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Lexicography and the translation of 'cedars of Lebanon' in the Septuagint

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Botanical terms in the Septuagint reveal a mass of uncertain and sometimes contradictory data, owing to the translators' inadequate and inaccurate understanding of plants. To understand the metaphorical and symbolic meaning of plants, the new approach represented by Biblical Plant Hermeneutics places the taxonomy of flora on a strong ethnological and ethnobotanical basis by studying each plant *in situ* and gathering indigenous knowledge about the plant and its context in the biblical text. This article applies this methodology to the translation of the Hebrew source text term אֶרֶז [cedar] in the Septuagint as κέδρος [cedar] or κέδρινος (the adjectival form of κέδρος) and its interpretation in the light of lexicography, which lead to contradictory identifications. A complexity theoretical approach is proposed to provide a solution for the various identification choices in the light of lexicography to communicate the cultural values of the Hebrew source text and its Greek translation.

Introduction

Cultural knowledge is controlled, shaped and construed by means of the impact of designation, identification and classification assigned through the choices made in translation (Du Toit & Naudé 2005:33–58). A close look at the translation of botanical terms in the Septuagint reveals a mass of uncertain and often contradictory data. Owing to inadequate knowledge of the native plants and the tendency, in dubious cases, to assign to the plants of the Hebrew Bible names familiar to the translators, discrepancies, inaccuracies and confusion abound in translation (Zohary 1982:14). The botanical terms were interpreted and translated by the translators as a result of their own foreign frame of reference on the basis of anachronistic and undetermined botanical data available to them. On the one hand, ancient translators of the Septuagint often had no idea what particular species of tree or plant was the referent of the discourse and, as a result, provided what they considered a suitable familiar or local substitute (Naudé & Miller-Naudé forthcoming a). On the other hand, even when the translators thought they knew what tree was referred to (given their knowledge of Hebrew, botany or earlier translations and traditions), they still frequently read into the text what suited them (Naudé & Miller-Naudé forthcoming b). Even the Septuagint names many plants that are not found in the land of Israel but may possibly grow elsewhere in the Mediterranean (Zohary 1982:14).

The new approach of Biblical Plant Hermeneutics places the taxonomy of flora on a strong ethnological and ethnobotanical basis – that is, each plant must be studied *in situ* and the indigenous knowledge about the plant and its uses must be considered as well as its context in the biblical text (Musselman 2012; Zohary 1962; 1973). Zohary (1982:12–13) uses Aramaic and Arabic as comparative languages for shedding more light on some of the uncertain botanical terms in the Bible. His argument is that during the Roman and Byzantine occupations (70 BCE to 640 CE), Jewish (Aramaic-speaking) peasants continued to farm their land and that endeavour kept alive a rich vernacular tradition of terms pertaining to plants and agriculture. After the Muslim conquest in 640 CE, the long-established agricultural tradition of the local inhabitants was preserved through the absorption of the various plant names into Arabic. In quite a number of instances flora referred to in biblical discourse have metaphorical or symbolic applications (Bloch 1995:13–17). In these cases, the metaphorical and symbolic uses of flora must be contextually determined but consonant with the Israelite classification and valorisation of the plants.[1]

1.Abrams (1999:97, 311) defines *simile*, *metaphor* and *symbol* as follows: *Simile* is a figure of speech involving the comparison of one thing with another of a different kind, as an illustration (A is like B). *Metaphor* is the application of a name or descriptive term or phrase to an object or action to which it is imaginatively but not literally applicable without asserting a comparison (A is B). Metaphors are regarded as condensed or elliptical forms of similes and consist of the presentation of the underlying analogy or similarity. In discussing literature, *symbol* is applied only to a word or phrase that signifies an object or event, which in turn signifies something (e.g. 'the cross'). See also Todd and Clarke (1999:249–68) and Jenni (1994:34, 37).

These observations pertain to the translation of the Hebrew term אֶרֶז [cedar] translated as κέδρος [cedar] or the related adjective κέδρινος in the Septuagint but identified differently in lexicographical works.[2] The aim of the article in the first instance is to provide a description of these identification choices in light of lexicographical contradictions within a complexity theoretical approach (Marais 2014).[3] The second aim is to determine the Israelite classification and valorisation of the cedar as well as the contextual, metaphorical and symbolic uses of it. The hypothesis is that the term אֶרֶז is utilised in the Hebrew source text with a specific species in mind and to convey a specific metaphoric or symbolic meaning, whereas the translators of the Septuagint used Greek terms which were available to them and provided what they considered a suitable familiar or local substitute. Although it is impossible to know who the translators were or precisely when or where they lived, it is indisputable that they lived at a time and culture, if not a location, different from those who produced the Hebrew source text. By a careful comparison of the translation terms as compared to the source terms, it is nonetheless possible to ascertain the level of botanical knowledge of the Greek translators.

The paper is organised as follows: In the next section the contradictory identifications in the Hebrew and Greek lexicographical works of the term אֶרֶז and its translation as κέδρος or κέδρινος in the Septuagint are discussed. This is followed by an exposition of the ethnological and ethnobotanical data and indigenous knowledge concerning the Israelite classification and valorisation of the cedar as well as its contextual, metaphorical and symbolic uses.

The identifications in the lexica of the term אֶרֶז and its translation as κέδρος or κέδρινος in the Septuagint

According to Andersen and Forbes (1989:51) and Lisowsky (1993/1958:139–140) there are 73 occurrences of the form אֶרֶז, one occurrence of the form אַרְזָה (Zph 2:14) and one occurrence of the form אֲרָזִים (Ezk 27:24) in the Hebrew Bible.

According to Muraoka (2010:154) there are five translation terms in the Septuagint for אֶרֶז. They are κέδρος [cedar] or κέδρινος (the adjectival form), κυπάρισσος [cypress] or κυπαρίσσινος (the adjectival form), and ξύλον [wood, tree]. There are also cases of non-translation of the source text item.[4]

The translation term κέδρος is used in Classical Greek. Liddell and Scott (1968:934) translate it with 'cedar-tree', 'anything made of cedar-wood'; 'a cedar coffin', 'a cedar box' and 'cedar-oil'. According to Liddell and Scott (1968:934) the term was applied by ancient authors to the prickly cedar (*Juniperus oxycedrus*), Syrian cedar (*Juniperus excelsa*), Phoenician cedar (*Juniperus phoenicea*), Himalayan cedar (*Juniperus macropeda*) and juniper (*Juniperus communis*). Montanari, Goh and Schroeder (2015:1107) are less explicit. In addition to 'object made of cedar wood', they provide 'cedar' ('Syrian cedar' and 'Phoenician cedar') and 'juniper' as translations without providing the genera or species.[5] The Septuagint lexica of Chamberlain (2011:97), Lust, Eynikel and Hauspie (2003:336) and Muraoka (2009:394) provide only the English translation 'cedar' without mentioning the species; this presents a problem in light of Liddell and Scott's more precise description of the various species that can be referred to with the term κέδρος. As a result, it is not clear if the identification of Liddell and Scott is supported by Chamberlain, Lust et al. and Muraoka. Lewis and Short (1945/1879:308) refer to *Juniperus oxycedrus* as the identification of the Latin *cedrus*, which is translated as 'the cedar', 'juniper-tree'. According to Hatch and Redpath (1998/1902:758) there are 38 cases of κέδρος in Rahlfs and Hanhart (2006) as translations for אֶרֶז in the Hebrew Bible and two cases in Sirach. The translation term κέδρινος is used to typify the products manufactured from cedar wood (Liddell & Scott 1968:934; Montanari et al. 2015:1107). According to Hatch and Redpath (1998/1902:758) κέδρινος is used in 23 cases in Rahlfs and Hanhart (2006) to translate אֶרֶז in the Hebrew Bible and two cases in 1 Esdras.

It seems clear that where the translation of the term אֶרֶז in the Septuagint is κέδρος, it refers to the genus *Juniperus* of the cypress family (Cupressaceae) but the precise species is debatable.

The term אֶרֶז has different nuances in the various traditions of the Hebrew lexica. Under the root ארז, the lexicon of Brown, Driver and Briggs (1979:72) handles the term אֶרֶז (masculine noun), which refers to the (1) 'cedar-tree, (a) as growing'; '(b) especially in similes, of outward power, stateliness and majesty'; similes of straightness and strength; (2) 'cedar-timber, cedar-wood for building'; (3) 'cedar-wood used in purifications'; the term אַרְזָה (feminine noun), which refers to 'cedar-panels', 'cedar-work'; the term אָרוּז (adjective) referring to the properties 'firm, strong' (reflecting the view of Albert Schultens); and מֵרוֹז as a noun proper name locative referring to Meroz in northern Palestine. However, there is no specific botanical identification of the tree.

The Brown-Driver-Briggs tradition is based on the lexicon of William Gesenius (1847), as translated and enlarged by

2.The translators of ancient and modern translations used the term as a domesticated loanword: Greek, *kedros*; Latin, *cedros*; German (900), *Zeder*; Middle English (1000), *cedre*; French (1200), *cèdre*; Afrikaans (1902), *seder*; Southern Sotho (1909 and 1989), *kedare* (*kedare ya Lebanone*).

3.Naudé (2009) concluded that the analysis of complexity of the Septuagint as a translation within complexity theory is the next project in future research of the Septuagint. See also Cook (2017:11–12).

4.This article examines only those cases in which אֶרֶז is translated with κέδρος [cedar] or κέδρινος; for an analysis of the other translation equivalents of אֶרֶז, see Miller-Naudé and Naudé (2018).

5.The plant kingdom is divided into divisions, classes, orders, families, genera and species (Wilson 1980:8–9). For example, seed-bearing plants (like a daisy) belong to the division called *Spermatophyta*. Because it is a flowering plant, it falls into the class *Angiospermae*, and belongs to the order of *Asterales*, that is, the flowers are characteristically grouped into compact heads that superficially resemble individual flowers. The family is the *Compositae*, because the daisy has composite flowers – made up of many smaller flowers called florets. The daisy belongs to the genus *Bellis*. Within the genus there are a number of species, for example, *perennis*.

Edward Robinson.[6] According to Robinson (1871) his dictionary is edited (i.e. corrected) and enlarged by condensations from the thesaurus of Gesenius as completed by E. Rödiger, as well as the German editions of Gesenius' *Handwörterbuch über das Alte Testament*. The Latin version of Gesenius (1847), which served as the basis for the translation of Edward Robinson in 1836 and then of Tregelles (1950/1857), is influenced by the dictionary of Winer (1828).

Winer (1828:90) relates the root ארז *inter alia* to the Arabic *ʾaraza* after Albert Schultens with reference to concepts like firm, stable; a tree that has firm roots. Hence, the participle אֲרֻזִים in Ezekiel 27:24 refers to firm construction; although Winer (1828:90) states that there are others who interpret it as of cedar-wood/made of cedar. With reference to Leviticus 14:4, Numbers 19:6, 1 Kings 6:18 and so on, the term אֶרֶז refers to cedar, because of strong and stable roots. Winer (1828:90) adds that *Cedrum libani* is native to the Lebanon mountains specifically but that Celsius considered אֶרֶז as *pine.* Winer (1828:90) has the view that the origin of the word (etymon) is best within the *pine* domain, based on his reading of the testimony of Theophrastus on the length of its roots. The translation of Robinson (1871:85–86) (as well as that of Tregelles 1857:78) does not add new information to Gesenius (1847:85).

Following Winer (1828:90), Gesenius (1847:85) and the translations of Robinson (1871:85–86) and Tregelles (1950/1857:78) relate the term אֶרֶז to the root ארז with the Arabic meanings as indicated above. They also mention that many take the passive participle אֲרֻזִים to mean 'made fast, made firm' but that almost all the old translators have rendered the participle as 'made of cedar' and this is the preferred interpretation. They also repeated the viewpoint of Winer (1828:90) that the term אֶרֶז refers to 'cedar' and is so called because of 'the firmness of its roots which is remarkable in trees of the pine kind' with reference to the history of plants by Theophrastus. According to their interpretation of Theophrastus and Pliny the Elder they identified אֶרֶז as the *Cedrus conifera*, a tree uncommonly tall (Is 2:13; 37:24; Am 2:9) and wide-spreading (Ezk 31:3), formerly very abundant in Lebanon (Ps 29:5; 92:13; 104:16) 'but now reduced to a very small number' according to botany literature of the time. It is further stated that its wood is odoriferous, without knots, and not liable to decay and was used therefore for building and adorning the temple and royal palaces, especially for wainscots and ceilings. Hence, it was used for cedar work as described in 1 Kings 6:18. Similar to the Ethiopic and Aramaic terms, the Arab term *ʾarz* is still used by the inhabitants of Lebanon. Gesenius (1847:85), Robinson (1871:85–86) and Tregelles (1950/1857:78) therefore concluded that there is no need to deny אֶרֶז to be 'the cedar' and to make it 'the pine', as done by Celsius. Concerning אַרזז, in contrast to Winer (1828:90), Gesenius (1847:85), Robinson (1871:85–86) and Tregelles (1950/1857:78) put the emphasis on 'made of cedar' instead of 'firm, stable'.

6.His methodology is based on the contextual usage of the Hebrew Bible, the Jewish knowledge as reflected in their commentaries, and comparison with related dialects (Holtz 2013:507). With the emphasis on etymology, the words are not organised alphabetically but according to triliteral roots.

The meanings in Gesenius (1847:85) are followed by Wilson (1972 [1870]:70). Mühlau and Volck (1878:73) provide a summary of Gesenius (1859:90), utilising only the term 'cedar' as translation.

According to Köhler and Baumgartner (2001:86), who represent a second tradition of Hebrew lexica, the term אֶרֶז refers to a kind of tree, and its wood, from Lebanon, is used for beams, paneling and pillars.[7] They mention that it is traditionally translated as 'cedar' and identify it as *Cedrus libani barrel*. However, according to Köhler and Baumgartner (2001:86) the latter does not have a trunk that is long for building purposes or for flagpoles, and the term must rather be translated as 'fir' and be identified with *Abies cilicia* or another evergreen with a long trunk or with other tall-growing conifers. This viewpoint is argued for by Köhler (1937:163–165).[8]

Clines (1993:373, 2009:32) provides 'cedar (of Lebanon)' as the translation of the term אֶרֶז but states that it is sometimes to be identified with a species of juniper (*Juniperus oxycedrus* or *Juniperus phoenicia*).[9] It is not clear how Clines derived this identification, because in his lexicon meanings are determined only by context and not from data derived from cognate languages.[10]

The *Semantic Dictionary of Biblical Hebrew* (SDBH) (www.sdbh.org) is an online dictionary currently in progress based upon cognitive semantics (see De Blois 2013). It describes אֶרֶז as an 'evergreen tree growing up to 40 m tall, with a trunk up to 2.5 m in diameter; as it grows older its branches spread out more and more horizontally; it grows in elevated places'. It is identified as *Cedrus libani* and is described as a 'highly appreciated building material; also used in cleaning ritual; ≈ associated with beauty, quality, pride, and strength'. English translations 'cedar' and 'cedar wood' are suggested. The following contexts are provided for the translations:

> beauty, size, status, strength: cedar (as a beautiful, strong and imposing tree)
> clean and unclean: cedar wood (used in a cleansing ritual)
> construction: cedar wood (of high quality, used for construction)
> plant > human: cedar (personified).

In Rabbinic Hebrew (Jastrow 1967:117) and in Modern Hebrew (Alcalay 1963–1965:155; Sivan & Levenston 1975) the

7.Köhler and Baumgartner published the first edition in 17 installments from 1948–1953 and a one volume issue in 1953. A second edition was published in 1958. The corrections to the first edition were published in a supplement, which also included a German-Hebrew and a German-Aramaic glossary, as well as lists of botanical and zoological terms. The third edition appeared from 1967 to 1996 in German with an English translation in 1995 and draws on the latest scholarship. The entries in all three editions are organised alphabetically by form. By including data from cognate languages, it maintains the traditional etymological focus.

8.Köhler (1937), Köhler and Baumgartner (1967) and Köhler and Baumgartner (2001) label the species as *Abies cilicia* rather than *Abies cilicica*. The term *Abies cilicica* as found in Köhler and Baumgartner (1953, 1958) reflects the currently accepted term in the Catalogue of Life.

9.In this dictionary the meanings of words are determined strictly according to usage in context, without any mention of cognates. Entries report words' relationships to other words by including collocational information such as the subjects and objects of verbs, adjectives that regularly modify nouns and words' synonyms and antonyms. It includes all Hebrew textual sources before 200 CE (Holtz 2013:509).

10.See the criticisms levelled by Andersen (1995) against the dictionary with regard to the failure to acknowledge lexical meaning derived from cognate languages, the ancient versions and later varieties of Hebrew.

term ארז is only translated as 'cedar'. In Ugaritic (Gordon 1965:365) and Arabic (Wehr 1958:11) the cognate term is translated as 'cedar'. According to Payne Smith (1979 [1903]:28) the translation of the cognate Syriac term is 'cedar' or 'pine'; however, Sokoloff (2009:97) has only 'cedar' as a translation.

To summarise, the Brown-Driver-Briggs tradition and SDBH utilise the term 'cedar' as translation and identify the tree with a species within the genus of cedar (*Cedrus*; SDBH = *Cedrus libani*). Earlier in the Brown-Driver-Briggs tradition there is also reference to 'pine' (*Pinus*), an identification that was later rejected. In contrast, the Köhler-Baumgartner tradition prefers the translation 'fir' and an identification with *Abies cilicia.* However, note that 'cedar', 'pine' and 'fir' refer to three different genera within the family of conifers, Pinaceae. It is only the Clines tradition which puts the identification within another family, namely, the cypress family (Cupressaceae) by identifying the term אֶרֶז with species within the genus *Juniperus*. It seems that the Clines tradition has a similar identification with the Septuagint species of trees constituting the genera *Juniperus* (the term κέδρος).

Although Noth (1968:90–92) supports the viewpoint of Köhler (1937), he has the further view that the term אֶרֶז does not refer to an exact botanically defined species but to the mighty Lebanon trees. However, Noth (1968:91) explicitly states that it is not to be identified with the *cypress* species, for example, *Cupressus sempervirens* L.

It is clear that there are contradictions in Hebrew dictionaries themselves as well as between the Hebrew and the Greek dictionaries concerning identification. Dictionaries also differ in terms of the nature of information provided as well as the amount of botanical information that can be used for the identification of the species (providing botanical information or refraining from providing it). The nature of dictionaries will be addressed briefly in the next section.

Dictionaries and the nature of botanical information

In general terms one may describe the development in linguistics of the last two centuries as a movement from the study of words to that of the sentence and eventually to the study of language use, for example, in texts.[11] In line with the spirit of historicism of the 19th century, understanding the history of a word implied understanding it. In the first half of the 20th century this notion changed drastically with the advent of structuralism. Understanding an expression was no longer associated with its history (i.e. diachrony) but understanding the syntagmatic and paradigmatic relationships it may enter into (i.e. synchrony) (see Naudé 2002). The pragmatic turn in linguistics occurred at the beginning of the 1980s with the interest in the use of language. It involves *inter alia* developments in the field of pragmatics, cognitive linguistics and anthropological linguistics. Pragmatics accounts for both the cognitive and social realities of language use and impacts on lexicography. Assuming that the meaning of a word is more than linguistic information as such, and that it is also a cognitive and cultural representation of the world, implies that a relationship between images and words on the one hand and experience (cognition) of the language user on the other must be established in an attempt to find cultural explanations for these conceptions. However, in the past the information that was presented in dictionaries was primarily linguistic in nature.

Words and their meanings are too multifaceted to be adequately conceptualised in terms of only one elementary concept or idea. What is required is an explanation that is actually a whole set of simultaneous, interacting understandings. The open interplay of multiple interacting elements and forces, such as cognition, consciousness, experience, human interaction, society, culture, history and so on force the view that words and their meaning comprise a complex phenomenon in which the effects of these components are connected. Complexity theory has in the recent past emerged as a new paradigm, not only for applied linguistics (Larsen-Freeman & Cameron 2008) but also for gaining a new perspective on language (Ellis & Larsen-Freeman 2009) and, recently, translation studies (Marais 2014).

This view clearly steers away from the modernist tendency to reduce the sole or main explanatory principle of the nature of words and their meanings in terms of a single dimension or modality of reality. Such explanatory one-sidedness or reductionist practice characterises lexicography throughout its history. A few examples will suffice: Older lexicons tended to catalogue uses of words rather than their meanings. Clines (1993; 2009) uses only the contexts of words and omitted cognate information and diachronic language data. SDBH uses only semantic domains. Though each of these approaches play a role in lexicography, none is sufficient to explain all aspects of meaning. At the same time, the complexity viewpoint sets itself apart from postmodernism, whose response is also a reductionist practice of reality by fragmenting it and to deny wholeness by making it multiple, hybrid and difficult to grasp (Larsen-Freeman & Cameron 2008:1). In contrast to modernist and postmodernist tendencies, complexity theory embraces complexity, interconnectedness and dynamism (Larsen-Freeman & Cameron 2008:1; see also Ellis and Larsen-Freeman 2009; Givón 2009; Sampson, Gil & Trudgill 2009). The argumentation is in favour of a multilevel, hierarchical view of the language reality in which causality is a non-linear, complex phenomenon that is reciprocal (Larsen-Freeman & Cameron 2008:7, 60).

11.See Naudé (1985:12–41) for an overview of the various traditions of the Hebrew lexica before 1800 as well as the modern developments since 1800, namely the Brown-Driver-Briggs tradition and the Köhler–Baumgartner tradition. Barr (1992) surveys the development of Hebrew lexicography with special attention to the various aspects that should be included in lexicographic analysis. Holtz (2013:507–510) provides a short overview of the state of the art of Biblical Hebrew lexicography, including Clines' dictionary.

In contemporary Biblical Plant Hermeneutics each plant must be studied *in situ* and the indigenous knowledge about the plant and its uses must be considered as well as its context in the biblical text (Musselman 2012; Zohary 1962; 1973). Botanical information thus comprises one aspect of lexicographical inquiry within a complexity approach. In understanding the terms אֶרֶז and κέδρος, the starting point must be their precise identification as flora. Both terms are understood to refer to conifers. Conifers are scientifically identified as the order Pinales (previously known as Coniferales).[12] Pinales consists of eight families, of which two are important to our discussion, namely Pinacea and Cupressaceae.[13] The family Pinacea consists of 11 genera: *Abies* (47 species), *Cathaya* (1 species), *Cedrus* (3 species), *Keteleeria* (3 species), *Larix* (11 species), *Nothotsuga* (1 species), *Picea* (38 species), *Pinus* (113 species), *Pseudolarix* (1 species), *Pseudotsuga* (4 species) and *Tsuga* (9 species). The genus *Cedrus* has three species: *Cedrus atlantica*, *Cedrus deodara* and *Cedrus libani*, with two varieties, *brevifolia* and *libani*. Only *Cedrus libani* grows in the Levant. The family Cupressaceae has 30 genera, of which two are important here: *Cupressus* (15 species) and *Juniperus* (53 species).

The Hebrew and Greek lexica cited above are often vague and sometimes contradictory in their botanical identifications of the terms אֶרֶז and κέδρος. What is particularly fascinating is their reliance, in diverse ways, on two classical descriptions of flora – Theophrastus and Pliny the Elder – for the botanical features of the terms and their identification.

Based on the characteristics of plants, Theophrastus (370–285 BCE)[14] in his *Inquiry into Plants* (Book III, XII:3) provides the following description concerning κέδρος:

> The 'cedar', some say, has two forms, the Lycian and the Phoenician; but some, as the people of Mount Ida, say that there is only one form. It resembles the *arkeuthos* (Phoenician cedar),[15] differing chiefly in the leaf, that of 'cedar' being hard, sharp and spinous, while that of *arkeuthos* is softer: the latter tree also seems to be of taller growth. However some do not give them distinct names, but call them both 'cedar' distinguishing them however as 'the cedar' and 'prickly cedar.' Both are branching trees with many joints and twisted wood. On the other hand *arkeuthos* has only a small amount of close core, which, when the tree is cut, soon rots, while the trunk of 'cedar' consists mainly of heart and does not rot. The colour of the heart in each case is red: that of the 'cedar' is fragrant, but not that of the other. The fruit of 'cedar' is yellow, as large as the myrtle-berry, fragrant, and sweet to the taste. That of *arkeuthos* is like it in other respects, but black, of astringent taste and practically uneatable; it remains on the tree for a year, and then, when another grows, last year's fruit falls off. According to the Arcadians it has three fruits on the tree at once, last year's, which is not yet ripe, that of the year before last which is now ripe and eatable, and it also shews the new fruit. Satyrus said that the wood-cutters gathered him specimens of both kinds which were flowerless. The bark is like that of the cypress but rougher. Both kinds have spreading shallow roots. These trees grow in rocky cold parts and seek out such districts. (translation 1999/1916:235, 237)

Pliny the Elder (23–79 CE) in his *Natural History* (Book XIII, IX:52–53) is even more explicit concerning the identification of different species:

> Phoenicia has a small variety of cedar that resembles a juniper. It is of two kinds, the Lycian and the Phoenician, which have different leaves; the one with a hard, prickly, pointed leaf is called the oxycedros, while the other is a branchy tree and the wood is full of knots and has a better scent. They bear fruit the size of a myrtle-berry, with a sweet taste. The larger cedar also has two kinds, of which the flowering one bears no fruit, while the one that bears fruit does not flower, and in its case the previous fruit is replaced by a new one. Its seed is like that of the cypress. Some people call this tree the cedarpine. From it is obtained the resin held in the highest favour, while its actual timber lasts for ever, and consequently it has been the regular practice to use it even for making statues of the gods – the Apollo Sosianus in a shrine at Rome, which was brought from Seleucia, is made of cedar-wood. There is a tree resembling the cedar in Arcadia and a shrub in Phrygia is called the cedrys. (translation 1860:129, 131)

Both Theophrastus and Pliny utilise their own environment to attempt to describe and understand κέδρος. In so doing, they made identifications with trees that are not in Lebanon. A similar situation obtains in ancient Egypt, where it is problematic to identify any of the pertinent Egyptian terms for plant products (*ʿs, sḫt, mrw*) specifically with *Cedrus libani*, even though cedars from Lebanon were a critical feature of trade between Egypt and the Levant (Ward 1991).

These early botanical descriptions are subsequently utilised in a variety of ways in the Hebrew and Greek dictionaries. Gesenius (Trelleges 1950/1857:78) uses Theophrastus to argue that κέδρος is the *cedar* based upon the features attributed to אֶרֶז in the biblical text: the tree is 'uncommonly tall', 'wide-spreading' and used for building and adorning the temple and royal palaces. Citing Ritter as further confirmation, Gesenius argues that 'there was therefore no need to deny אֶרֶז to be *the cedar*, and to make it *the pine*, as done by Celsius in Hierob. i. 106, seq' (Tregelles 1950/1857:78). Gesenius is thus employing the methodology of Biblical Plant Hermeneutics within a complexity approach in which he utilises botany, the contexts of use within the biblical text, cognate languages and all information available at his disposal to identify the term. By contrast, Köhler (1937:163–165) employs a reductionist approach by understanding the characteristics of cedars based upon European varieties in which the trunks are branching and too short for the kind of massive building uses described in the biblical text. As a result, he identified the אֶרֶז with another species, *Abies cilicia*,

12.The botanical taxonomic information is from the Conifer Database (Farjon, Gardner & Thomas 2018), which is part of the comprehensive online Catalogue of Life (www.catalogueoflife.org; accessed 18 April 2018). It includes both extant and extinct species.

13.Families of conifers are defined by the structure of the seed cones.

14.Theophrastus is viewed as the father of botany and was a student of Aristotle. He reflected the philosophy of his teacher and of Plato, Aristotle's teacher, by classifying all plants on the basis of form and texture. Although he brought plants together by these groupings, he recognised only vaguely relationships among them (Lawrence 1951:14–15). This system, propounded by the Greeks, which is based primarily on the habits of plants, extended to the middle of the 18th century and also typified the early books on Bible plants (Lawrence 1951:14–18).

15.This refers to the juniper tree (Muraoka 2009:91).

which grows 10 m–25 m high and is of the genus *Abies* rather than *Cedrus* within the family Pinaceae. This mistaken identification could have been avoided by an examination of the species of trees *in situ* in Lebanon.

The Greek dictionaries – Liddell and Scott (1968:934) and Montanari et al. (2015:1107) – also employed a reductionistic strategy. They read Theophrastus and Pliny based upon their environmental worldview, which was far removed from the Levant. They read Theophrastus as making possible an identification of κέδρος with different species in the genera *Juniperus* in the cypress family (Cupressaceae). Pliny's more explicit description strengthened their view connecting κέδρος to *Juniperus*. The reductionistic strategy of the Greek dictionaries in which plant hermeneutics did not play a proper role resulted in an incorrect identification of κέδρος with *Juniperus* rather than *Cedrus*.

In the following section is a description of the translation of the term אֶרֶז as κέδρος in the Septuagint. It will be determined if there are shifts in the specific metaphoric or symbolic meaning as conveyed in the source text.

An analysis of the term אֶרֶז and its translation as κέδρος in the Septuagint

The translation of the term אֶרֶז in the Hebrew Bible as κέδρος in the Septuagint

The term אֶרֶז in the source text and its translation κέδρος are associated specifically with Lebanon, which is retained in the translation (compare examples 1 and 2).[16] The cedars of Lebanon (*Cedrus libani*) (Hebrew, אֶרֶז בַּלְּבָנוֹן; Greek, κέδρος ἐν τῷ Λιβάνῳ) never grew within the boundaries of Israel.[17] They are restricted to higher elevations on the Lebanon ridge (1500 m–1900 m above sea level), where the western wind from the Mediterranean brings moisture in the form of rain, fog and snow. A tiny fraction of the original cedar forests remain in Lebanon. Natural stands of cedar also occur in Cyprus, Syria and in the Taurus Mountains of Turkey, where ample moist air provides a receptive habitat (Musselman 2006:576–577).

1. Zechariah 11:1[18]

פְּתַח לְבָנוֹן דְּלָתֶיךָ וְתֹאכַל אֵשׁ בַּאֲרָזֶיךָ׃	διάνοιξον ὁ Λίβανος τὰς θύρας σου καὶ καταφαγέτω πῦρ τὰς κέδρους σου·
Open, Lebanon, your doors and let fire devour your cedars!	Open your doors, O Lebanon, and let fire devour your cedars! (New English Translation of the Septuagint)

16.In the analysis that follows, the textual versions used are as follows. *Biblia Hebraica Stuttgartensia* (1997) is used for the text of the Hebrew Bible, and Rahlfs and Hanhart (2006) for the Septuagint text.

17.See the extensive description of the cedars of Lebanon in Meiggs (1982:49–87).

18.Psalm 29:5 (28:5 LXX), 104:16 (103:16 LXX) and Jeremiah 22:6–7 are similar. The strength that the cedar projects serves as a measure of divine strength in Psalm 29:5 (28:5 LXX).

Ben Sira 24:13–17, one of the most botanically rich passages of the Bible, mentions the flora in their ecological contexts. Lady Wisdom is compared to the flora by way of similes. Although the source text is lost, Sirach 24:13 makes a clear distinction between κέδρος and κυπάρισσος in terms of their ecological distribution, namely Lebanon and the mountains of Hermon, respectively.

2. Sirach 24:13

[The Hebrew text is not extant.]	ὡς κέδρος ἀνυψώθην ἐν τῷ Λιβάνῳ καὶ ὡς κυπάρισσος ἐν ὄρεσιν Αερμών·
	Like a cedar I was raised up in Lebanon, and like a cypress in the mountains of Aermon. (NETS)

In the following cases the term אֶרֶז occurs in a series with the term בְּרוֹשׁ in the Hebrew Bible and is translated as κέδρος and κυπάρισσος, respectively, in the Septuagint. In Isaiah 37:24 the terms are transferred without any change of the context.[19]

3. Isaiah 37:24

בְּיַד עֲבָדֶיךָ חֵרַפְתָּ אֲדֹנָי וַתֹּאמֶר בְּרֹב רִכְבִּי אֲנִי עָלִיתִי מָרוֹם הָרִים יַרְכְּתֵי לְבָנוֹן וְאֶכְרֹת קוֹמַת אֶרְזָיו מִבְחַר בְּרֹשָׁיו וְאָבוֹאָה מְרוֹם קִצּוֹ יַעַר כַּרְמְלוֹ׃	ὅτι δι᾽ ἀγγέλων ὠνείδισας κύριον᾽ σὺ γὰρ εἶπας Τῷ πλήθει τῶν ἁρμάτων ἐγὼ ἀνέβην εἰς ὕψος ὀρέων καὶ εἰς τὰ ἔσχατα τοῦ Λιβάνου καὶ ἔκοψα τὸ ὕψος τῆς κέδρου αὐτοῦ καὶ τὸ κάλλος τῆς κυπαρίσσου καὶ εἰσῆλθον εἰς ὕψος μέρους τοῦ δρυμοῦ.
With your servants, you've insulted the Lord; you said, 'I, with my many chariots, have gone up to the highest mountains, to the farthest reaches of Lebanon. I have cut down its tallest cedars, the choicest of its cypress trees. I have reached its most remote lodging place, its densest forest'.	Because by your messengers you have reviled the Lord, for you said, 'With the multitude of my chariots I have gone up to the height of the mountains and to the utmost limits of Lebanon, and I cut down the height of its cedar and the beauty of its cypress, and I entered into the height of its forest region'. (NETS)

In Isaiah 41:19 the two terms occur in a series with other species of trees, but a number of them as well as the Hebrew parallelism are deleted in the translation (see Elliger 1978:157–158).

4. Isaiah 41:19

אֶתֵּן בַּמִּדְבָּר אֶרֶז שִׁטָּה וַהֲדַס וְעֵץ שָׁמֶן אָשִׂים בָּעֲרָבָה בְּרוֹשׁ תִּדְהָר וּתְאַשּׁוּר יַחְדָּו׃	θήσω εἰς τὴν ἄνυδρον γῆν κέδρον καὶ πύξον καὶ μυρσίνην καὶ κυπάρισσον καὶ λεύκην
I will plant in the desert cedar, acacia, myrtle, and the oil tree (Aleppo pine); I will put in the wilderness cypress, the elder tree, and pine as well.	I will put in the dry land a cedar and a box tree and a myrtle and a cypress and a white poplar. (NETS)

19.2 Kings 19:23 is similar.

Elliger (1978:157–158) provides various explanations for the discrepancy in the number of trees between the Biblical Hebrew text and the Septuagint translation, namely, a possibly different or damaged Hebrew vorlage or scribal error. It is interesting that the later Symmachus as well as the Vulgate reflect all the trees of the Biblical Hebrew text. We suggest in this paper that it is plausible that it was a translation strategy of the Greek translator because of the difficulty to identify each tree and to find a Greek term for each one. The term עֵץ שָׁמֶן [oil tree (Aleppo pine)] is never translated in the Septuagint. Note that the Hebrew term that refers to the term 'white poplar' is לִבְנֶה. By utilising λεύκη the translators provided what they considered a suitable familiar or local substitute for the Hebrew term תִּדְהָר, which is to be identified with the elder tree. In both cases the specific metaphoric or symbolic meaning as conveyed in the source text is retained, namely the height of the cedar and the beauty of the cypress in Isaiah 37:24 and the shadows of the trees in Isaiah 41:19 to make the desert viable so that it ceases to be an unsurmountable barrier between the exiles and their homeland (Beuken 1979:90–91; Elliger 1978:166–168; Westermann 1969:80). In the last instance it is clear that the Greek translator was not able to make correct identifications of the trees to which the Hebrew terms referred and some of them were even deleted, which support our hypothesis that the translators of the Septuagint used Greek terms that were available to them and provided what they considered a suitable familiar or local substitute.

Our hypothesis also receives support in the following cases (examples 5 through 7), where the term אֶרֶז occurs in a series with the term בְּרוֹשׁ in the Hebrew Bible; the first-mentioned term is translated as κέδρος but the second-mentioned term is substituted in the Septuagint by various terms that do not have the same referent as the term בְּרוֹשׁ in the Hebrew Bible (examples 5 and 6) or it is deleted (example 7). In Isaiah 14:8 the substitute is τὰ ξύλα τοῦ Λιβάνου, a general term for 'trees of Lebanon'; in Zechariah 11:2 the substitute is πίτυς, a term for the Hebrew תְּאַשּׁוּר; and in 1 Kings 5:26 the translation strategy of deletion of the source text item is utilised and there is no translation for the term.

5. Isaiah 14:8

גַּם־בְּרוֹשִׁים שָׂמְחוּ לָךְ אַרְזֵי לְבָנוֹן מֵאָז שָׁכַבְתָּ לֹא־יַעֲלֶה הַכֹּרֵת עָלֵינוּ:	καὶ τὰ ξύλα τοῦ Λιβάνου εὐφράνθησαν ἐπὶ σοὶ καὶ ἡ κέδρος τοῦ Λιβάνου Ἀφ᾽ οὗ σὺ κεκοίμησαι οὐκ ἀνέβη ὁ κόπτων ἡμᾶς
Even the cypresses rejoice over you, the cedars of Lebanon: 'Since you were laid low, no logger comes up against us!'	and the trees of Lebanon rejoiced over you, even the cedar of Lebanon, saying, 'Since you fell asleep, the one who is to cut us down has not come up'. (NETS)

Isaiah 14:8 forms part of the rejoicing of the earth at the death of the tyrant. According to the Hebrew text the Syrian juniper trees (similar to the cypress) and the cedars of Lebanon are breaking into song over the death of their arch-enemy, who demanded their wood.[20]

6. Zechariah 11:2[21]

הֵילֵל בְּרוֹשׁ כִּי־נָפַל אֶרֶז אֲשֶׁר אַדִּרִים שֻׁדָּדוּ הֵילִילוּ אַלּוֹנֵי בָשָׁן כִּי יָרַד יַעַר הַבָּצִיר [הַבָּצִיר]:[22]	ὀλολυξάτω πίτυς διότι πέπτωκεν κέδρος, ὅτι μεγάλως μεγιστᾶνες ἐταλαιπώρησαν· ὀλολύξατε δρύες τῆς Βασανίτιδος ὅτι κατεσπάσθη ὁ δρυμὸς ὁ σύμφυτος
Scream, cypress, for the cedar has fallen; those majestic ones have been devastated. Scream, oaks of Bashan, for the deep forest has fallen. (Contemporary English Bible)	Let the pine wail, for the cedar has fallen, because nobles have greatly suffered misery. Wail, oaks of Basanitis, because the thick forest has been torn down! (NETS)

7. 1 Kings 5:24

וַיְהִי חִירָם נֹתֵן לִשְׁלֹמֹה עֲצֵי אֲרָזִים וַעֲצֵי בְרוֹשִׁים כָּל־חֶפְצוֹ:	καὶ ἦν Χιραμ διδοὺς τῷ Σαλωμων κέδρους καὶ πᾶν θέλημα αὐτοῦ.
So Hiram gave Solomon cedar-wood and cypress-wood according to his whole desire.	And Chiram was giving Salomon cedars and his every wish. (NETS)

In the verse in example 8, Solomon spoke about plants from the cedar of Lebanon to marjoram, suggesting that the cedar was the greatest. This is retained in the Greek translation.

8. 1 Kings 5:13 (4:33 LXX)

וַיְדַבֵּר עַל־הָעֵצִים מִן־הָאֶרֶז אֲשֶׁר בַּלְּבָנוֹן וְעַד הָאֵזוֹב אֲשֶׁר יֹצֵא בַּקִּיר וַיְדַבֵּר עַל־הַבְּהֵמָה וְעַל־הָעוֹף וְעַל־הָרֶמֶשׂ וְעַל־הַדָּגִים:	καὶ ἐλάλησεν περὶ τῶν ξύλων ἀπὸ τῆς κέδρου τῆς ἐν τῷ Λιβάνῳ καὶ ἕως τῆς ὑσσώπου τῆς ἐκπορευομένης διὰ τοῦ τοίχου καὶ ἐλάλησεν περὶ τῶν κτηνῶν καὶ περὶ τῶν πετεινῶν καὶ περὶ τῶν ἑρπετῶν καὶ περὶ τῶν ἰχθύων
And he spoke of trees, from the cedar that is in Lebanon and as far as the marjoram that comes out through the wall, and he spoke of the animals and of the birds and of the reptiles and of the fishes.	And he spoke of trees, from the cedar that is in Lebanon and as far as the hyssop that comes out through the wall, and he spoke of animals and of birds and of reptiles and of fish.

The cedars are valued on account of their lofty and luxuriant growth and the durability of their wood. At high elevations and low temperatures, growth is slow and centuries are required to produce the majestic trees, with their distinctive

20.Kaiser (1974:34) mentions that behind this statement by the trees of Lebanon in the poem lies the long history of the exploitation of the forests of Lebanon by the rulers of Syria at that period. Oppenheim (1969:307) provides a historical document that describes such an expedition to Syria by Nebuchadnezzar II (605–562 BCE).

21.Psalm 148:9 is similar.

22.Hebrew text enclosed in square brackets represents the Qere reading.

brown, resin-soaked heartwood and lighter sapwood (Musselman 2006:576–577). It is the largest indigenous tree in the Near East with a height of 30 m and a diameter of 2 or more meters. It has a pyramidal form with thick, spreading horizontal branches and may live for two to three thousand years. In Isaiah 2:13 the cedar is typified for its great height as the tallest tree known at its time. The first-mentioned term is translated as κέδρος but the second-mentioned term is substituted in the Septuagint by another term, δένδρον, which does not have the same referent as the term אַלּוֹנֵי הַבָּשָׁן in the Hebrew Bible.[23] Liddell and Scott (1968:378) and Muraoka (2009:142–143) provide the general term 'tree' as translation for δένδρον. The NETS translation is influenced by the Hebrew Vorlage. This further supports our hypothesis that the translators of the Septuagint used Greek terms that were available to them and provided what they considered a suitable familiar or local substitute. In the case of the verse in example 9, the qualification *tall* is retained, but in the verse in example 10 it is only explicit in the Hebrew text and is concealed in the Greek text.

9. Isaiah 2:13[24]

וְעַל֙ כָּל־אַרְזֵ֣י הַלְּבָנ֔וֹן הָרִמִ֖ים וְהַנִּשָּׂאִ֑ים וְעַל֙ כָּל־אַלּוֹנֵ֣י הַבָּשָֽׁן׃	καὶ ἐπὶ πᾶσαν κέδρον τοῦ Λιβάνου τῶν ὑψηλῶν καὶ μετεώρων καὶ ἐπὶ πᾶν δένδρον βαλάνου Βασαν
and against all the cedars of Lebanon, lofty and lifted up; and against all the oaks of Bashan;	both against every cedar of Lebanon, of them that are lofty and high, and against every acorn tree (i.e. *Balanites aegyptiaca*) of Basan. (NETS)

10. Ezekiel 17:22[25]

כֹּ֚ה אָמַ֣ר אֲדֹנָ֣י יְהוִ֔ה וְלָקַחְתִּי֙ אֲנִ֔י מִצַּמֶּ֖רֶת הָאֶ֣רֶז הָרָמָ֑ה וְנָתָתִי֙ מֵרֹ֣אשׁ יֹנְקוֹתֶ֔יהָ רַ֖ךְ אֶקְטֹ֑ף וְשָׁתַלְתִּי֙ אֲנִ֔י עַ֖ל הַר־גָּבֹ֥הַּ וְתָלֽוּל׃	διότι τάδε λέγει κύριος Καὶ λήμψομαι ἐγὼ ἐκ τῶν ἐπιλέκτων τῆς κέδρου ἐκ κορυφῆς καρδίας αὐτῶν ἀποκνιῶ καὶ καταφυτεύσω ἐγὼ ἐπ᾽ ὄρος ὑψηλόν· καὶ κρεμάσω αὐτὸν
This is what the sovereign LORD says: I myself will take one of the top branches from the tall cedar. I will pluck a tender shoot from its crown, and I myself will plant it on a very high and lofty mountain.	Therefore, this is what the Lord says: And it is I who will take some from the select parts of the cedar; I will snip off something from the top of their heart. And it is I who will transplant on a high mountain.

In Numbers 24:6 the lofty and luxuriant growth of the cedars is implied in the Hebrew text as well as in the Greek translation as part of a blessing (Numbers 24:5–7) concerning the glorious prosperity of Israel. The cedars are contrasted with the eaglewood trees (אֲהָלִים) that were so highly valued in the preparation of incense, on account of their fragrance, a feature that is also implied. This contrast is not retained in the Greek translation.

11. Numbers 24:6

כִּנְחָלִ֖ים נִטָּ֑יוּ כְּגַנַּ֥ת עֲלֵי נָהָ֖ר כַּאֲהָלִ֣ים נָטַ֔ע יְהוָ֖ה כַּאֲרָזִ֥ים עֲלֵי־מָֽיִם׃	ὡσεὶ νάπαι σκιάζουσαι καὶ ὡσεὶ παράδεισοι ἐπὶ ποταμῶν καὶ ὡσεὶ σκηναί, ἃς ἔπηξεν κύριος, ὡσεὶ κέδροι παρ᾽ ὕδατα.
They are like valleys stretched forth, like gardens beside a river, like eaglewood trees that the LORD has planted, like cedar trees beside the waters.	Like wooded valleys giving shade and like orchards by rivers and like tents that the Lord pitched, like cedar trees beside waters. (NETS)

The Greek translation does not translate אֲהָלִים as a kind of tree, but as σκηναί [tents]; the Hebrew consonantal forms for 'eaglewood trees' and 'tents' are the same. This further supports our hypothesis that the translators of the Septuagint use Greek terms that were available to them and provided what they considered a suitable familiar or local substitute.

The cedars serve as protection and as a nesting habitat to live in as indicated in the verses in examples 12 and 13. This is also conveyed in the Greek translation. The leaves of the cedars are not flat like those of most trees but consist of clusters of dark green, needle-like leaves on short branch shoots like pines. Cedars bear cones. They exude a gum or balsam, which makes the wood fragrant so that to walk in a grove of cedars is a delight.

12. Jeremiah 22:23

יֹשֶׁבְתִּ֤י [יֹשֶׁבֶת֙] בַּלְּבָנ֔וֹן מְקֻנָּנְתִּ֖י [מְקֻנֶּנֶת] בָּאֲרָזִ֑ים מַה־נֶּחְנַ֥תָּ בְּבֹא־לָ֖ךְ חֲבָלִ֥ים חִיל כַּיּוֹלֵדָֽה׃	κατοικοῦσα ἐν τῷ Λιβάνῳ ἐννοσσεύουσα ἐν ταῖς κέδροις καταστενάξεις ἐν τῷ ἐλθεῖν σοι ὠδῖνας ὡς τικτούσης.
You who live in Lebanon, nesting in the cedars, who will pity you when you are overcome in pain, like that of childbirth?	O inhabitant of Lebanon, nesting among the cedars, you will groan when pangs come upon you, pains as of one giving birth! (NETS)

13. Ezekiel 17:23

בְּהַ֥ר מְרוֹם֙ יִשְׂרָאֵ֣ל אֶשְׁתֳּלֶ֔נּוּ וְנָשָׂ֥א עָנָ֖ף וְעָשָׂ֣ה פְּרִ֑י וְהָיָ֖ה לְאֶ֣רֶז אַדִּ֔יר וְשָׁכְנ֣וּ תַחְתָּ֗יו כֹּ֚ל צִפּ֣וֹר כָּל־כָּנָ֔ף בְּצֵ֥ל דָּלִיּוֹתָ֖יו תִּשְׁכֹּֽנָּה׃	ἐν ὄρει μετεώρῳ τοῦ Ισραηλ καὶ καταφυτεύσω, καὶ ἐξοίσει βλαστὸν καὶ ποιήσει καρπὸν καὶ ἔσται εἰς κέδρον μεγάλην, καὶ ἀναπαύσεται ὑποκάτω αὐτοῦ πᾶν θηρίον, καὶ πᾶν πετεινὸν ὑπὸ τὴν σκιὰν αὐτοῦ ἀναπαύσεται τὰ κλήματα αὐτοῦ ἀποκατασταθήσεται.

23.Compare Zechariah 11:2 in example 6 above, where the term is translated with the equivalent term in Greek, namely, δρύες τῆς Βασανίτιδος.

24.Psalm 80:11 (79:11) is similar.

25.Ezekiel 17:3 is similar.

On the mountain height of Israel I will plant it, and it will raise branches and bear fruit, and become a beautiful cedar. Every bird will live under it; every winged creature will live in the shade of its branches.	And I will hang him in a mountain of Israel high in the air. And I will transplant him, and he shall produce a shoot and bear fruit and become a large cedar. And every animal shall rest under him, and every winged creature shall rest under his shade, and his shoots shall be restored. (NETS)

The cedar is very scarce and is of great value as indicated in examples 14 and 15. This value is conveyed in the Greek translation in example 14, but it is lost in example 15, where it is indicated as part of a set of building materials. It is slow-growing, with the result that it produces solid hardwood, which has resistance against decay. It is of a beautiful, warm, red tone, solid and free from knots.

14. 1 Kings 10:27[26]

וַיִּתֵּן הַמֶּלֶךְ אֶת־הַכֶּסֶף בִּירוּשָׁלַ͏ִם כָּאֲבָנִים וְאֶת הָאֲרָזִים נָתַן כַּשִּׁקְמִים אֲשֶׁר־ בַּשְּׁפֵלָה לָרֹב:	καὶ ἔδωκεν ὁ βασιλεὺς τὸ χρυσίον καὶ τὸ ἀργύριον ἐν Ιερουσαλημ ὡς λίθους, καὶ τὰς κέδρους ἔδωκεν ὡς συκαμίνους τὰς ἐν τῇ πεδινῇ εἰς πλῆθος.
And the king gave silver in Jerusalem like stones, and he made the cedars as numerous as the sycamores which are in the Shephelah.	And the king gave gold and silver in Ierousalem like stones, and he gave the cedars like sycamores that are in a plain in abundance. (NETS)

15. Isaiah 9:9[27]

לְבֵנִים נָפָלוּ וְגָזִית נִבְנֶה שִׁקְמִים גֻּדָּעוּ וַאֲרָזִים נַחֲלִיף:	Πλίνθοι πεπτώκασιν, ἀλλὰ δεῦτε λαξεύσωμεν λίθους καὶ ἐκκόψωμεν συκαμίνους καὶ κέδρους καὶ οἰκοδομήσωμεν ἑαυτοῖς πύργον.
Bricks have fallen, but let's rebuild with dressed stones; sycamores were cut down, but let's replace them with cedars.	The bricks have fallen, but come, let us hew stones and cut down sycamores and cedars and build ourselves a tower. (NETS)

Cedarwood is used as a durable building material, as indicated in example 16. Historically, the cedar of Lebanon was one of the most important building materials in the Near East (Musselman 2006:576–577).

16. 1 Kings 7:11 (7:48 LXX)[28]

וּמִלְמַעְלָה אֲבָנִים יְקָרוֹת כְּמִדּוֹת גָּזִית וָאָרֶז:	καὶ ἐπάνωθεν τιμίοις κατὰ τὸ μέτρον ἀπελεκήτων καὶ κέδροις.
Above them were high-quality stones cut to measure, as well as cedar. (CEB)	And above with costly stones, according to the measure of unhewn (i.e. unhewn stones), and with cedars. (NETS)

Cedar is used as a building material, especially as wainscoting, as indicated in example 17, or as trimmed cedar logs, as in example 18.

17. Jeremiah 22:14[29]

הָאֹמֵר אֶבְנֶה־לִּי בֵּית מִדּוֹת וַעֲלִיּוֹת מְרֻוָּחִים וְקָרַע לוֹ חַלּוֹנָי וְסָפוּן בָּאָרֶז וּמָשׁוֹחַ בַּשָּׁשַׁר:	ᾠκοδόμησας σεαυτῷ οἶκον σύμμετρον, ὑπερῷα ῥιπιστὰ διεσταλμένα θυρίσιν καὶ ἐξυλωμένα ἐν κέδρῳ καὶ κεχρισμένα ἐν μίλτῳ.
He says: I will build myself a grand palace; with spacious upper chambers, provided with windows, paneled in cedar, and painted with vermilion.	You built for yourself a spacious house, ventilated upper rooms fitted with windows and paneled with cedar and painted with vermilion. (NETS)

18. 1 Kings 6:36[30]

וַיִּבֶן אֶת־הֶחָצֵר הַפְּנִימִית שְׁלֹשָׁה טוּרֵי גָזִית וְטוּר כְּרֻתֹת אֲרָזִים:	καὶ ᾠκοδόμησεν τὴν αὐλὴν τὴν ἐσωτάτην, τρεῖς στίχους ἀπελεκήτων, καὶ στίχος κατειργασμένης κέδρου κυκλόθεν. Καὶ ᾠκοδόμησε καταπέτασμα τῆς αὐλῆς τοῦ αιλαμ τοῦ οἴκου τοῦ κατὰ πρόσωπον τοῦ ναοῦ.
He built the inner courtyard with three rows of cut stone followed by one row of trimmed cedar. (CEB)	And he built the inner court, three courses of unhewn stones and a course of prepared cedar round about. And he built the veil of the court of the ailam (Hebrew = courtyard) of the house, which is before the shrine. (NETS)

In Zephaniah 2:14 the description closes with an explanatory sentence about the destruction of the palace and state buildings so that the costly panelling of the walls is exposed. It seems that the Greek translation made a different interpretation of עֶרֶה (see commentary on the critical apparatus at Zephaniah 2:14 in *Biblia Hebraica Quinta*).

19. Zephaniah 2:14

וְרָבְצוּ בְתוֹכָהּ עֲדָרִים כָּל־חַיְתוֹ־גּוֹי גַּם־קָאַת גַּם־קִפֹּד בְּכַפְתֹּרֶיהָ יָלִינוּ ׀ קוֹל יְשׁוֹרֵר בַּחַלּוֹן חָרֵב בַּסַּף כִּי אַרְזָהּ עֵרָה:	καὶ νεμήσονται ἐν μέσῳ αὐτῆς ποίμνια καὶ πάντα τὰ θηρία τῆς γῆς, καὶ χαμαιλέοντες καὶ ἐχῖνοι ἐν τοῖς φατνώμασιν αὐτῆς κοιτασθήσονται, καὶ θηρία φωνήσει ἐν τοῖς διορύγμασιν αὐτῆς, κόρακες ἐν τοῖς πυλῶσιν αὐτῆς, διότι κέδρος τὸ ἀνάστημα αὐτῆς.

26.2 Chronicles 1:15 and 2 Chronicles 9:27 are similar.

27.Isaiah 9:9 is similar.

28.2 Chronicles 2:2 and Canticles 1:17 are similar.

29.1 Kings 6:9 is similar. The use of the plural אֲרָזִים in 1 Kings 6:9 is generic, denoting the species and therefore the translation uses the singular form (Bloch 1995:13 footnote 1).

30. 1 Kings 7:12 (7:49 LXX) is similar.

Herds shall lie down in her, all the beasts of the field. Moreover, the owl and the porcupine will spend the night on its columns. A bird's call will resound from the window. Desolation will be on the sill, for he will lay bare her cedar paneling.[31]	And flocks shall pasture in its midst, and all the wild animals of the earth. And chameleons and hedgehogs shall sleep in its compartments, and wild beasts shall cry in its burrows, ravens in its gates, for its rise is that of a cedar. (NETS)

The cedar was likely the largest living thing that ancient people saw during their lifetimes and 'was considered the prince of trees' (Zohary 1982:104). What the lion was to the animal world, the cedar was to the plant world. Its impressiveness projects majesty, stateliness and outward power, which creates an image of the mighty ruler. As the most majestic plant, cedars were often used metaphorically, as when prominent people were likened in the form of similes to the height of cedars in Psalm 92:13 (91:13 LXX); Amos 2:9;[32] Canticles 5:15 and as a metaphor in 2 Kings 14:9.[33] The metaphorical usage is retained in all these cases (examples 20 through 23).

20. Psalm 92:13 (91:13 LXX)[34]

צַדִּיק כַּתָּמָר יִפְרָח כְּאֶרֶז בַּלְּבָנוֹן יִשְׂגֶּה:	δίκαιος ὡς φοῖνιξ ἀνθήσει, ὡσεὶ κέδρος ἡ ἐν τῷ Λιβάνῳ πληθυνθήσεται.
The righteous will flourish like the palm tree. Like a cedar of Lebanon he will grow.	A righteous one will flourish like a palm, and like a cedar in Lebanon he will increase.

Psalm 92:13 links the cedar to righteousness, that is, presumably, to its straightness and height above other trees.

21. Amos 2:9

וְאָנֹכִי הִשְׁמַדְתִּי אֶת־הָאֱמֹרִי מִפְּנֵיהֶם אֲשֶׁר כְּגֹבַהּ אֲרָזִים גָּבְהּוֹ וְחָסֹן הוּא כָּאַלוֹנִים וָאַשְׁמִיד פִּרְיוֹ מִמַּעַל וְשָׁרָשָׁיו מִתָּחַת:	ἐγὼ δὲ ἐξῆρα τὸν Αμορραῖον ἐκ προσώπου αὐτῶν οὗ ἦν καθὼς ὕψος κέδρου τὸ ὕψος αὐτοῦ καὶ ἰσχυρὸς ἦν ὡς δρῦς, καὶ ἐξῆρα τὸν καρπὸν αὐτοῦ ἐπάνωθεν καὶ τὰς ῥίζας αὐτοῦ ὑποκάτωθεν·
Yet I destroyed the Amorite before them, whose height was as tall as cedar trees, and who was as strong as oaks and I destroyed his fruit above and his roots below.	But I removed the Amorrite from before them, whose height was as the height of a cedar and who was as strong as an oak, and I removed his fruit above and his roots beneath. (NETS)

22. Canticles 5:15

שׁוֹקָיו עַמּוּדֵי שֵׁשׁ מְיֻסָּדִים עַל־אַדְנֵי־פָז מַרְאֵהוּ כַּלְּבָנוֹן בָּחוּר כָּאֲרָזִים:	κνῆμαι αὐτοῦ στῦλοι μαρμάρινοι τεθεμελιωμένοι ἐπὶ βάσεις χρυσᾶς, εἶδος αὐτοῦ ὡς Λίβανος ἐκλεκτὸς ὡς κέδροι,
His legs are pillars of marble set upon bases of gold. His appearance is like Lebanon, choice as the cedars.	His legs are marble pillars, founded upon golden bases. His appearance is like Lebanon, choice as cedars. (NETS)

It was famous for its great beauty as suggested by the simile in Canticles 5:15.

23. 2 Kings 14:9[35]

וַיִּשְׁלַח יְהוֹאָשׁ מֶלֶךְ־יִשְׂרָאֵל אֶל־אֲמַצְיָהוּ מֶלֶךְ־יְהוּדָה לֵאמֹר הַחוֹחַ אֲשֶׁר בַּלְּבָנוֹן שָׁלַח אֶל־הָאֶרֶז אֲשֶׁר בַּלְּבָנוֹן לֵאמֹר תְּנֶה־אֶת־בִּתְּךָ לִבְנִי לְאִשָּׁה וַתַּעֲבֹר חַיַּת הַשָּׂדֶה אֲשֶׁר בַּלְּבָנוֹן וַתִּרְמֹס אֶת־הַחוֹחַ:	καὶ ἀπέστειλεν Ιωας βασιλεὺς Ισραηλ πρὸς Αμεσσιαν βασιλέα Ιουδα λέγων Ὁ ἄκαν ὁ ἐν τῷ Λιβάνῳ ἀπέστειλεν πρὸς τὴν κέδρον τὴν ἐν τῷ Λιβάνῳ λέγων Δὸς τὴν θυγατέρα σου τῷ υἱῷ μου εἰς γυναῖκα· καὶ διῆλθον τὰ θηρία τοῦ ἀγροῦ τὰ ἐν τῷ Λιβάνῳ καὶ συνεπάτησαν τὸν ἄκανα.
King Jehoash of Israel sent this message back to King Amaziah of Judah, 'A thornbush in Lebanon sent this message to a cedar in Lebanon, 'Give your daughter to my son as a wife'. But then a wild beast in Lebanon came along and trampled the thistle.'	And Ioas, king of Israel, sent to Amessias, king of Iouda, saying, 'The akan (Hebrew = thornbush) that was in Lebanon sent to the cedar that was in Lebanon, saying, 'Give your daughter to my son for a wife', and the wild animals of the field that were in Lebanon passed through and trampled down the akana (Hebrew = thornbush)'. (NETS)

To summarise, in the cases where the term אֶרֶז in the Hebrew Bible is translated as κέδρος in the Septuagint, it can be concluded that there are no shifts in the specific metaphoric or symbolic meaning as conveyed in the source text. In contexts where κέδρος forms part of a set of trees, it is clear that the Greek translator was not able to make correct identifications of the trees to which the Hebrew terms refer and some of them are even deleted, which support our hypothesis that the translators of the Septuagint used Greek terms that were available to them and provided what they considered a suitable familiar or local substitute.

The translation of the term אֶרֶז in the Hebrew Bible as κέδρινος in the Septuagint

The term κέδρινος is an adjective. In collocation with nouns like ξύλον, it translates the Hebrew construct relation that is used to express the product-material relationship in Biblical Hebrew (Van der Merwe, Naudé & Kroeze 2017:220–229).

31.The form אַרְזָה, a collective, is used.

32.The strength of prominent people is compared to the strength of oaks.

33.Its symbolic value is even retained in contemporary culture; for example, the cedar is the national emblem of Lebanon.

34.Sirach 50:12 is similar.

35.2 Chronicles 25:18 and Judges 9:15 are similar.

A lesser-known use of cedar wood was in oblations for purification, as, for example, in ritual cleansing for leprosy (Musselman 2006:576–577).

24. Leviticus 14:4[36]

וְצִוָּה הַכֹּהֵן וְלָקַח לַמִּטַּהֵר שְׁתֵּי־צִפֳּרִים חַיּוֹת טְהֹרוֹת וְעֵץ אֶרֶז וּשְׁנִי תוֹלַעַת וְאֵזֹב:	καὶ προστάξει ὁ ἱερεὺς καὶ λήμψονται τῷ κεκαθαρισμένῳ δύο ὀρνίθια ζῶντα καθαρὰ καὶ ξύλον κέδρινον καὶ κεκλωσμένον κόκκινον καὶ ὕσσωπον·
the priest will order that two birds – wild and clean – and cedarwood, crimson yarn, and marjoram be brought for the person who needs purification. (CEB)	and the priest shall give orders, and they shall take for the one who has been cleansed two living clean fowl and cedar wood and scarlet spun thread and hyssop. (NETS)

Our hypothesis concerning the Septuagint translators' strategies also receives support in the following case (example 25), where the term אֶרֶז occurs in a series with the terms בְּרוֹשׁ and אַלְגּוּמִּים in the Hebrew Bible. The first-mentioned term is translated as ξύλα κέδρινα [cedar wood], but the second-mentioned term is substituted in the Septuagint by ξύλα ἀρκεύθινα [juniper wood], which does not have the same referent as the term בְּרוֹשׁ [cypress] in the Hebrew Bible. The third term in the Hebrew Bible אַלְגּוּמִּים, which refers to juniper trees (*Juniperus phoenicea* or *Juniperus excelsa*), which grow at a higher elevation in the Lebanon and Amanus ranges, is translated with ξύλα πεύκινα [pine wood].[37]

25. 2 Chronicles 2:7[38]

וְשִׁלַּח־לִי עֲצֵי אֲרָזִים בְּרוֹשִׁים וְאַלְגּוּמִּים מֵהַלְּבָנוֹן כִּי אֲנִי יָדַעְתִּי אֲשֶׁר עֲבָדֶיךָ יוֹדְעִים לְכְרוֹת עֲצֵי לְבָנוֹן וְהִנֵּה עֲבָדַי עִם־עֲבָדֶיךָ:	καὶ ἀπόστειλόν μοι ξύλα κέδρινα καὶ ἀρκεύθινα καὶ πεύκινα ἐκ τοῦ Λιβάνου, ὅτι ἐγὼ οἶδα ὡς οἱ δοῦλοί σου οἴδασιν κόπτειν ξύλα ἐκ τοῦ Λιβάνου· καὶ ἰδοὺ οἱ παῖδές σου μετὰ τῶν παίδων μου
Send me also cedar, cypress, and juniper timber from Lebanon, for I know that your servants are skilled in cutting Lebanon timber. My servants will work with your servants.	And send me cedar wood and juniper and pine from Lebanon, for I know how your slaves know about cutting wood from Lebanon. See, your servants will be with my servants. (NETS)

Valued as a high-quality timber, the use of cedar wood in both the temple in Jerusalem (1 Ki 5) and the Palace of the Forest of Lebanon (1 Ki 7:2) reflects on the wealth and power of the monarch and serves as a symbol of superior quality and durability.

36.Leviticus 14:6, Leviticus 14:49, Leviticus 14:51, Leviticus 14:52 and Numbers 19:6 are similar.

37.The identification of אַלְגּוּמִּים will be discussed in a future article.

38.2 Samuel 5:11, 1 Kings 5:22, 1 Kings 6:10, 1 Kings 6:15, 1 Kings 9:11, 1 Chronicles 14:1, 1 Chronicles 22:4, Ezra 3:7, 1 Esdras 4:48 and 1 Esdras 5:53 are similar.

26. 1 Kings7:2 (7:39 LXX)

וַיִּבֶן אֶת־בֵּית יַעַר הַלְּבָנוֹן מֵאָה אַמָּה אָרְכּוֹ וַחֲמִשִּׁים אַמָּה רָחְבּוֹ וּשְׁלֹשִׁים אַמָּה קוֹמָתוֹ עַל אַרְבָּעָה טוּרֵי עַמּוּדֵי אֲרָזִים וּכְרָתוֹת אֲרָזִים עַל־הָעַמּוּדִים:	καὶ ᾠκοδόμησεν τὸν οἶκον δρυμῷ τοῦ Λιβάνου· ἑκατὸν πήχεις μῆκος αὐτοῦ καὶ πεντήκοντα πήχεις πλάτος αὐτοῦ καὶ τριάκοντα πηχῶν ὕψος αὐτοῦ· καὶ τριῶν στίχων στύλων κεδρίνων καὶ ὠμίαι κέδριναι τοῖς στύλοις
He built the House of the Forest of the Lebanon one hundred cubits long, fifty cubits wide, and thirty cubits high, built on four rows of cedar pillars, with cedar engravings on the pillars.	And he built the House to the Forest of the Lebanon, one hundred cubits its length and fifty cubits its width and thirty cubits its height, and three courses of cedar logs, and cedar shoulders for the logs. (NETS)

27. 2 Samuel 7:2[39]

וַיֹּאמֶר הַמֶּלֶךְ אֶל־נָתָן הַנָּבִיא רְאֵה נָא אָנֹכִי יוֹשֵׁב בְּבֵית אֲרָזִים וַאֲרוֹן הָאֱלֹהִים יֹשֵׁב בְּתוֹךְ הַיְרִיעָה:	καὶ εἶπεν ὁ βασιλεὺς πρὸς Ναθαν τὸν προφήτην ἰδοὺ δὴ ἐγὼ κατοικῶ ἐν οἴκῳ κεδρίνῳ, καὶ ἡ κιβωτὸς τοῦ θεοῦ κάθηται ἐν μέσῳ τῆς σκηνῆς.
The king said to Nathan the prophet, 'Look! I'm living in a cedar palace, but God's chest is housed in a tent!'	that the king said to the prophet Nathan, 'Behold, indeed I am living in a house of cedar, and the ark of God stays in the midst of the tent.' (NETS)

28. Canticles 8:9

אִם־חוֹמָה הִיא נִבְנֶה עָלֶיהָ טִירַת כָּסֶף וְאִם־דֶּלֶת הִיא נָצוּר עָלֶיהָ לוּחַ אָרֶז:	εἰ τεῖχός, ἐστιν οἰκοδομήσωμεν ἐπ᾽ αὐτὴν ἐπάλξεις ἀργυρᾶς· καὶ εἰ θύρα ἐστίν, διαγράψωμεν ἐπ᾽ αὐτὴν σανίδα κεδρίνην.
If she is a city wall, then we will build a turret of silver on her. And if she is a door, then we will barricade her with a panel of cedar. (CEB)	If she is a wall, let us build upon her battlements of silver, but if she is a door, let us carve for her a board of cedar. (NETS)

To summarise, in the cases where the term אֶרֶז in the Hebrew Bible is translated as a noun in collocation with the adjective term κέδρινος in the Septuagint it can be concluded that there are no shifts in the specific metaphoric or symbolic meaning as conveyed in the source text. In contexts where the term forms part of a set of trees, it is clear that the Greek translator was not able to make correct identifications of the trees the Hebrew terms refer to, which supports our hypothesis that the translators of the Septuagint used Greek terms that were available to them and provided what they considered a suitable familiar or local substitute.

Conclusion

The names *cedar*, *fir*, *pine*, *juniper* and *cypress* refer to specific species of conifers. Although cedar, fir and pine are in the same family (family Pinaceae) they represent species of three

39.2 Samuel 7:7, 1 Chronicles 17:1 and 1 Chronicles 17:6 are similar.

different genera (*Cedrus*, *Abies* and *Pinus*). Juniper and cypress are in a different family (family Cupressaceae), where they represent species in two different genera, namely the cypresses (*Cupressus*) and junipers (*Juniperus*).

Determining the botanical identifications of the Hebrew term אֶרֶז and its translation by κέδρος or κέδρινος in the Septuagint is complicated by the vague and contradictory definitions provided in the Hebrew and Greek lexica. A complexity approach to lexicography utilising the insights of Biblical Plant Hermeneutics provides a means for evaluating the conflicting claims of the lexica, many of which are the result of reductionistic lexicographical methodologies. The Hebrew term אֶרֶז was found to refer exclusively to *Cedrus libani* of the genus *Cedrus* and not to other genera (*Juniperus* or *Abies*). The Septuagint translators use κέδρος as a translation of Hebrew אֶרֶז without any shifts in the metaphoric or symbolic meaning of the source text. However, the Septuagint translators use κέδρος as only one translational equivalent of אֶרֶז. When the term is found alongside other terms for trees, the Greek translator is not able to correctly identify all of the trees in the Hebrew but rather provides what he considers to be a suitable substitute.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

J.A.N. conceptualised the article. J.A.N. and C.L.M.N. jointly researched and wrote the article.

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