmart
90.	Deep sea mining: **the new bad guy in town**	Ontological metaphor	Idiomatic expression	-	-	-	Water	USGreen2021_Water_Deep
91.	Ghost gear: the abandoned fishing nets **haunting** our oceans	Wordplay	Ghost	-	-	-	Water	USGreen2019_Water_Ghost
92.	**In deep water**	Creative polysemy	Water	-	-	-	Water	USGreen2019_Water_InDeep

93.	**In hot water**	Literalising of idiomatic readings	Water	-	-	-	Water	USGreen2019_Water_InHot
94.	**Not too big to fail**	Modifying unmodifiable phrasal lexical items	Economics	-	-	-	Water	USGreen2021_Water_NotToo
95.	Preventing **the rise of deep sea mining**	Orientational metaphor	Water	-	-	-	Water	USGreen2021_Water_Preventing
96.	**Setting sail** for science	Creative polysemy	Sailing	-	-	-	Water	USGreen2019_Water_Setting
97.	**Setting sail** to protect the Antarctic	Creative polysemy	Sailing	-	-	-	Water	USGreen2018_Water_Setting
98.	**Deep trouble**	Wordplay	Water	-	-	-	Water	USGreen2020_Water_Deep
99.	How cover crops help keep soil healthy and productive	**-**	**-**	**Inner space**	Wordplay	Space	Agriculture	USWWF2018_Agriculture_How
				Variety show	Literalising of idiomatic readings	Tv		
				Weed control	Lexicalised constituent substitution	Birth		
100.	Soy: the biggest food crop we never talk about	**-**	**-**	**Show me the soy**	Lexicalised constituent substitution	Idiomatic expression	Agriculture	USWWF2015_Agriculture_Soy
101.	Sugarcane farming's toll on the environment	**-**	**-**	**Bitter price**	Wordplay	Price	Agriculture	USWWF2015_Agriculture_Sugarcane
				Sugar rush	Literalising of idiomatic readings	Food		
				A delicious bottom line	Modifying unmodifiable phrasal lexical items	Economics		
102.	Detection dogs and wildlife crime	**-**	**-**	**Return on investment**	Idiomatic expression	Economics	Animals	USWWF2014_Animals_Detection
103.	**Flowing forward**	Lexicalised constituent substitution	Water	-	-	-	Climate Change	USWWF2010_ClimateChange_Flowing

104.	The climate crisis is here, but we can still **turn the tide**	Idiomatic expression	Water	-	-	-	Climate Change	USWWF2021_ClimateChange_TheClimate
105.	What can we do about climate change?	**-**	**-**	**Run on sunshine**	Lexicalised constituent substitution	Happiness	Climate Change	USWWF2015_ClimateChange_What
				Cold is gold	Lexicalised constituent substitution	Phonology - proverb		
106.	Monks and nuns go green	-	-	4. **Waste not, want not**	Idiomatic expression	Sustainability	Environment	USWWF2014_Environment_Monks
107.	**Bittersweet**: chocolate's impact on the environment	Oxymoron	Taste	**Sweet sorrow**	Oxymoron	Suffering	Food	USWWF2017_Food_Bittersweet
108.	How climate change could impact a beloved spice	**-**	**-**	**No beans about it**	Wordplay	Food	Food	USWWF2019_Food_How
109.	Pack it in	**-**	**-**	**Paper trail**	Literalising of idiomatic readings	Paper	Food	USWWF2014_Food_Pack
110.	Small steps to reduce food waste	**-**	**-**	**Ready, set, freeze!**	Lexicalised constituent substitution	Race	Food	USWWF2020_Food_Small
111.	Use your noodle	**-**	**-**	**Dirty work**	Creative polysemy	Dirt	Food	USWWF2013_Food_Use
112.	What is the environmental impact of sushi?	**-**	**-**	**Rice, rice baby**	Lexicalised constituent substitution	Song	Food	USWWF2017_Food_WhatIs
				Going, going, gone?	Song	Song		
				Spill the beans	Wordplay	Idiomatic expression		
				Swimming upstream	Literalising of idiomatic readings	Water		
113.	What's the environmental impact of pet food?	**-**	**-**	**Pet forward**	Lexicalised constituent substitution	Phonology	Food	USWWF2016_Food_WhatS

114.	Why climate change could be bad for beer	-	-	Reasons for **hop-timism**	Orthographic blend	Phonology	Food	USWWF2020_Food_Why
115.	How forest restoration **takes root**	Creative polysemy	Tree	-	-	-	Forests	USWWF2021_Forests_How
116.	Mangroves may be one of nature's best defenses against a changing climate	-	-	**Losing ground**	Creative polysemy	Competition	Forests	USWWF2016_Forests_Mangroves
				Taking root	Creative polysemy	Tree		
117.	**Palming off** a national park	Wordplay	Tree	-	-	-	Forests	USWWF2013_Forests_Palming
118.	Price of toilet paper for the planet	-	-	**Paper weight**	Decomposed compound	Paper	Forests	USWWF2015_Forests_Price
119.	Reclaimed wood products take a load off of forests	-	-	**Branching out**	Wordplay	Tree	Forests	USWWF2015_Forests_Reclaimed
120.	**A whale of** a feast	Wordplay	Quantity	-	-	-	Marine Life	USWWF2013_MarineLife_AWhale
121.	Five ways sharks and rays help the world	-	-	1) **Climate action advocates**	Ontological metaphor	Job	Marine Life	USWWF2020_MarineLife_Five
				2) **Good-hearted architects**	Ontological metaphor	Job		
				3) **Underwater gardeners**	Ontological metaphor	Job		
122.	**Turning the tide**	Idiomatic expression	Water	-	-	-	Marine Life	USWWF2019_MarineLife_Turning
123.	**Climate Crowd on the ground**	Assonance	Phonology	-	-	-	People	USWWF2021_People_Climate
124.	These handmade cookstoves save fuel—and help save gorillas	-	-	**Catching fire**	Wordplay	Fire	People	USWWF2019_People_These
125.	Plastic in the ocean	-	-	**Turning off the tap**	Wordplay	Water	Plastic	USWWF2019_Plastic_Plastic
126.	**Stemming the tide** of plastics in our oceans	Creative polysemy	Water	-	-	-	Plastic	USWWF2016_Plastic_Stemming
127.	**Power forward**	Lexicalised constituent substitution	Phonology	-	-	-	Renewable Energy	USWWF2021_RenewableEnergy_Power
128.	Solar power in America	-	-	**Walking on sunshine**	Wordplay	Happiness	Renewable Energy	USWWF2014_RenewableEnergy_Solar

129.	LEGO Group **builds** a more sustainable future	Wordplay	Companies	**Brick by brick**	Wordplay	Idiomatic expression - companies	Sustainability	USWWF2018_Sustainability_LEGO
130.	A new tool helps recreational fishermen reduce bycatch	-	-	2. **Put a ring on it**	Literalising of idiomatic readings	Song	Technology	USWWF2014_Technology_ANew
				4. **Attach and release**	Lexicalised constituent substitution	Fishing		
				6. **Swim another day**	Lexicalised constituent substitution	Water		
131.	Capturing atmospheric data in the Amazon	**-**	**-**	**Pipe dream**	Wordplay	Hope	Technology	USWWF2016_Technology_Capturing
				The big picture	Creative polysemy	Idiomatic expression		
				A towering question	Creative polysemy	Question		
132.	**Empowering** women in Madagascar through solar technology	Wordplay	Energy	3. **Sun-savvy**	Wordplay	Weather	Technology	USWWF2014_Technology_Empowering
133.	How a simple technology is saving turtles	**-**	**-**	**Uncommon denominator**	Lexicalised constituent substitution	Mathematics	Technology	USWWF2016_Technology_HowA
134.	How drones help black-footed ferrets	**-**	**-**	**Trigger happy**	Resemantisation	Weapons	Technology	USWWF2015_Technology_HowDrones
135.	**Connected & flowing**	Wordplay	Energy	**Fish and grids**: sustainable power for the Mekong region	Lexicalised constituent substitution	Food	Water	USWWF2020_Water_Connected
136.	**Fishing for proteins**	Creative polysemy	Food	-	-	-	Water	USWWF2016_Water_Fishing
137.	**In too deep**	Creative polysemy	Water	-	-	-	Water	USWWF2021_Water_InToo
138.	Moving Yangtze finless porpoises to a safer home	**-**	**-**	**Cautionary tail**	Lexicalised constituent substitution	Tales	Water	USWWF2016_Water_Moving

139.	Securing **a future that flows**	Wordplay	Water	-	-	-	Water	USWWF2016_Water_Securing
140.	**Shifting course**: climate adaptation for water management institutions	Wordplay	Water	-	-	-	Water	USWWF2011_Water_Shifting
141.	Sustainable toilets and their role in freshwater conservation	**-**	**-**	**Dishonorable discharge**	Lexicalised constituent substitution	Army	Water	USWWF2016_Water_Sustainable
142.	**Encounters of the grizzly kind**	Lexicalised constituent substitution	Film	-	-	-	Wildlife	USWWF2014_Wildlife_Encounters
143.	Five rhinos find a new home in Nepal	**-**	**-**	**All terrain**	Literalising of idiomatic readings	Transport	Wildlife	USWWF2016_Wildlife_Five
				Handle with care	Idiomatic expression	Packaging		
				Heavy lifting	Literalising of idiomatic readings	Duty		
144.	Meet the aye-aye, the world's weirdest primate	**-**	**-**	**They who must not be named**	Lexicalised constituent substitution	Quote	Wildlife	USWWF2021_Wildlife_Meet
145.	Polar bear research between two countries	**-**	**-**	**Down for the count**	Idiomatic expression	Boxing	Wildlife	USWWF2015_Wildlife_Polar
				Gear head	Literalising of idiomatic readings	Technology		
				Nail it	Wordplay	Wildlife		
146.	**Stranger Things**: The astonishing acoustics of the white bellbird	Tv series	Wildlife	-	-	-	Wildlife	USWWF2021_Wildlife_Stranger
147.	**The truth about** white tigers	Lexicalised constituent substitution	Literature	-	-	-	Wildlife	USWWF2021_Wildlife_TheTruth
148.	Tracking tigers	-	-	6. **Walking the line**	Literalising of idiomatic readings	Idiomatic expression	Wildlife	USWWF2013_Wildlife_Tracking

149.	Using chili bombs to protect both elephants and farmers	-	-	**Potty break**	Literalising of idiomatic readings	Idiomatic expression	Wildlife	USWWF2016_Wildlife_Using
				Hot stuff	Literalising of idiomatic readings	Idiomatic expression - colloquialism		
150.	**Silence of the snares**	Lexicalised constituent substitution	Film	-	-	-	Wildlife	USWWF2020_Wildlife_Silence
151.	In azione a Ravenna contro la deforestazione e gli allevamenti intensivi	-	-	L'Europa continua a **foraggiare** gli allevamenti intensivi	Wordplay	Food	Activism	ItaGreen2021_Activism_InAzione
152.	**Mode insostenibili** per le foreste	Creative polysemy	Pollution	-	-	-	Agriculture	ItaGreen2019_Agriculture_Mode
153.	Basta **cibo che divora** le foreste	Wordplay	Food	-	-	-	Agriculture	ItaGreen2020_Agriculture_Basta
154.	**Dichiarare l'emergenza climatica o no? Questo è il dilemma**	Lexicalised constituent substitution	Literature	-	-	-	Climate Change	ItaGreen2019_Climate Change_Dichiarare
155.	L'Italia **alla canna del gas…serra**	Modifying unmodifiable phrasal lexical items	Weapons	-	-	-	Climate Change	ItaGreen2019_Climate Change_LItalia
156.	Epidemie e allevamenti intensivi: l'aviaria torna a diffondersi in Italia	-	-	Cambiamo questo sistema **malato**	Wordplay	Health	Farming	ItaGreen2022_Farming_Epidemie
157.	L'**insostenibilità** degli allevamenti intensivi in Italia	Creative polysemy	Pollution	-	-	-	Farming	ItaGreen2020_Farming_LInsostenibilità
158.	**Il peso della carne**	Figurative	Food	-	-	-	Farming	ItaGreen2020_Farming_IlPeso
159.	Incendi: **quello che accade in Amazzonia non resta in Amazzonia**	Lexicalised constituent substitution	Slogan	-	-	-	Fire	ItaGreen2019_Fire_Incendi
160.	Pomodorini fuori stagione**, con contorno di plastica usa e getta**	Wordplay	Food	-	-	-	Food	ItaGreen2020_Food_Pomodorini

161.	Tonno Mareblu, sei proprio **insostenibile**!	Creative polysemy	Pollution	-	-	-	Food	ItaGreen2016_Food_Tonno
162.	**Qua la zampa**! Whiskas ci ha ascoltato!	Wordplay	Companies	-	-	-	Food	ItaGreen2016_Food_Qua
163.	Mareblu e la sostenibilità: solo **promesse da marinaio**	Wordplay	Companies	-	-	-	Food	ItaGreen2016_Food_Mareblu
164.	**Muta come un pesce**	Wordplay	Idiomatic expression	-	-	-	Food	ItaGreen2016_Food_Muta
165.	La produzione industriale di materie prime agricole **si sta mangiando** le foreste del Pianeta	Wordplay	Food	-	-	-	Forests	ItaGreen2019_Forests_LaProduzione
166.	**Favole ammazza foreste**!	Ontological metaphor	Violence	-	-	-	Forests	ItaGreen2012_Forests_Favole
167.	**Licenza di uccidere**	Idiomatic expression	Film	-	-	-	Forests	ItaGreen2013_Forests_Licenza
168.	In azione su una piattaforma in Sicilia: basta **bruciarci** il futuro!	Creative polysemy	Fire	-	-	-	Oil	ItaGreen2019_Oil_InAzione
169.	Goliat, **l'elefante bianco**	Calque	Wildlife	-	-	-	Oil	ItaGreen2015_Oil_Goliat
170.	Eni, **le bugie hanno le zampe corte**!	Lexicalised constituent substitution	Idiomatic expression - companies	-	-	-	Oil	ItaGreen2020_Oil_Eni
171.	Trivelle, gas e clima: **tra i selfie e il fare ci va di mezzo il nostro mare**	Lexicalised constituent substitution	Idiomatic expression	-	-	-	Oil	ItaGreen2019_Oil_Trivelle
172.	"**Il Paradiso può attendere**": come non smettere mai di difendere il Pianeta	Film	Film	-	-	-	People	ItaGreen2021_People_IlParadiso
173.	**Il lato oscuro** dell'industria del tonno	Lexicalised constituent substitution	Film	-	-	-	People	ItaGreen2015_People_IlLato
174.	**Una vita da prosumer**	Lexicalised constituent substitution	Song	-	-	-	People	ItaGreen2017_People_Una

175.	**Se questo è un Nobel**	Lexicalised constituent substitution	Literature	-	-	-	People	ItaGreen2016_People_Se
176.	Plastica in mare: una **bomba tossica a orologeria**	Modifying unmodifiable phrasal lexical items	Weapons	-	-	-	Plastic	ItaGreen2016_Plastic_Plastica
177.	Abbiamo le prove: anche il nostro mare è una **zuppa di plastica**!	Wordplay	Food	-	-	-	Plastic	ItaGreen2018_Plastic_Abbiamo
178.	In azione a Camogli! Il Mediterraneo non è **usa e getta**!	Wordplay	Plastic	-	-	-	Plastic	ItaGreen2017_Plastic_InAzione
179.	Plastica usa e getta: continua l'inazione del governo mentre i **mari soffocano**	Ontological metaphor	Pollution	-	-	-	Plastic	ItaGreen2021_Plastic_Plastica
180.	Vi raccontiamo come la plastica usa e getta **soffoca** il Pianeta	Ontological metaphor	Pollution	-	-	-	Plastic	ItaGreen2019_Plastic_Vi
181.	**Un santuario di balle**	Creative polysemy	Pollution	-	-	-	Plastic	ItaGreen2020_Plastic_Un
182.	**Stessa spiaggia, stessa plastica**	Lexicalised constituent substitution	Song	-	-	-	Plastic	ItaGreen2018_Plastic_Stessa
183.	**L'insostenibile peso delle bottiglie di plastica**	Lexicalised constituent substitution	Literature	-	-	-	Plastic	ItaGreen2021_Plastic_LInsostenibile
184.	**Il trucco c'è ma non si vede**	Wordplay	Makeup	Lo **sporco** inganno delle aziende makeup	Creative polysemy	Dirt	Plastic	ItaGreen2021_Plastic_IlTrucco
185.	In azione! **Affondate il CETA, non la giustizia**!	Wordplay	Water	-	-	-	Politics	ItaGreen2017_Politics_InAzione
186.	**Tanto rumore per nulla**: in fatto di clima questo governo è fin troppo simile ai precedenti	Idiomatic expression	Literature	-	-	-	Politics	ItaGreen2019_Politics_Tanto

187.	**La paura** di Renzi **fa 17 (aprile)**	Lexicalised constituent substitution + Modifying unmodifiable phrasal lexical items	Idiomatic expression	-	-	-	Politics	ItaGreen2016_Politics_La
188.	Una banca **insostenibile**: Intesa Sanpaolo contro il clima, l'ambiente e le comunità	Creative polysemy	Pollution	-	-	-	Pollution	ItaGreen2021_Pollution_Una
189.	Fondi pubblici **in pasto** ai maiali	Wordplay	Food	-	-	-	Pollution	ItaGreen2020_Pollution_Fondi
190.	Finanza **fossile**	Creative polysemy	Fuel	1. La finanza **alimenta** la crisi climatica	Creative polysemy	Food	Pollution	ItaGreen2020_Pollution_Finanza
191.	**Chi inquina paga**, e la Miteni?	Lexicalised constituent substitution	Pollution	-	-	-	Pollution	ItaGreen2017_Pollution_Chi
192.	**Non sprechiamo** la ripartenza	Wordplay	Recycling	-	-	-	Sustainability	ItaGreen2020_Sustainability_Non
193.	L'**odissea** della mobilità: ecco perché dobbiamo trasformare le nostre città	Wordplay	Travel	-	-	-	Transport	ItaGreen2020_Transport_LOdissea
194.	6 ragioni per cui l'industria dell'auto deve immediatamente **cambiare strada**	Wordplay	Idiomatic expression	-	-	-	Transport	ItaGreen2017_Transport_6
195.	**L'insostenibile mobilità di Roma**	Creative polysemy	Pollution	-	-	-	Transport	ItaGreen2021_Transport_LInsostenibile
196.	**Non ce la beviamo**	Literalising of idiomatic readings	Water	-	-	-	Water	ItaGreen2017_Water_Non
197.	**Troppo rumor per nulla**	Literalising of idiomatic readings + Lexicalised constituent substitution	Literature	-	-	-	Water	ItaGreen2018_Water_Troppo

198.	Ora della Terra: **a qualcuno piace al buio**	Lexicalised constituent substitution	Film	-	-	-	Activism	ItaWWF2014_Activism_Ora
199.	Sulla strada del **mondo che verrà**	Modifying unmodifiable phrasal lexical items + Lexicalised constituent substitution	Song	-	-	-	Activism	ItaWWF2021_Activism_Sulla
200.	Earth hour sabato 24 **l'ola di buio** WWF farà il giro del mondo	Phonology	Phonology	-	-	-	Activism	ItaWWF2018_Activism_Earth
201.	Iniziata **la ola di buio** per Earth Hour	Phonology	Phonology	-	-	-	Activism	ItaWWF2015_Activism_Iniziata
202.	2021 effetto clima: l'anno nero dell'agricoltura italiana	-	-	**Risus abundat**?	Wordplay	Idiomatic expression - Latinism	Agriculture	ItaWWF2021_Agriculture_2021
				Siamo alla frutta	Creative polysemy	Food		
				"Leviamo" i calici	Wordplay	Idiomatic expression		
				Andrà tutto liscio come l'olio?	Wordplay	Idiomatic expression		
				Dulcis in fundo	Wordplay	Idiomatic expression - Latinism		
203.	Report urban nature 2021 verso città "nature positive"	-	-	Capitolo 2 - **Nutriamo** la biodiversità	Wordplay	Food	Cities	ItaWWF2021_Cities_Report
				2.2 **Coltivare valore** nelle città: la strategia della Fondazione Cariplo	Wordplay	Agriculture		
204.	Sempre più alluvioni devastano l'Italia	-	-	Nel nostro Paese le alluvioni sono aumentate **in modo insostenibile**	Creative polysemy	Pollution	Climate Change	ItaWWF2021_Climate Change_Sempre
205.	"Planet Escape room", **siamo tutti in gioco**	Wordplay	Games	4) Settembre 2019: **ghiaccio bollente**	Oxymoron	Temperature	Climate Change	ItaWWF2020_Climate Change_Planet
				5) Novembre 2019: Venezia affoga, e non è **uno scherzo di carnevale**	Wordplay	Joke		
				12) Maggio 2020: **Il Mondo che Verrà**	Song	Song		

206.	Calore e siccità, Italia **a secco**	Wordplay	Temperature	-	-	-	Climate Change	ItaWWF2017_Climate Change_Calore
207.	Nature 4 Climate	**-**	**-**	**Il circolo vizioso – il circolo virtuoso**	Wordplay	Idiomatic expression	Climate Change	ItaWWF2021_Climate Change_Nature
				Il **laborioso lavoro** delle formiche	Wordplay	Work		
				Elefanti: giardinieri per il clima	Ontological metaphor	Wildlife		
208.	**Shock ecology**	Lexicalised constituent substitution	Economics	-	-	-	Climate Change	ItaWWF2020_Climate Change_Shock
209.	Clima**, siamo alla frutta**	Creative polysemy	Food	-	-	-	Climate Change	ItaWWF2021_Climate Change_Clima
210.	Il 2019 è stato un anno **di fuoco** per le foreste nel mondo	Literalising of idiomatic readings	Fire	**In fumo** circa 12 milioni di ettari di Amazzonia, 27mila ettari del Bacino del Congo, oltre 8 milioni nell'Artico e 328mila ettari tra foreste e altri habitat in Indonesia	Creative polysemy	Fire	Fire	ItaWWF2019_Fire_Il
211.	Mediterraneo **di fuoco**	Literalising of idiomatic readings	Fire	-	-	-	Fire	ItaWWF2021_Fire_Mediterraneo
212.	Le azioni del WWF per salvare i polmoni del pianeta	**-**	**-**	Fra le enormi trasformazioni provocate dall'uomo nella biosfera, il mondo degli alberi è quello che ha subito il peggior impatto: abbiamo perso più del 50% del **mantello verde che abbraccia la terra**.	Wordplay	Flora	Forests	ItaWWF2019_Forests_LeAzioni
213.	Riparte nelle Marche il progetto **Bee Safe**	Phonology	Insects	-	-	-	Insects	ItaWWF2021_Insects_Riparte
214.	**Tutti a bordo**! Per la pesca sostenibile	Wordplay	Idiomatic expression	-	-	-	Marine Life	ItaWWF2013_Marine Life_Tutti
215.	Troppo rumore per i cetacei	**-**	**-**	**Muto come un pesce ma non come un cetaceo**	Wordplay	Fish	Marine Life	ItaWWF2021_Marine Life_Troppo
216.	Mediterraneo in trappola	**-**	**-**	**Cibo "spazzatura"**	Literalising of idiomatic readings	Waste	Plastic	ItaWWF2018_Plastic_ Mediterraneo
				La plasti-sfera	Blend	Atmosphere		

217.	Campania, la terra dei veleni	-	-	**Situazione insostenibile** denunciata alle autorità	Creative polysemy	Pollution	Pollution	ItaWWF2022_Pollution_Campania
218.	**Laudato sì** per la transizione energetica e una finanza sostenibile	Literalising of idiomatic readings	Literature	-	-	-	Sustainability	ItaWWF2017_Sustainability_Laudato
219.	San Valentino: 5 simboli d'amore… per il pianeta	-	-	Lascia che **l'amore sbocci**	Wordplay	Flora	Sustainability	ItaWWF2019_Sustainability_San
220.	Il lago di Barrea ridotto a una **pozzanghera**	Wordplay	Water	-	-	-	Water	ItaWWF2016_Water_IlLago
221.	Canale di Sicilia **rischi "esplosivi"**	Wordplay	Weapons	-	-	-	Water	ItaWWF2013_Water_Canale
222.	Mediterraneo, **l'invasione delle specie aliene**	Wordplay	Extraterrestrial	-	-	-	Water	ItaWWF2017_Water_Mediterraneo
223.	**Acqua in bocca, quello che il cibo non dice**	Wordplay	Idiomatic expression	-	-	-	Water	ItaWWF2014_Water_Acqua
224.	Il pianeta rischia di andare **in "rosso"**	Idiomatic expression - figurative	Economics	Un conto **in "rosso"**	Idiomatic expression - figurative	Economics	Wildlife	ItaWWF2021_Wildlife_Il
225.	Estinzioni: non mandiamo il pianeta **in rosso**	Idiomatic expression - figurative	Economics	-	-	-	Wildlife	ItaWWF2021_Wildlife_Estinzioni
226.	**Crimini di natura** l'UE rafforza il contrasto	Lexicalised constituent substitution	War	-	-	-	Wildlife	ItaWWF2021_Wildlife_Crimini
227.	Basta con la disinformazione **sulla pelle dei lupi**	Wordplay	Idiomatic expression	-	-	-	Wildlife	ItaWWF2019_Wildlife_Basta
228.	Lupo: le cinque **favole da sfatare**	Wordplay	Tales	-	-	-	Wildlife	ItaWWF2015_Wildlife_Lupo
229.	La sopravvivenza degli animali **non è scontata**	Wordplay	Price	Black Friday, la natura **non è scontata**	Wordplay	Price	Wildlife	ItaWWF2021_Wildlife_La
				L'occasione da non perdere	Wordplay	Shopping		
230.	A che serve gridare "**al lupo**"	Wordplay	Idiomatic expression	-	-	-	Wildlife	ItaWWF2013_Wildlife_A

RIASSUNTO

Il presente elaborato ha lo scopo di analizzare il tipo e la frequenza d'uso del linguaggio creativo nei testi sull'ambiente. Data la vastità del tema, l'analisi si concentrerà sugli esempi di creatività incontrati nei titoli e sottotitoli di diversi tipi di testi che sono stati pubblicati online nelle pagine ufficiali di due tra le più importanti organizzazioni ambientaliste di stampo internazionale, cioè Greenpeace e WWF, e le lingue scelte per tale analisi sono inglese e italiano. L'obiettivo sarà quello di verificare quali sono le tecniche più utilizzate nel corpus di testi che è stato redatto, ma anche confrontare la frequenza di tali tecniche nei diversi sub-corpora che verranno presi in considerazione, cioè il sub-corpus inglese confrontato con il sub-corpus italiano, e il sub-corpus di testi pubblicati da Greenpeace (in entrambe le lingue) confrontato con il sub-corpus di testi pubblicati da WWF (in entrambe le lingue). Oltre a ciò, un altro tipo di analisi andrà a confrontare l'argomento di tali testi e delle metafore che contengono, andando a verificare se ci sono delle corrispondenze dal punto di vista semantico e se soluzioni simili sono incluse nei sub-corpora messi a confronto. Lo studio che ne deriva segue quindi un approccio guidato dal corpus, che cioè è basato esclusivamente sugli esempi individuati nel corpus stesso, a partire dai quali verranno tratte le relative conclusioni, senza alcun tipo di ipotesi o pregiudizio formato prima.

Il tema ambientale è sicuramente attuale ed ha acquisito sempre una maggiore rilevanza negli ultimi anni, da quando cioè gli effetti del cambiamento climatico sono diventati sempre più tangibili, comportando disastri naturali, estinzioni di specie animali e anche rischi alla salute umana. A causa dell'enorme quantità di notizie a cui la società contemporanea è esposta, è necessario che temi di tale importanza per la sopravvivenza del pianeta (e del genere umano) non vengano ignorati ma arrivino a catturare l'attenzione delle persone. Nei testi scritti, soprattutto in ambito giornalistico, un ruolo fondamentale nell'attrarre l'attenzione è sicuramente svolto dai titoli, in quanto sono la prima cosa che viene letta, e sulla base di esso, i lettori possono scegliere se continuare la lettura del resto del testo o meno. Per questo motivo, particolare attenzione e cura viene data alla creazione di un titolo che non sia banale ma allettante per i lettori, attraverso l'aggiunta di elementi inusuali, nuove creazioni linguistiche e manipolazioni di vario genere di espressioni fisse e conosciute, che possono sì rallentare la lettura ma anche dare un senso di piacere e

soddisfazione una volta che il lettore ha decifrato tali modifiche o colto i vari collegamenti tra le parole. Questi e altri elementi inseriti nei titoli verranno definiti come creatività linguistica e saranno l'oggetto di studio del presente elaborato.

L'elaborato è formato da quattro capitoli. Il primo capitolo comprende un'introduzione alla linguistica dei corpora, occupandosi quindi di definire cos'è un corpus, quali sono le sue caratteristiche, quali tipi di corpora possono essere costruiti e per quali scopi può essere utilizzato. Il secondo capitolo si occupa invece dell'aspetto linguistico dei testi sull'ambiente, partendo dall'analisi delle caratteristiche delle lingue speciali, proseguendo con la divulgazione del sapere scientifico ai non esperti, e arrivando a una descrizione di alcuni tipi di linguaggio figurato e creativo. Il terzo capitolo presenta il corpus di testi sull'ambiente che è stato realizzato per portare a termine quest'analisi, dando delle prime informazioni e statistiche riguardo alla sua composizione. Infine, il quarto capitolo si concentra sull'analisi degli esempi di linguaggio creativo nei titoli e sottotitoli dei testi del corpus, verificandone la frequenza e la correlazione tra l'argomento di quelle metafore e il relativo testo, comparando i risultati tra i sub-corpora dei testi inglesi e italiani, e poi tra i sub-corpora dei testi pubblicati da Greenpeace e dal WWF.

Il primo capitolo parte definendo la linguistica dei corpora come una metodologia che studia la lingua in uso dai parlanti raccogliendo enormi quantità di esempi a partire dai corpora. Questa raccolta di esempi cominciò già alla fine del 1800 quando i lessicografi li utilizzavano per arricchire le definizioni nei dizionari. Fino agli anni '50 del 1900 e alle critiche mosse da Chomsky, si può parlare di linguistica dei corpora primitiva, la quale prevedeva lo studio dei corpora per analizzare la lingua in uso, quindi un approccio basato sul corpus. Le critiche di Chomsky a questa metodologia erano di tre tipi: il suo rappresentare la performance e non la competenza linguistica; il suo essere incompleta e parziale in quanto un corpus potrà contenere solo un numero finito di frasi mentre il numero di frasi che possono essere costruite in una lingua è pressoché infinito; la necessità di considerare anche l'introspezione per poter giudicare la grammaticalità di una frase. A causa di queste e altre critiche, la linguistica dei corpora venne messa da parte nei decenni successivi, sebbene non completamente perché nel corso degli anni '80 del 1900 conobbe una rinascita grazie all'avvento della tecnologia e dei computer, che hanno permesso la ricerca, creazione, elaborazione e analisi di grandi quantità di testi in

modo automatizzato. Con l'avvento di internet negli anni '90 e la conseguente possibilità di gestire corpora in formato elettronico, si può parlare di rivoluzione dei corpora.

Tra le nozioni che vengono associate alla creazione dei corpora si ricorda la rappresentatività, in quanto un corpus deve essere rappresentativo della lingua che andrà ad esaminare, nel senso che deve includere un range esaustivo dei diversi tipi di testi e specialità della lingua in questione. Per quanto riguarda il bilanciamento, un corpus è bilanciato se le proporzioni dei diversi tipi di testo che lo formano corrispondono a giudizi informati e intuitivi. Tuttavia, un corpus non bilanciato può essere comunque analizzato, specificando la presenza di tale disequilibrio. Infine, la normalizzazione è un'operazione che permette di trasformare dei dati grezzi in dati comparabili in modo tale da poter confrontare obbiettivamente la frequenza di una certa parola o struttura in testi o corpora di diversa lunghezza.

Dato che il concetto di corpus è molto fluido, è possibile individuare diverse classificazioni di corpora considerando diversi aspetti. Per esempio, un corpus generale comprende testi di tutte le sfere del sapere in modo da offrire una visione completa di una lingua. A questo si oppone un corpus specializzato, che invece contiene unicamente testi appartenenti a uno specifico ambito o a un certo argomento. I corpora paralleli contengono testi in due o più lingue che sono la traduzione l'uno dell'altro, mentre i corpora comparabili contengono sempre testi in più lingue selezionati con parametri simili ma non sono la traduzione l'uno dell'altro. Proprio in base al numero di lingue presenti nel corpus, si possono individuare corpora monolingue, cioè che contengono testi in una sola lingua, bilingue se sono formati da testi in due lingue, o multilingue se le lingue sono più di due. I corpora possono anche essere annotati, ovvero ad ogni parola dei testi viene assegnata un'etichetta che può contenere informazioni di tipo sintattico, morfologico, o semantico.

Per quanto riguarda la realizzazione di un corpus, i criteri che vanno presi in considerazioni per selezionare i testi sono: l'ambito specializzato su cui ci si vuole focalizzare; il numero di lingue presenti nel corpus; la data di pubblicazione; il livello di specializzazione; il tipo di documenti, scritti o trascrizioni di testi orali; il supporto; la grandezza del corpus.

Diversi tipi di corpora possono essere utilizzati con scopi diversi in discipline diverse. Per esempio, in lessicografia sono utili per aggiungere informazioni ed esempi d'uso alle

definizioni nei dizionari, mentre nella ricerca terminologica sono considerati la migliore fonte da cui estrarre la terminologia specifica di una certa area del sapere, e da qui venne sviluppata una nuova disciplina, la terminotica, la quale si occupa della compilazione di banche dati terminologiche utilizzando strumenti informatici. Nel campo della traduzione, i corpora comparabili possono essere utili nella fase di revisione per controllare le strutture tipiche della cultura di arrivo, mentre i corpora paralleli possono servire per vedere come certe parole o la fraseologia sono state tradotte da altri traduttori. Per quanto riguarda l'analisi dei corpora, si può distinguere tra un approccio basato sul corpus, per cui un corpus viene utilizzato per raccogliere esempi a conferma di una teoria linguistica precedentemente formata, e un approccio guidato dal corpus, dove invece il punto di partenza è il corpus e sulla base di quello che è stato individuato, potranno essere formulate delle teorie linguistiche. Nonostante venga riconosciuta la presenza di questa dicotomia, entrambi gli approcci possono essere utilizzati per studiare la lingua d'uso e raccogliere esempi reali su di essa.

Tra i software che possono essere impiegati per la creazione, gestione e analisi di corpora in modo automatico ci sono BootCat, che principalmente permette di creare corpora a partire da una ricerca sul web di testi sulla base di alcune parole chiavi; Sketch Engine, che oltre a costruire corpora, include anche tutta una serie di funzioni per studiare i corpora, anche quelli già precaricati nel software; e Antconc, che permette l'analisi di un corpus di testi precedentemente caricati.

Il secondo capitolo passa ad analizzare un altro aspetto teorico, ovvero la divulgazione della scienza. Per fare ciò, introduce il concetto di lingue speciali, intese come una varietà funzionale di una lingua naturale appartenente a un certo ambito specializzato e impiegata da un numero ristretto di parlanti per soddisfare i bisogni specifici di quel determinato ambito. Sono inoltre caratterizzate da una propria terminologia specifica e dalla propensione verso l'uso di certe strutture grammaticali e discorsive anziché altre per poter comunicare i propri concetti nella maniera meno ambigua possibile.

Le lingue speciali vengono utilizzate dagli esperti in tre diverse situazioni: quando si rivolgono ad altri esperti dello stesso settore; quando si rivolgono a persone che si stanno formando in quel campo specializzato; quando si rivolgono a non esperti. Queste situazioni comportano un uso diverso della lingua speciale, che passa ad essere più

implicita e densa a livello terminologico nel primo caso fino ad arrivare ad includere parole del lessico generale della lingua e molte spiegazioni e definizioni nel terzo caso.

Per quanto riguarda il rapporto tra lingue speciali e lingua comune, è difficile separare precisamente questi due concetti, che invece possono essere intesi come un continuum tra diversi livelli di specializzazione e tra lingua speciale e lingua comune. Inoltre, il loro rapporto è molto stretto, nel senso che l'una influenza l'altra portando a un passaggio di termini dal livello specializzato alla lingua comune, ma anche all'inclusione di parole del lessico generale della lingua all'interno delle lingue speciali.

I testi specializzati rivolti a un pubblico di esperti posseggono inoltre una serie di caratteristiche che aiutano a definirli, soprattutto in opposizione a testi della lingua comune. Per esempio, le caratteristiche lessicali mirano ad evitare casi di ambiguità e interpretazioni multiple dei termini per assicurare una comunicazione chiara, concisa e neutrale. Dal punto di vista morfo-sintattico, le lingue speciali mostrano una preferenza verso i sintagmi nominali (anche complessi) con un conseguente indebolimento della componente verbale, nonché una tendenza alla depersonalizzazione e all'uso del passivo per elevare il paziente piuttosto che l'agente di un'azione. Infine, le caratteristiche testuali rendono i testi più coesi, in cui il flusso delle informazioni va da ciò che è già noto all'informazione nuova, per convincere i lettori della veridicità della tesi proposta.

Tuttavia, le lingue speciali non vengono utilizzate solo per rivolgersi ad esperti, ma anche a un pubblico di non specializzati. Si parla allora di divulgazione della scienza, un termine con il quale si intende la comunicazione di conoscenze specializzate alla popolazione per scopi educativi o informativi, utilizzando una lingua più vicina a quella comune. La comunicazione di scoperte scientifiche al grande pubblico cominciò già nel corso del 1700, ma solo a partire dal 1900 gli scienziati riconobbero la necessità di adattare la lingua affinché potesse venire compresa anche da chi non era esperto nel settore. L'opera di divulgazione è stata quindi svolta da ogni tipo di media, a partire dai giornali, dalla radio e televisione, fino ai moderni blog e social network e attualmente, la lingua franca della scienza è considerata l'inglese.

Dal punto di vista linguistico, la divulgazione comporta la trasformazione di un testo specializzato di partenza in un testo di arrivo che contiene un'approssimazione del testo originale, in cui vengono incluse spiegazioni, perifrasi e definizioni dei termini più opachi, frasi più corte e più semplici, e una maggiore quantità di lessico proveniente dalla

lingua comune. Inoltre, le notizie scientifiche vengono riportate sui vari media seguendo una struttura narrativa e in un modo che possa attrarre l'attenzione delle persone, abbandonando anche la neutralità tipica del discorso specializzato rivolto ad esperti.

La seconda parte del secondo capitolo si occupa della comunicazione ambientale, descritta come una disciplina nata negli anni '80 del 1900 con l'obiettivo di descrivere la relazione tra uomo e ambiente e modellare la percezione che l'uomo ha della natura, nonché informarlo e avvertirlo dei problemi legati all'ambiente, proprio attraverso il potere persuasivo delle parole, della lingua, ma anche delle immagini e dei video. La comunicazione ambientale è inevitabilmente legata al movimento ambientalista, che ha le sue radici nel tardo 1700 e da allora ha ampliato i suoi interessi, battaglie e bacino di attivisti fino alla creazione di vere e proprie organizzazioni internazionali. Il dibattito sulle questioni ambientali è stato sicuramente alimentato anche grazie ai mass media, che a partire dagli anni '60 del 1900 hanno cominciato a dare sempre maggiore spazio a questo tipo di notizie, che oggigiorno riguardano principalmente il cambiamento climatico, deforestazione, inquinamento dell'aria e dell'acqua, estinzione di specie animali, crescita della popolazione, sfruttamento dell'energia e scarsità dell'acqua. Tuttavia, la rappresentazione di queste problematiche sui media più tradizionali è soggetta a diverse limitazioni e costrizioni, che non sempre permettono una rappresentazione oggettiva o efficace dei fatti. Per questo motivo, organizzazioni ambientali ma anche semplici cittadini contribuiscono alla diffusione di notizie ambientali utilizzando siti web, forum e social network, raggiungendo un pubblico mondiale, dato che le crisi ambientali coinvolgono tutto il pianeta. Allo stesso tempo, però, essi richiedono anche azioni a livello locale, quindi sebbene la lingua franca dell'ambiente rimanga l'inglese, testi e contenuti vengono spesso localizzati, cioè tradotti e adattati alla cultura di arrivo, nonché semplificati a livello lessicale per poter essere accessibili a tutti.

Nei testi sull'ambiente, ma anche nei testi specializzati in generale, è possibile osservare un ampio uso di figure retoriche e linguaggio creativo, che viene descritto come un'abilità dei parlanti di sfruttare la lingua in maniera innovativa combinando e modificando elementi fonologici, morfologici, lessicali e sintagmatici per creare delle parole o espressioni originali per diversi scopi. I metodi più impiegati per formare nuove parole sono derivazione e composizione, che costituiscono dei processi di produzione di parole a cui si contrappongono processi più creativi, sebbene non sia così facile distinguere tra

produttività e creatività. A prescindere dal processo utilizzato, non tutte le nuove formazioni entrano a far parte del dizionario della lingua, rimendo quindi delle formazioni ad hoc, costruite per il contesto specifico in cui vengono inserite e per soddisfare diverse funzioni, tra cui la principale è attirare l'attenzione del lettore, per questo vengono utilizzate soprattutto nei titoli degli articoli. Tra le tecniche di creazione di parole, si ricorda l'accorciamento, alienazione, formazione extragrammaticale e parole macedonia. Spesso la creatività linguistica è associata all'umorismo e ai giochi di parole che si basano sull'ambiguità e lo scontro tra due significati. Anche figure retoriche più tradizionali come metafore, similitudini, metonimie e sineddoche si possono riscontrare nel discorso scientifico per spiegare concetti difficili con diversi tipi di associazioni tra parole. Infine, deformazioni e manipolazioni possono riguardare anche delle espressioni formate da più parole, che hanno una forma e un significato fissi e che normalmente non ammetterebbero quelle modifiche. Tuttavia, per ragioni creative, è possibile apportarvi delle deformazioni di tipo fonologico, strutturale e semantico, ma le condizioni necessarie perché l'espressione così deformata possa essere recepita e apprezzata dai lettori è che la forma originale sia conosciuta e deve contenere degli elementi che possano rimandare inequivocabilmente all'espressione base.

Il terzo capitolo verte invece sulla presentazione del corpus che è stato realizzato per portare a termine l'analisi del linguaggio creativo presente nei titoli e sottotitoli dei testi dell'ambiente. I criteri che sono stati seguiti per la costruzione del corpus sono gli stessi descritti nel primo capitolo. Perciò, per quanto riguarda l'ambito, è indubbiamente quello ambientale, che è stato ristretto ai testi pubblicati sui siti web di Greenpeace e WWF, due organizzazioni internazionali ambientaliste che si pongono degli obiettivi leggermente diversi. Nello specifico, Greenpeace lotta per la riduzione dell'inquinamento, la promozione della pace e del disarmo, nonché della promozione della biodiversità, mentre il WWF si occupa principalmente del clima, cibo, foreste, acque dolci, oceani e animali selvatici. Nello specifico, sono stati scelti come fonte di testi unicamente i siti di Greenpeace UK, Greenpeace USA, Greenpeace Italia, WWF UK, WWF US, e WWF Italia. Di conseguenza, le lingue del corpus sono due, inglese e italiano, e per l'inglese vengono prese in considerazione due varianti regionali, l'inglese britannico e americano. Si tratta quindi di un corpus bilingue e comparabile, perché i testi non sono la traduzione l'uno dell'altro. Per quanto riguarda la data di pubblicazione, sono tutti testi recenti in

quanto provengono tutti dal web e il più datato risulta dell'anno 2006. Il loro livello di specializzazione è vario, perché sebbene i report sono principalmente indirizzati a un pubblico di esperti o istituzioni e aziende, sono comunque testi pubblicati online, che quindi sono accessibili a tutti, anche a un pubblico meno esperto. Infine, non sono state applicate restrizioni sulla grandezza del corpus, ma sono stati inclusi tutti quei testi che è stato possibile recuperare e che comprendevano qualsiasi esempio di linguaggio creativo nei loro titoli e sottotitoli. Una volta trovati questi testi, sono stati salvati, convertiti in formato txt, e rinominati con una sigla che li rendesse riconoscibili, in cui si specificava la variante linguistica, l'organizzazione, l'anno, l'argomento assegnato sulla base del contenuto e la/e prima/e parole/e del titolo di quel testo.

Al termine di questa ricerca, il corpus così formato risulta composto da 230 testi totali, 80 appartenenti al sub-corpus italiano e i rimanenti 150 a quello inglese. Il numero di tokens (l'unità minima in cui viene suddiviso un corpus, che può corrispondere a una parola, numero o segno di punteggiatura) totale è 654.984, di cui 502.236 provengono dal sub-corpus inglese e 152.748 da quello italiano. È facile intuire come il corpus risulti sbilanciato, in quanto il sub-corpus inglese risulta più grande di quello italiano, ma comunque potranno essere effettuati dei confronti tra i due una volta che i dati saranno stati normalizzati e resi quindi comparabili.

Infine, il quarto capitolo si occupa proprio dell'analisi delle metafore che si trovano nei titoli e sottotitoli dei testi del corpus. Tali metafore sono state raggruppate in base alla loro tipologia, ottenendo dieci macro-categorie. Il tipo di creatività linguistica che si trova in maniera più cospicua è il gioco di parole, che viene utilizzato sia in inglese che in italiano, da Greenpeace e WWF per creare un collegamento tra una parola o un'espressione idiomatica del titolo/sottotitolo e l'argomento del testo in generale, o anche in relazione all'azienda che viene presentata in quel testo. Anche la polisemia creativa è stata riscontrata in un numero elevato di esempi in tutti i sub-corpora, e può essere descritta come una caratteristica delle parole che contengono più significati e che emergono contemporaneamente per il fatto di trovarsi in un determinato contesto, generando una doppia interpretazione di quelle parole. Un numero esiguo di casi, invece, presenta delle frasi idiomatiche che vengono utilizzate mantenendo intatta la loro forma e il loro significato idiomatico. Tuttavia, nella maggior parte dei casi, le espressioni fisse vengono alterate a livello strutturale (aggiungendo o sostituendo elementi) e semantico

(interpretandole a livello letterale anziché figurato) per essere adattate al contesto di arrivo. Anche la maggior parte dei riferimenti culturali e intertestuali presenti nel corpus subiscono queste manipolazioni, quando cioè non presentano già elementi che si collegano al resto del testo, e si tratta perlopiù di citazioni di film, canzoni, libri o frasi famose. Il corpus comprende anche un buon numero di figure retoriche, e cioè metafore, di tipo orientativo (che cioè mettono in relazione elementi dello spazio), o di tipo ontologico (che cioè prevedono la personificazione di oggetti, animali o piante), metonimie (con cui si indica un'entità attraverso un'altra entità), ossimori (cioè parole che contengono idee contrastanti) e un caso di onomatopeia (la riproduzione linguistica di un suono di un oggetto o animale). Una dozzina di casi invece privilegiano il fattore fonologico delle parole, in quanto vengono scelte delle parole che, l'una di fianco all'altra, presentano la stessa rima, suffisso o un'assonanza, oppure una parola con una simile fonologia e morfologia va a sostituirne un'altra. Una minoranza di casi rientrano nella categoria dell'uso figurato della lingua, in cui cioè una parola o un'espressione idiomatica viene utilizzata in un campo semantico diverso dall'originale. Ma le categorie più rare nel corpus sono le tecniche di produzione e creazione di parole, dove nella prima rientrano casi di composizione creativa, decomposizioni di composti, risemantizzazioni e calchi, mentre la seconda comprende le parole macedonie, cioè formate da parti di due o più parole.

Alcuni testi presentavano più esempi di metafore al loro interno ed è stato osservato che solo una minima parte mostrava una piena corrispondenza tra l'argomento del testo e delle relative tecniche creative, soprattutto per quanto riguarda argomenti più basici come fuoco, insetti e animali selvatici. Negli altri casi, l'argomento delle metafore era collegato a quello del testo, per esempio, un testo sull'agricoltura presentava metafore sul cibo, quindi ciò che deriva da essa; mentre nella maggior parte degli esempi, non c'era un collegamento così stretto tra argomenti, ma spesso le metafore dello stesso testo condividevano lo stesso argomento, seppure diverso da quello del relativo testo, perché il fattore principale della scelta della metafora rimane il contesto.

Per quanto riguarda il confronto tra sub-corpora, dopo aver normalizzato i dati, è stato possibile verificare che la tecnica preferita dal sub-corpus italiano è il gioco di parole, mentre la manipolazione di espressioni idiomatiche è quella più usata nei testi inglesi. Frequenze simili tra i due sub-corpora riguardano invece le categorie della polisemia

creativa, tecniche di produzione e creazione di parole, e fonologia, mentre maggiori differenze si riscontrano per le figure retoriche, uso figurato della lingua e riferimenti culturali e intertestuali, che sono più comuni nel sub-corpus italiano rispetto a quello inglese, che però include tutti i casi di espressioni idiomatiche senza modifiche. L'analisi degli argomenti dei testi ha mostrato che alcuni di essi sono esclusivi di un sub-corpus anziché dell'altro, per il fatto che alcuni argomenti sono più tipici o più rilevanti in una certa lingua o cultura che non nell'altra, come l'allevamento (intensivo) per l'Italia o la tecnologia per gli USA. Tuttavia, argomenti più tipici del discorso ambientalista come incendi, cambiamento climatico, foreste, plastica, inquinamento, acqua e animali selvatici sono presenti in entrambi i sub-corpora. Analizzando le corrispondenze tra argomento del testo e delle metafore, è possibile notare un comportamento simile per entrambi i sub-corpora, dato che solo in una minoranza di testi si riscontra una corrispondenza di argomenti, soprattutto relativi a campi semantici come fuoco, cibo, plastica, inquinamento, acqua e animali selvatici, mentre in altri casi si può trovare solamente un collegamento al campo semantico del testo (per esempio, foreste e cambiamento climatico) o nessun collegamento particolare.

Confrontando invece i testi di Greenpeace con quelli del WWF, il tipo di linguaggio creativo più usato nel sub-corpus di Greenpeace è la polisemia creativa, mentre in quello del WWF rimane il gioco di parole e i dati normalizzati mostrano come i giochi di parole siano il doppio più frequenti rispetto ai testi di Greenpeace. Un'altra differenza importante riguarda le manipolazioni di espressioni idiomatiche che sono tre volte più frequenti nei testi del WWF rispetto a quelli di Greenpeace. Il WWF inoltre sembra avere una maggiore preferenza verso l'utilizzo di riferimenti culturali e intertestuali, tecniche di creazione di parole, fonologia e uso figurato della lingua rispetto a Greenpeace, mentre le restanti categorie, cioè figure retoriche, tecniche di formazione di parole e espressioni idiomatiche hanno delle frequenze più bilanciate nei due sub-corpora. Anche in questo caso, confrontando gli argomenti tra i due sub-corpora, si riscontra che alcuni di essi si trovano solo nei testi del WWF (per esempio, animali, città, energie rinnovabili), mentre altri solo in quelli di Greenpeace (per esempio, moda, carburante, media, petrolio, trasporti), dimostrando come le due organizzazioni internazionali spazino diversamente all'interno della comunicazione ambientale, nonostante temi come cambiamento climatico, ambiente, incendi, foreste, plastica, sostenibilità, acqua e animali selvatici sono trattati da

entrambe. Anche considerando la relazione tra argomenti, i due sub-corpora mostrano comportamenti simili per quanto riguarda la totale corrispondenza tra argomento del testo e delle sue metafore (come nei testi sugli insetti), anche se rimangono una minoranza, mentre la maggioranza di essi non ricerca questa sovrapposizione di argomenti.
Per concludere, si è visto come ogni sub-corpus mostri una propria preferenza verso una tipologia di linguaggio creativo e come ci siano delle diversità negli argomenti dei testi scelti che riflettono i diversi interessi delle due organizzazioni ambientaliste o delle due culture prese in considerazione. Inoltre, il fattore principale che porta alla scelta di una categoria creativa anziché un'altra non è tanto l'argomento generale del testo, bensì il suo contenuto specifico.