

Terminological issues in official translations of international environmental conventions

The case of Greek as a target language

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Abstract

In this paper we discuss twenty-two representative cases of terminologically conditioned translation issues detected in a corpus of twenty Greek target texts of environmental conventions and/or their respective protocols or amendments, signed between 1946 and 2001. We classify such issues in ten special categories and assign them to three major profiles. For each category we examine problematic equivalents by drawing on terminology theory or translation studies. Where appropriate, we propose a more satisfactory equivalent on the basis of the relevant ISO 704:2009 principles and mechanisms for term formation. The paper concludes that Greek translations of environmental legal texts – especially older ones – are often variously unsatisfactory with respect to terminology, which evinces the need for careful use of such texts in the Hellenic Republic.

Keywords

Environmental terminology, international conventions, ISO 704:2009, legal translation, term formation

1. Introduction

Both the concept and the field of Environmental Science emerged in the 20th century, when mankind began to increasingly focus on environmental pollution and/or contamination,¹ the results of which began to concern Ecology. Initially devised as a branch of Biology studying organisms and the environment, Ecology began to move towards anthropogenic factors, which justified its classification as a science studying not only natural environmental factors, but also the interaction between organisms and anthropogenic factors (Melecis, 2011, p. 349). Similarly, the range of ecological subjects of study is steadily increasing, which in turn could significantly avert the field from the original study of the specifics. In Western countries, where greater attention is paid to global environmental issues, the scientific community increasingly uses the term *Environmental Science*, an important role of which is the development of natural philosophy and the creation and consolidation of environmental concepts (Melecis, 2011, p. 349). One of the pioneering figures in this direction was the marine biologist and conservationist Rachel Carson, whose book *Silent Spring*, published in 1961, had a great impact on society by focusing on one of the major ecological issues of the time that still persists nowadays, namely the effects of pesticides on ecosystems, thus arousing people's interest in environmental problems (Kļaviņš *et al.*, 2008, p. 599).

Environmental Science acts, on the one hand, as a multi-disciplinary subject of scientific cooperation and, on the other hand, as a method of interdisciplinary study of complex environmental problems. This interdisciplinary subject draws on, interconnects with and uses knowledge, skills and techniques from a vast array of other disciplines such as Physics, Chemistry, Biology, Geology, Geography, Meteorology, Climatology, Economics, History, Sociology, Psychology, Political and Legal Sciences, etc. It is interested not only in biological, physico-chemical organisation, function and relation of living organisms with the environment, in which they live and reproduce, but also in the economic and social dimension of human intervention in nature. In this context, it could be argued that Ecology is the most important background of Environmental Science (Mandrikas *et al.*, 2013). In this article we consider environmental terminology in its legal perspective, i.e. through international conventions or treaties governing the relationship between humans and the environment.

2. Environmental terminology and translation: main issues

In this article *environmental terminology* is to be understood as defined in the Pointer Project (Felluga, Mazzocchi, Lucke, Plini, & Pàlmera, 1995, p. 2):

[E]nvironmental terminology aims at the definition and optimal use of concepts related to the activities connected to the environment, both practical, like environmental management and planning, nature conservation, the relation between environment and development, the relation between environment, health and safety, as well as theoretical, like environmental sciences, in particular ecology. It can therefore contribute in filling the gap existing between the facts and the present scientific knowledge on some fundamental environmental problems.

Issues related to the use and/or translation of environmental terminology along with the consistent use of environmental concepts have been discussed in several countries by many authors, e.g. Pozzo (2014, pp. 128-129), who examines the terminological consistency in the Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage; Hodges (2008, pp. 35, 38), who argues that papers focusing on terminological

¹ For the distinction between environmental *pollution* and environmental *contamination*, see Larsson (1999, p. 158).

inconsistency and polysemy as a problem do little to advance either the science or its application, and that terminological reviews should refocus on advances in the underlying science rather than concentrating on the terms themselves;² Twardowska and Szczepanska (2002, pp. 29-30), who note that legal definitions exert a significant impact on the waste management strategy; or Adams, Di Bitetti, Janson, Slobodkin, and Valenzuela (1997, p. 632), who note that some terms used by ecologists seem to be influenced by the expected audience, as well as that communication with funding sources, politicians and the wider audience is perplexed by the fact that part of the terminology used by ecologists arises from the Language for General Purposes (LGP), with many of the terms having different meanings to ecologists than to laymen. Of course, this phenomenon is not a peculiarity of ecological and environmental terminology, but rather one of Language for Specific Purposes (LSP) in general (Valeontís and Krimpás, 2014, pp. 29, 35-36). Among the early dictionaries of environmental terminology addressing the problem of terminological inconsistency and lack of standardisation are one by Paenson (1972, p. i) and another by Studdard (1974, p. ii).³

Although at times questioned (Temmerman, 2000, pp. 125-154), monosemy and terminological consistency are notoriously the best strategies to avoid conceptual confusion or bad translation and to promote mutual understanding amongst professionals and academic experts, as admitted both by language scholars (Béjoint, 1990, pp. 19-22, 24; Fretheim, 2001, pp. 83-84; Garzone, 2000, p. 83; Gilreath, 1993, p. 87; Ruhl, 1989, pp. vi, xi; Strandvik, 2012, p. 39; Valeontís & Krimpás, 2014, pp. 171-172) and political institutions (European Parliament, European Council, and European Commission, 2013, p. 13; Secretariat General of the Hellenic Government, 2006, p. 7).

According to ISO 704:2009,⁴ the three term-formation methods are: *creating neoterms, using existing forms* – e.g. by semantically extending or specialising them – and, finally, *translingual borrowing* (pp. 51-55); while seven principles should be observed in the formation of terms (and appellations), as far as possible and as appropriate to the language in question: *transparency, consistency, appropriateness, linguistic economy, derivability and compoundability*,⁵ *linguistic correctness*, and *preference for native language* (pp. 38-41).⁶

Another terminology-related issue that also affects environmental thematic areas is terminology transfer to developing countries. Sager and Nkwenti-Azeh (1989, p. 19) have proposed three relevant parameters to be taken into account, namely the general linguistic situation of a country (in terms of distribution of languages, functions of languages, attitude to the language of technology exporting countries in the environment in which terminology transfer takes place, role of languages of technology-exporting countries in the linguistic repertoire of an importing country), the socioeconomic circumstances in which terminology transfer occurs (in terms of its reflection in education and training), and the regular techniques

² We think that terminological research constitutes in itself an aspect of scientific advance, while other (e.g. technological) advances in a given science provide new concepts to be designated by new terms/appellations.

³ See more in NN (2015, pp. 259-260).

⁴ A Greek adaptation of the older version (ISO 704:2000) of this ISO Standard is ELOT 402:2010. Other terminology-relevant ISO Standards are ISO 860:2007, *Terminology work – Harmonization of concepts and terms*, and ISO 12616:2001, *International Standard, Translation-oriented terminography*.

⁵ Hereinafter referred to as *derivability/compoundability*.

⁶ Those principles are applicable to both IE (Valeontís & Mántzarí, 2006, p. 4) and non-IE European languages, e.g. Finnish (Saarenmäki & Nissilä, 2016, pp. 335-337).

languages have developed for dealing with terminology (in terms of presence or absence of an effective policy and difficulties created by terminology transfer).

Although not traditionally counted among *developing countries*, Greece is undoubtedly a country with a lesser-used language, reflecting the import of technical advances from countries with wider-spoken languages such as English or – mostly in the past – French. All the above parameters are also relevant to Greek⁷ environmental terminology and should be taken into account both in primary and secondary environmental term formation in Greek, i.e. whenever a new term is coined for concept-designation and translation purposes.

Indeed, Greek environmental terminology exhibits various issues⁸ attributable, on the one hand, to mistranslations and, on the other hand, to a lack of cooperation among scholars, scientists, terminologists and/or lawyers interested in the Environmental Science, since interdisciplinary work is indispensable in choosing or coining mutually acceptable terms in a given thematic area. Otherwise, terminological issues ultimately find their way into textbooks, papers and the media, whose huge communicative potential perpetuates the problem.

In an early paper by Gkasámī and Siôkou-Frágkou (1997, p. 441), three major profiles of translation issues are recognised with respect to Greek terminology of sea biology and ecology (both branches of Environmental Science), namely: a) multiple translation of a term; b) mistranslation of a term; and c) non-translation⁹ of a term (in the sense of non-transcribed or non-transliterated¹⁰ direct borrowing). Before moving on to presenting a more detailed classification of terminology and translation issues in environmental designations falling under the three abovementioned model profiles (see section 3 below), we discuss some of the examples given by the aforementioned authors (sections 2.1 to 2.3).

Profile I: Multiple translations of a term

This includes cases where the SL term has two or more equivalents in the target text (TT). The authors mention, as an example, the environmental internationalism *plankton*, translated into Greek both as *plagktón* (keeping the *-n* ending) in some works (Fragkopoúlou, 1988, p. 252, in Gkasámī & Siôkou-Frágkou, 1997, p. 441; Giannítsaros, Oikonómou-Amíllī & Roussomoustakáki, 1991, in Gkasámī & Siôkou-Frágkou, 1997, p. 441; Lykákīs, 1996, in Gkasámī & Siôkou-Frágkou, 1997, p. 441; Siôkou-Frágkou, 1993, p. 372, in Gkasámī & Siôkou-Frágkou, 1997, p. 441), and as *plagktó* (without the *-n* ending) in other works (Chrístou, 1991, p. 234, in Gkasámī & Siôkou-Frágkou, 1997, p. 441; Koukouras, 1984, in Gkasámī & Siôkou-Frágkou, 1997, p. 441; Koukouras, Arianoútsou & Gerákīs, 1986, in Gkasámī & Siôkou-Frágkou, 1997, p. 441; Páγκou, 1994, p. 356, in Gkasámī & Siôkou-Frágkou, 1997, p. 441;), according to the Standard Modern Greek (SMG) morphology, while there are works where both terms are used (Moraítou-Apostolopoúlou, 1985, in Gkasámī & Siôkou-Frágkou, 1997, p. 441; Moraítou-Apostolopoúlou, 1986, in Gkasámī & Siôkou-Frágkou, 1997, p. 441). This internationalism is a

⁷ Greek means Modern Greek throughout this article. Greek text and author names have been transliterated according to ELOT 743:2001 (2nd edition) conversion standard slightly modified in using a circumflex for accent over letters with macron; in all other cases the acute is used, except in monosyllabic words, where accent is not marked. The original or transliterated form of Greek text in web addresses was retained for searchability reasons.

⁸ Similar terminological issues have also been reported in other languages, e.g. Spanish (Jacobsson, 2007, p. 427) or Slovenian (Gams, 1977, pp. 60-62), as well as in other subject fields, e.g. finance (Tagkas, 2014, p. 281).

⁹ The term is somewhat abusive, since retention of an SL term is not tantamount to ‘non-translation’, as would be e.g. one induced by omission of a given translation unit and thus creating a semantic gap in the TT.

¹⁰ For the difference between *transcription* and *transliteration* see ISO 704:2009 (p. 36).

re-borrowing into Modern Greek, since it originates in the neuter form *plagktón* of the deverbal adjective *plagktós* (*masc.*) [wandering, errant, peripatetic, unstable, vagabond] of the Ancient Greek verb *plázō* [to wander, stroll] – rather than in the synonym and cognate verb *planômai* [to wander, stroll, go astray, be misguided], as the authors inaccurately mention (Gkasámī & Siôkou-Frágkou, 1997, p. 442). With respect to its use in SMG, although *plagktón* is the established designation, the form *plagktó* should be preferred for being: a) consistent with SMG morphology, which discards the final *-n* in second declension nouns, normally retained only in *kathareúousa* (see section 3.5 below), a currently obsolete linguistic register; and b) felt ‘more Greek’ by average speakers, who erroneously tend to consider it an indeclinable loan term from French (much like the indeclinable culinary loan term *tirmpousón* < Fr. *tire-bouchon*) and use the wrong genitive form *tou plagktón* instead of *tou plagktoú*.¹¹

Profile II: Mistranslation of a term

This includes cases where the SL term has been mistranslated into the TL due to false friends or other interference. Gkasámī and Siôkou-Frágkou (1997, p. 442) give as an example the French terms *corallien* – which they misspell as ‘*coralliene*’, an instance of malformed jargon (Hirst, 2003, p. 215) – and *coralligène* – which they misspell by omitting the grave accent (‘*coralligene*’). As they correctly mention, the first term refers to formations and populations composed of corals and, therefore, its correct Greek equivalent is *koralliogenís* [produced by or originating from corals].¹² The second term does not refer to corals, as delusively suggested by its name, but to a particular benthic community consisting of other organisms, including members of the red algae family *Corallinaceae*. The term *koralliogenís*, chosen in the pursuit of a ‘faithful’ translation and seemingly observing the analogue rule of naming (Valeontís, 1997, pp. 44-49) is incorrect for semantic reasons, and thus a misnomer (Hirst, 2003, p. 215). As a solution, the authors suggest either putting the term in quotation marks to imply its difference from the other, similar-sounding term, or using an unambiguous multi-word term such as *viokoinōnía koralliogenoús týpou* [bio-community of coral type] (Koukouras, 1984, in Gkasámī & Siôkou-Frágkou 1997, p. 441).

2.1 Profile III: Non-translation of a term

This includes cases where a term may not have (yet) an equivalent in a given TL, which evinces the need for secondary term formation (Valeontís & Krimpás, 2014, pp. 209-212) by recourse to one of the aforementioned mechanisms of ISO 704:2009 (pp. 51-55). Although *translingual borrowing* is an acceptable mechanism of secondary term formation, such instances – usually the products of a linguistic *force majeure* – are rather problematic for being used without transcription or transliteration, thus leading to the use of a mixed alphabet in the TL. Gkasámī and Siôkou-Frágkou (1997, p. 442) give the French term *brouteur* [grazing animal] as an example of non-translation, since it had no equivalent in SMG at the time when their paper was published. However, in later texts, this term has been successfully rendered as *voskītís* [grazer] (World Wildlife Fund, n.d.) < *voskô* [to graze], which, following the pattern of other *nomina agentis* such as *askītís* < *askô*, shows consistency (ISO 704:2009, p. 39).

¹¹ A Google search (10-06-2016) gave 4190 matches of the wrong usage, i.e. *tou plagktón* (used as indeclinable with the genitive being marked only by the suffix of the definite article), as against only 1530 matches of the correct usage, i.e. *tou plagktoú*.

¹² We propose the alternative translation *koralliôdīs*, which would be equally correct.

3. Greek terminology in translated international environmental conventions: A case-based study

International conventions on the environment are binding legal texts following signature *and* ratification. What is more, environmental designations appearing in legal texts become themselves legal designations, since any non-legal designation entering a legal text acquires a legal-term status (Šarčević, 1997, p. 231; Strandvik, 2012, p. 26). Although terminological or conceptual issues usually arise because of the differing levels of equivalence between legal concepts in the source and target legal systems (Prieto Ramos, 2011, p. 16), this is not the case in international conventions, since they establish a new legal system. Moreover, translated versions of international conventions on the environment usually raise issues with respect to technical terminology that has acquired legal status. Poor translations are legally risky (European Commission, 2012, p. 1), and poor translations on environmental matters can also be environmentally risky.

For the purposes of this article we present below 22 representative cases of terminological issues detected in the Greek translated versions of English – or, sometimes, French – SL environmental conventions and/or their respective protocols and amendments. Our methodology consists in: a) analysing the corpus of environmental legal texts available on the website of the Hellenic Ministry of Environment and Energy, which comprises 125 conventions, protocols and amendments (signed between 1946 and 2006) of environmental relevance¹³; b) excluding a sub-corpus of 72 texts that proved to be irrelevant either for not having (as yet) been ratified¹⁴ by the Hellenic Republic, and thus not being legally binding, or for not posing (significant) terminology or translation problems (the latter is true of mostly newer conventions, since terminological and translation awareness is growing over time); c) selecting a random sub-corpus of 20 environmental conventions, protocols and amendments (signed between 1946 and 2001) out of the remaining sub-corpus of 53 such texts (signed between 1946 and 2004) that do raise (significant) terminology or translation issues; and d) classifying 22 representative cases of such issues in ten special categories according to a more detailed scheme and assigning them to the three major profiles outlined by Gkasámī and Siôkou-Frágkou (1997, p. 441). For each category, we examine problematic equivalents on the basis of insights drawn from terminology theory and translation studies, and then propose a more satisfactory equivalent; where appropriate, mention is made of the relevant ISO 704:2009 principles and mechanisms for term formation, as well as, when necessary, of the analogue rule of naming (Valeontīs, 1997, pp. 44-49).

3.1 Use of the Greek equivalent followed by the SL designation in parentheses (Profile I, Category 1)

A rather frequent issue in Greek translations of international environmental conventions is the use of the Greek equivalent accompanied by the SL designation in parentheses. This is especially common when it comes to appellations of environment-relevant organisations or institutions unfamiliar to the end users of the text.

For example, in the *Cartagena Protocol on Biosafety to the United Nations Convention on Biological Diversity* (Nairobi 2000), Article 6, we find this choice in appellations such as *Mīchanismós Katáthesīs kai Antallagīs Plīroforiôn gia tī Vioasfáleia* (*Biosafety Clearing – Hose*

¹³ For full texts see <http://www.ypeka.gr>, while full URLs for each cited text appear in the bibliography.

¹⁴ E.g. the *Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (London 1999) has not (yet) been ratified.

Mechanism). Similarly, in the *Stockholm Convention on Persistent Organic Pollutants* (2001), Article 14, the same choice was applied in appellations such as *Pagkósmio Tameío Perivállontos* (*Global Environment Facility*).

A special instance of this category is to accompany the Greek equivalent of an SL term with its SL abbreviation (usually an initialism¹⁵) in parentheses; such abbreviations often stand for international designations (internationalisms). In Annex III of the *Convention on the Protection of the Mediterranean Sea against Pollution* (Barcelona, 1976), we find chemical appellations such as *dialelyménon oxygónon* [dissolved oxygen] (*DO*),¹⁶ *chīmikôs apaitoúmenon oxygónon* [chemically demanded oxygen] (*COD*)¹⁷ and *viologikôs apaitoúmenon oxygónon* [biologically demanded oxygen] (*BOD*).¹⁸ Such use of the SL initialisms along with the Greek equivalents of the full-fledged designations obviously aims at avoiding ambiguity since, as mentioned above, the long-established environmental designations in Greek are not as numerous.

3.2 Use of the SL designation followed by its Greek equivalent in parentheses (Profile I, Category 2)

This is the reverse case of the one mentioned above. It is only sporadically observed in Greek translations of international environmental conventions and consists in the retention of the SL designation accompanied by its Greek equivalent in parentheses.

Article 1 of Annex IV of the *Protocol on Environmental Protection to the Antarctic Treaty* (Madrid 1991) stipulates that «*Ploío*» *sīmaínei ploío opoioudípote týpou pou leitourgeí sto thalássio perivállon kai symperilamvánei várkes me hydrofoil* («*iptámena delfínia*») [‘Ship’ shall mean a boat of any type that functions in sea environment, including hydrofoil boats (‘flying dolphins’)]. The purpose served by this particular choice of using both terms side-by-side was to explain the obscure (to the average speakers and lawyers) English and international technical term *hydrofoil* by providing a Greek popular ‘nickname’. However, the use of the international terminological element *hydrofoil* would only be compulsory if it were a trademark. The Greek ‘nickname’ *iptámena delfínia* [flying dolphins] could very well have been used on its own (i.e. instead of *várkes me hydrofoil*), as it is particularly widespread in Greece, a country with developed maritime transport.

3.3 Use of multiple equivalents for a designation (Profile I, Category 3)

An issue that betrays lack of a consolidated Greek environmental terminology is the use of multiple equivalents for a designation, i.e. terminological inconsistency (ISO 704:2009, p. 39), not only in different conventions, but even within a convention. Interestingly, some designations are often differently translated in subsequent protocols or amendments of a given convention, than in the main convention.

Typical examples are the different versions of the international appellation *diesel* also used in English. In Table 1 of the *Protocol to the Geneva Convention (NOx) concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes* (Sofia 1988), it is rendered as *elafrý petrélaio* (*diesel*) [light petrol], while just below, in Table 6 of the same Protocol, it is rendered as *kaúsimo ntízel* [diesel fuel]. In the *International Convention for the Prevention of*

¹⁵ For the difference between *initialisms* and *acronyms* see Crystal (1995, p. 120) and ISO 704:2009 (pp. 52-53).

¹⁶ Dissolved oxygen.

¹⁷ Chemical oxygen demand.

¹⁸ Biological oxygen demand.

Pollution from Ships (MARPOL) (London 1978), as modified by the *Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships* (London 1973), the appellation is used as a terminological element of the complex loan term *diesel oil*. In later Amendments, the loan appellations used are *diesel* (in Latin script) and *ntízel* (in Greek script). Finally, in the *LOME IV Convention* (Lomé 1989), we also find the compound, hybrid term (Hirst, 2003, p. 215) *ĩmintízel* as an equivalent of *semi-diesel*, consisting of a Greek prefix and an international appellation of German origin as its terminological elements.

For the translation of the appellation *diesel* into Greek, the equivalent *elafrý petrélaio* could be used, since it complies with most ISO 704:2009 principles for term formation except for linguistic economy, as well as derivability and compoundability.

3.4 Juxtaposition of two Greek equivalents (Profile I, Category 4)

Sometimes the choice of juxtaposing two Greek equivalents of an SL designation is observed in the Greek versions of international environmental conventions as a conscious choice, aiming at improving the acceptability and intertextuality of a given text.

In *Protocol II to the Geneva Convention (SO₂) on Further Reduction of Sulphur Emissions or Their Transboundary Flows* (Oslo 1994), the English term *coke* was translated as *optánthrakas (kōk)* [coking coal (coke)], the latter being a direct loan term transcribed into Greek. In the *LOME III Convention* (Lomé 1984), we find the term *plakoúntes (píttaí) elaiōdôn* [oil-product pies], the latter being a hybrid (Hirst, 2003, p. 215) of SMG lexicon and *kathareúousa* morphology (fem. pl. ending in *-ai* instead of *-es*). It is a usual strategy among translators to use both the current (usual) term and a (still) unfamiliar neoterm, no matter which one is mentioned first. Over the years and after the establishment of the neoterm, their parallel use becomes redundant.

Sometimes, such double equivalents are marked by a slash rather than parentheses. In the *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction* (Paris 1993), the French complex environmental term *produits chimiques toxiques* was translated as *dīlītīriōdī/toxiká chīmiká proiōnta* [poisonous/toxic chemical products]; here the translator used two Greek terminological elements, the former less technical than the latter (*dīlītīriōdī/toxiká* [poisonous/toxic]) in a rather redundant effort to enhance comprehension. The adjective *toxikós/-ī/ō* was by then current and understandable.

3.5 Use of both SMG and *kathareúousa* morphology (Profile I, Category 5)

Another peculiarity of Greek legal language (Valeontīs & Krimpás, 2014, pp. 24-25, 34, 40-41, 45-46, 48-54), including environmental LSP, is the occasional or consistent use of designations that recall *kathareúousa*, a now obsolete 'purified' register unsuccessfully mimicking Ancient Greek. For example, in the *Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sulphur Emissions* (Oslo 1994), the terminological element *coke* (as part of the multi-word term *coke ovens*) is translated once as (*foúrnoi*) *optánthraka* [coking coal ovens] (conjugation according to SMG) and later on (as part of the multi-word term *coke battery furnaces*) as (*ypsikáminoí*) *optánthrakos* [coking coal furnaces], with an ending that, although occasionally acceptable in SMG, recalls 3d declension genitive singular of *kathareúousa*.

3.6 Similarity-induced mistranslation of a designation (Profile II, Category 1)

In Table 9 of the *European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes* (Strasbourg 1986), the French term *brachiateurs*, designating animals capable of moving among trees by use of their (usually long) arms alone, has been translated into Greek as *vrachionōtá*. This is a wrong translation, since *vrachionōtós/-î/-ó* in Greek would mean ‘one who has arms’, a characteristic present in almost all tetrapod vertebrates and not only in *brachiateurs*. Moreover, such a term, although morphologically correct, does not exist in Greek zoological terminology, being rather a semantically wrong *ad hoc* coinage. This misnomer (Hirst, 2003, p. 215) seems to be due not just to the translator’s inexperience with the relevant French terminology, but also to the fact that French *brachiateur* derives from Latin **brachiatus* and ultimately from Ancient Greek *brachíōn*, i.e. ‘arm’ (SMG: *vrachíonas*). A better neoterm could be **vrachionovámona* or, haplogically, **vrachiovámona* [lit. ‘stepping by using one’s arms’].

3.7 Incomplete translation of a designation (Profile II, Category 2)

Annex I, paragraph 11, of UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus 1998) contains the term river basins (plural). In its translated versions, we find e.g. bassins fluviaux (French), Flußinzugsgebiet (German), ре́чными бассе́нами¹⁹ (instrumental case pl.) (Russian), flodbækkener (Danish), cuencas fluviales (Spanish), etc., all explicitly referring to ‘river’, with the exception of the Greek version, which has *ydrologikî lekánî* [hydrological basin], with no mention of the ‘river’ terminological element. This is an incomplete translation, and therefore an instance of mistranslation, since *ydrologikî lekánî* is actually a hyperonymous misnomer (Hirst, 2003, p. 215), not necessarily designating a river basin. IATE, as well as Chatzîmpíros, Panagiōtídīs, and Karakatsánī (2007, p. 293) give the equivalent *lekánî aporroîs potamoú* [lit. ‘river runoff basin’], which is less economical but semantically accurate. It is also worth noting that a reverse IATE search from *ydrologikî lekánî* into English does not give river basin, but numerous other terms such as catchment, drainage area, watershed, catchment area, catchment basin, drainage basin, water catchment, and hydrological basin, according to the thematic area, the date of the text, etc.

3.8 Use of an SL loan designation with no Greek transcription or transliteration (Profile III, Category 1)

Some designations in the TT have been used in their SL form as non-transcribed or non-transliterated direct loan designations, sometimes written in capital letters in order to be distinguished from their Greek context. Close analysis of our corpus suggests that the frequency of retained SL environmental designations is proportional to the age of a Convention and tends to decrease in more recently translated texts.

In the *International Convention for the Prevention of Pollution of the Sea by Oil* (Brussels 1954), the SL terms *purification*, *clarification* and *slop tank* are retained instead of being rendered by their respective Greek equivalents *katharismós*, *diaúgasî* and *dexamenî kataloípōn* or *dexamenî petrelaioeidōn kataloípōn*. Another example comes from Article 16 of the *European Convention for the Protection of Animals Kept for Slaughter* (Strasbourg 1979), which includes the following wording: *L’utilisation de la puntilla, de la masse et du merlin est interdite*. This

¹⁹ Russian Romanization according to ISO 9:1995/GOST 7.70 System A.

provision has been translated into Greek as: *Apagoreúetai ĩ chrĳsimopoĳsĳ PUNTILLA*,²⁰ *sfýras ĩ tsekourioú* [Use of the puntilla, the mallet or the poleaxe is prohibited], where the Spanish term (also borrowed in French and English) is used instead of its Greek equivalent *lóghĳĳ*, now given as an equivalent in IATE.

This category, which differs from transcribed or transliterated loan designations (see section 3.9 below) in retaining their original alphabet, is acceptable only in international appellations and symbols (see section 3.10 below).

3.9 Use of an SL loan designation in the Greek transcription or transliteration (Profile III, Category 2)

In the same vein, some English environmental terms also used in conversational registers of SMG are used in Greek transcription or transliteration instead of their native equivalents, although such Anglicisms often sound clumsy in legal contexts.

A typical example is the term *container*, which appears in Article 1 of the (*Revised*) *European Convention for the Protection of Animals during International Transport* (Chişinău 2003). Its Greek version reads as follows: *Ōs Kontĳner noeĳtai opoiodĳpote skeletokivĳtio, kasóni, skeúos ĩ állos stereós periĳktĳs* [...].²¹ IATE translates the term *container* into Greek as *emporeumatokivĳtio* (*genikĳs chrĳsĳs, metaforás ĩ pollaplĳs chrĳsĳs*) [container for general use, transport or multiple use]. The translator probably preferred the widespread and economical English term instead of native equivalents (ISO 704:2009, pp. 40, 41). The same choice was applied in Article 3 of the abovementioned *Protocol on Environmental Protection to the Antarctic Treaty* (Madrid 1991), where the term *tanker* is rendered as *tánker*, although it had been earlier rendered as *dexamenóploio* [lit. ‘tank ship’] in the *International Convention for the Prevention of Pollution from Ships* (MARPOL) (1973), as modified by the *Protocol of 1978 relating to the International Convention for the prevention of pollution from ships* (London 1978). Of course, the transliteration *tánker* is problematic also because the consonant sequence *nk* is not acceptable in historical Greek script, which uses *gk* instead.²²

Another example is found in Annex II, Article 1, of the aforementioned *Protocol on Environmental Protection to the Antarctic Treaty* (Madrid 1991), which reads as follows: *Ī chrĳsimopoĳsĳ ochĳmátĳn ĩ ploĳĳn symperilamvanoménĳn tĳn chóver-krafts*²³ [...].²⁴ IATE contains various multi-word equivalents of the English term *hovercraft*: *aeróstrĳmno óchĳma* [lit. ‘air padded vehicle’], *epivatikó aeróstrĳmno óchĳma* [lit. ‘padded passenger vehicle’], *aeroproskefalikó óchĳma* [lit. ‘air cushioned vehicle’], *óchĳma strĳmatos aéra* [lit. ‘air pad vehicle’], *skáfos epĳdrasĳs epifáneias* [lit. ‘surface effect vessel’], *óchĳma kinoúmeno epánĳ se maxilári aéra* [lit. ‘vehicle moving on air cushion’], *skáfos kinoúmeno se strĳma aéros* [lit. ‘vessel moving on air pad’], *aerolisthaĳnon óchĳma* [lit. ‘air sliding vehicle’], etc. The multiplicity of equivalents suggests that there is no specific, widespread term in Greek. Besides, most of these equivalents are neither economical (ISO 704:2009, p. 40), nor apt for derivability or

²⁰ Capitals in original.

²¹ ST: “Container” means any crate, box, receptacle or other rigid container [...].

²² The sequence *gk* was pronounced [ŋk] in Ancient Greek; however, its Modern Greek pronunciation is [ŋg] or [g] (depending on geographic variety, register or sociolect), which led to the emergence of the orthographically peculiar and historically unjustified *nk* to represent [ŋk]. The same is true of Ancient Greek *gg* [ŋg] and Modern Greek *ngk* (e.g. *párkingk* < *parking*).

²³ Greek transliteration of *hovercrafts*.

²⁴ ST: using vehicles or vessels, including hovercraft [...] boats.

compoundability (ISO 704:2009, p. 40), thus preventing native speakers from using them. We argue that, at least in this context, *aeróstrōmno* or *aerolisthaínon óchīma* would be preferable for combining linguistic economy, an acceptable degree of transparency (ISO 704:2009, p. 39), and native language (ISO 704:2009, p. 41).

3.10 Use of international appellations and/or symbols (Profile III, Category 3)

Regarding animal and botanical appellations in International Environmental Conventions, the binomial nomenclature is widely used, consisting of the combination of the genus and species Latin appellations. Such appellations are – and should be – retained in the translation of the text, regardless of SL. However, the Latin appellations are occasionally accompanied by the respective conversational appellations. Things get more difficult for the translator in cases of concepts unknown of in the target culture.

For example, in the (*Revised*) *International Convention for the Protection of Plants* (Rome 1997), Article 14, the term *Phylloxera vastatrix* is used alone, although the Greek term for this particular plant disease is widely known among agriculturalists and botanists (*fylloxíra*), and could well accompany the Latin name. The use of Latin appellations is, of course, indispensable in scientific and legal contexts – therefore also in international environmental conventions – for being internationally standardised and unambiguous.

However, in Appendix I, Article 1, of the *International Convention for the Regulation of Whaling* (Washington 1946), the English conversational appellations of two related whale species have been retained in the TT, accompanied by their Latin appellations (the second one abbreviated): *fálaina minke* (*Balaenoptera acutorostrata*, *B. bonaerensis*) *sīmaínei opoiadīpote fálaina gnōstī ōs lesser rorqual*, *fálaina little piked*, *fálaina minke*, *fálaina pike-headed î sharp headed finner*.²⁵ This is justified because this marine mammal does not exist in Greece. In this definition, a terminological element of the conversational appellation *minke whale* is used as the second terminological element of the Greek equivalent, its first terminological element being *fálaina* [whale]; in this definition all English conversational appellations are used in the SL alphabet.

Another interesting issue arises in the aforementioned *Stockholm Convention on Persistent Organic Pollutants* (2001), which contains the chemical appellation *chloranil*. In its Greek version, the appellation is retained without transcription, since no Greek equivalent term was by then current; nowadays, the Greek equivalent *chlōranīlī* is used, though still rarely.

Finally, in the Greek version of the *Convention on Environmental Impact Assessment in a Transboundary Context* (Espoo 1991), all symbols and appellations of measurement units (*m*, *m³*, *kilowatt*) have been retained; this choice is right, since international symbols acquire legal meaning in international conventions, therefore any ambiguity must be ruled out.

4. Conclusions

As illustrated by our categorisation of terminology-related translation issues in international conventions on environment matters, all special categories fall under one of the three major profiles proposed by Gkasámī and Siōkou-Frágkou (1997, p. 441), in particular:

a) five special categories fall under multiple translation, namely the use of the Greek equivalent followed by the SL designation in parentheses (five instances: two appellations,

²⁵ ST: “minke whale” (*Balaenoptera acutorostrata*, *B. bonaerensis*) means any whale known as lesser rorqual, little piked whale, minke whale, pike-headed whale or sharp headed whale.

three terms); the use of the SL designation followed by the Greek equivalent in parentheses (one instance: term); the use of multiple equivalents of a designation (one instance: appellation, also used as a terminological element); the juxtaposition of two Greek equivalents (two instances: terms); and the use of both SMG and *kathareúsousa* morphology (one instance: term);

b) two special categories fall under mistranslation, namely the similarity-induced mistranslation of a designation (one instance: term), and the incomplete translation of a designation (one instance: term); and

c) three special categories fall under non-translation, namely the use of an SL loan designation with no Greek transcription or transliteration (four instances: terms), the use of an SL loan designation in Greek transcription or transliteration (three instances: terms), and the use of international appellations and/or symbols (three instances: appellations, one also used as a terminological element).

Four out of ten translation issue special categories involve the use of the SL (mostly English, sometimes French) designation, since English terminology is more common and widespread, which makes translators include it to avoid ambiguity. Furthermore, the two instances of mistranslation discussed here may lead to ambiguity about important environmental concepts.

Our representative corpus of sample texts, extracted from a much larger corpus of international conventions on environment matters, suggests the need for careful use of older environmental legal texts, since some Greek renderings are often variously unsatisfactory and products of ‘improvisation’; both the inclusion of the SL designation in brackets, accompanying the TL equivalent (Tagkas, 2014, p. 281) and the retention of the SL designation accompanied by a TL equivalent in brackets betray the translator’s insecurity in such contexts.

The problem of non-standardised environmental terminology does exist and has been pointed out in the relevant literature (see section 2 above). Establishing and commonly accepting a monosemous and mononymous terminology for the environmental thematic area would be more than welcome. Coining and using new environmental terms could be less difficult for Greeks, since Greek is the ultimate source of many environmental (including ecological, biological, maritime, etc.) terms and terminological elements (Karadîmou & Krimpás, 2015, pp. 261-266). However, Greeks themselves cannot sometimes recognise the Greek-ness of words such as *plagktón* (*plankton*) and use them as if they were foreign, indeclinable nouns, while they are not always aware of false friends. This evinces the need for an improved and more interlinguistically directed language education in the Hellenic Republic.

The challenge for environmentalists as well as for terminologists and environmental text translators is to move towards: a) creating new environmental terms on the basis of terminologically acceptable principles for term formation; b) recording and standardising the existing environmental terms; and c) spreading environmental terms not yet widely used. A better environmental terminology and better environmental translations can lead to an improved understanding among scientists, translators, lawyers, politicians, and the wider audience internationally, and result in an improved cooperation beneficial for the environment and the humanity. To quote Valero Garcés (2014, p. 4): “Neither the importance of translation in general nor its significance for environmental studies should be underestimated.”

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