

**Animal names and categorisation in the Hebrew Bible:  
a textual and cognitive approach**

by

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# Chapter 1

## Introduction

### 1.1. Orientation

Animal names are the starting point of this thesis. How many words for animals are there in the Hebrew Bible? What words are used most often, and why? Do we know what all of them mean, and how can we find better ways of translating the ones that have proved recalcitrant? What patterns emerge when all the names are examined together? How did the ancient Hebrews classify or categorise animals? What were the criteria they used to sort them into groups in one way rather than another? What, if anything, can the names and categories they used tell us about how they viewed animals? These are the questions that prompted this study.

The methods used to explore these questions are linguistic in nature and strongly text-based. The first step is a corpus analysis: the listing and examination in context of every animal name in the text, with the help of an electronically tagged database. Alongside this a cognitive-linguistic theory is applied: the prototype theory of categories. The aim here is that prototype theory will illuminate various aspects of the classificatory structure used by the ancient Hebrews, from whatever evidence can be found in the texts. Performing the corpus analysis with prototype theory in mind is expected to produce novel results which provide direction for the rest of the thesis, and this does indeed happen.

The most significant results of the study are a spatiality-based model of animal taxonomy and a theory of the cleanness/uncleanness paradigm that is based on prototype effects within this model. A large number of lesser conclusions are also arrived at along the way, not least in the form of Appendix A, a list of all the animal names in the Hebrew Bible, including Aramaic, listed in order of number of occurrences along with each verse in which each one occurs and the best translations that all the research represented in this thesis can provide.

## 1.2. Problem statement

The research problem consists of four parts:

- i) What is meant by the various problematic animal names in the Hebrew Bible?
- ii) What cognitive paradigm was used by the ancient Hebrews to classify the animals they came into contact with? What happens when we take prototype theory as described by Eleanor Rosch and George Lakoff,<sup>1</sup> among others, and apply it to the naming of animals in the Hebrew Bible?
- iii) What new insights does this information then produce when taken and applied to the original texts in which the problematic words occur, and to the translation and identification of disputed terms?
- iv) What new points of theory arise from this whole exercise? Where point iii) asks what the application of the theory tells us about the texts; point iv) asks what the application to the texts tells us about the theory. Are certain theories challenged by the findings? Are others bolstered?

### 1.2.1. Overview

Words used in the Hebrew Bible to name types of animals have always caused problems in translation. A number of them are *hapax legomena* – words that occur only once in the Biblical text. Some of the best-known oddities of early translations involve animal words – for example, “the voice of the turtle” in Song of Songs 2:12,<sup>2</sup> the “unicorn” in Psalm 92:10<sup>3</sup> among other texts, and “satyrs” in Isaiah 13:21.<sup>4</sup> Other, less picturesque, examples go generally unremarked upon but are nevertheless debated amongst scholars – for example, the identity of שִׁטְמָה in Exodus 25:5 where it refers to a type of leather. It is translated as, variously, “badger,”<sup>5</sup> “goat,”<sup>6</sup>

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<sup>1</sup> Lakoff 1990:39.

<sup>2</sup>KJV.

<sup>3</sup>KJV.

<sup>4</sup>KJV.

<sup>5</sup>KJV.

<sup>6</sup>ESV.

“porpoise,”<sup>7</sup> “seal,”<sup>8</sup> “sea cow”<sup>9</sup>and – avoiding the issue altogether – “violet”<sup>10</sup> or “fine”<sup>11</sup> leather.

The problem of animal identifications in the Hebrew Bible is a problem of folk taxonomy. Archaeologists Elizabeth Reitz and Elizabeth Wing (2008) have the following to say:

Naming organisms is a fundamental characteristic of our linguistic past. Folk taxonomy examines the way people name organisms. Such taxonomies reveal people’s concepts about animals, associations between different animals, and the source of introduced animals when they and their names are adopted together. Some folk taxonomies are the same as Linnaean classifications, others are more finely subdivided, and some combine organisms with quite different biological histories. Knowing which distinctions or combinations were made is essential to understanding economic and social systems. <sup>12</sup>

Folk taxonomies are not just about the names of organisms, but rather involve entire systems of classification. The classification of animals in the Hebrew Bible will be examined according to some concepts found in cognitive linguistics; in particular George Lakoff’s experiential realism and Eleanor Rosch’s prototype theory of categories. The aim of this is to develop a clearer idea of how the ancient Hebrews constructed their folk taxonomy of the animal kingdom: how they viewed the connections between different types of animals and how they mentally systematised the animal kingdom as a whole, as far as can be discovered from the animal terms and their contexts as found in the corpus of the Hebrew Bible. The other aim of the exercise is more open-ended but also perhaps more important: to see what new insights appear when the prototype theory of categories is applied, like a lens or a template, to this body of information.

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<sup>7</sup> NASB.

<sup>8</sup>ASV.

<sup>9</sup>NIV.

<sup>10</sup>DRB.

<sup>11</sup>GW.

<sup>12</sup> Reitz & Wing 2008:32.

### 1.2.2. *Some problematic texts*

Here follows a slightly more detailed account of a few of the texts in the Hebrew Bible where uncertain identification of animals has caused problems. This is not intended to be an exhaustive list of texts where problematic references to animals occur, but merely an indication of a few of the more interesting or better-known ones, showing the scope of this study.

Take, for example, the problem of the **אֵיָּוֶן**. Erroneously rendered as “unicorn” in early Bible translations,<sup>13</sup> the parallelism in Isaiah 34:7 makes it clear that the word is a synonym or near-synonym for “bull”, and indeed, modern translations render it as “wild ox” – much more accurate, though biologically impossible, as “ox” in English refers to a castrated animal. A better translation is “aurochs,” the proper term for the extinct wild progenitor of our domestic cattle.<sup>14</sup> Curiously, the Brown-Driver-Briggs lexicon mentions the fact that the Arabic cognate of the word refers to the Arabian oryx,<sup>15</sup> which could indeed be mistaken for a unicorn when viewed directly from the side. This is very different from the Hebrew usage of the word, and is a salutary reminder not to place blind trust in cognates in related languages – they are useful, but can sometimes be misleading. Bodenheimer, in *Animal and man in Bible lands*, says that the combinatory method (corpus analysis, in other words) has rightly replaced the use of cognates as the primary method of interpretation for animal names.<sup>16</sup> An intertextual examination of all the texts where **אֵיָּוֶן** occurs confirms that a large, powerful, bull-like animal is indeed intended – only the young “skip” and in this text again, a parallelism links it to a “calf” (**עֵגֶל**, unambiguously a word for the young of domestic cattle).<sup>17</sup> This is not a very difficult problem; few would dispute the identification of **אֵיָּוֶן** as the aurochs, or insist that it must mean

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<sup>13</sup> KJV.

<sup>14</sup> Cansdale 1970:82.

<sup>15</sup> Brown-Driver-Briggs 2000: 910.

<sup>16</sup> Bodenheimer 1960:10.

<sup>17</sup> Ps 29:6.

unicorn or Arabian oryx or rhinoceros. In fact it is a good example of a solved textual problem of this kind.

This is not the case with the **שָׂמָמִית**, translated in Brown-Driver-Briggs as “a kind of lizard,”<sup>18</sup> but also translated as “spider” (with “or lizard” as a footnote) in the NKJV.<sup>19</sup> This word is definitely not a settled case as **רְאִים** is. The United Bible Societies’ volume on the fauna and flora of the Bible leans toward “spider”, though not very strongly;<sup>20</sup> however, this thesis will show that intratextual analysis makes a strong case for *gecko* as is suggested by Forti in her thorough work on animal imagery in Proverbs.<sup>21</sup>

The **נִמְרֹד** mentioned in Habakkuk 1:8 is a different story again. It seems like a simple translation – **נִמְרֹד**: *leopard*,<sup>22</sup> but the context (their horses are swifter than leopards) suggests that what is being referenced here may not be the leopard at all. Leopards are dangerous and swift to leap from a tree or hiding place onto their prey,<sup>23</sup> but are a great deal less obvious as a simile for the speed of horses running over the ground. It is very likely that what is being referenced here is not the leopard at all, but rather the cheetah, which is legendary for its ground speed over short distances.<sup>24</sup> Several sources agree that this is a possibility.<sup>25</sup> The other Biblical texts to include the word **נִמְרֹד**<sup>26</sup> shed no further light on the matter, as they are all brief mentions that refer to the leopard for its dangerous nature alone (except one, Song 4:8, which refers to its preferred habitat in steep or rocky areas). Both of these attributes are characteristic of the leopard rather than the cheetah.

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<sup>18</sup> Brown-Driver-Briggs 2000:971.

<sup>19</sup> Prov 30:28 (NKJV).

<sup>20</sup> United Bible Societies 1972:78.

<sup>21</sup> Forti 2008:116.

<sup>22</sup> Brown-Driver-Briggs 2000:649.

<sup>23</sup> Badino 1978:72.

<sup>24</sup> Smithers 1986:98.

<sup>25</sup> Cansdale 1970: 113; United Bible Societies 1972:49.

<sup>26</sup> Hos 13:7; Song 4:8; Isa 11:6; Jer 5:6; Jer 13:23.

While intratextual analysis provides the clue, intertextual analysis is not very useful in this case<sup>27</sup> so we turn to extratextual analysis to take the cheetah hypothesis from a mere guess to something more considered. I will be looking at cognitive linguistics, and the prototype theory of categories in particular,<sup>28</sup> to see whether it is realistic that the same word could refer to cheetahs as well as to leopards. My argument is that it is highly probable. Many languages do not distinguish between different species of big cats; in English we even have a word for them, *panther*, that has no biological denotation at all – a relic of the pre-scientific days of our own language. More research will produce greater certainty.

Further complications arise when we are unsure not only of which biological entity a word refers to, but even of whether it refers to a biological entity at all, or rather to a mythological one. Leviathan (לִיָּאָתָן) is a perfect example; in almost all cases it seems to have a distinctly mythical flavour, closely related to the chaos monster, to Tiamat and so on. Then, suddenly, in Job,<sup>29</sup> we find a description that in some respects describes the very mundane and biological entity the Nile crocodile. So, what does Leviathan mean: A fish? A dragon? A personification of the universal forces of chaos? A Nile crocodile? Or all of the above? Things get very interesting here and we start to look not only at the lack of boundaries that existed in the ancient world between real and mythological animals (a universal feature of pre-scientific societies; how were they to know what creature could be found over the next mountain range?) but even more importantly, at the different ways a single creature could be used in different types of text and for different purposes. Job's crocodile is not only a crocodile, it is also the chaos monster, a fire-breathing dragon, the land of Egypt and its king, and any number of other things. This is not naïveté, this is extreme sophistication of metaphorical thought. Those who try to reduce Leviathan to any one natural animal do a great disservice to the texts and their authors.

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<sup>27</sup> Since there are only a few other occurrences of the word in other Biblical texts and none of them are particularly enlightening on this matter: see entry for נִיָּאָתָן in chapter 3.

<sup>28</sup> Lakoff 1990:46.

<sup>29</sup> Job 40.

There are a large number of texts that present similar difficulties to these in translation. It will be impossible to give proper attention to every one, or to every single word, but I am going to attempt at least to cover a representative range of controversial texts and difficult translations.

### *1.2.3. Folk systematics*

There is much more to this research than simply investigating individual texts or translations. Plant and animal names are so culturally revealing that they are a staple topic of research for linguists and anthropologists.<sup>30</sup> Animal names are not merely a collection of words; they comprise a system, and that system has a lot to say about the culture which has produced it. Investigating this system as a whole will require a combination of several fields of study. My main approach to this investigation is a corpus-linguistic analysis of the sum total of all the animal terms in the Hebrew Bible, and the application of the prototype theory of categories to the information collected in this way. Next, certain potentially enlightening texts are selected for intra-, inter- and extratextual analysis. As part of this process a few theoretical approaches and maxims from the field of ethnobotany will be applied to their zoological equivalents in order to build a proper theoretical framework for the investigation of folk categorisation of animals. The aim of this study is above all to investigate and characterise the taxonomic systems used by the ancient Hebrews to classify animals, but it will also produce important results regarding certain stubborn translation issues, the worldview of the people who wrote the texts, and the texts themselves. Folk taxonomy is discussed more comprehensively in chapter 2.8.

### *1.2.4. Survey of scholarly approaches*

When the research proposal for this thesis was written I included a section on currently available literature, and at that point the picture appeared somewhat dismal. The subject of animals in the Bible has been treated by innumerable popular works and many from the perspective of zoology, but few from the perspective of language or linguistics. It is virtually impossible to

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<sup>30</sup>For example, see Berlin, Breedlove & Raven 1966 in Tyler 1969:60-66.



open a popular Bible atlas without finding a couple of illustrated pages on “Animals of the Bible” and “Plants of the Bible.” The topic has been attempted by many people, to varying degrees of success. In a preliminary literary study, a number of volumes on the subject, or on a part of it, have been found – a few scholarly, but mostly popular and lacking in Hebrew language content. Of course more material was found as research went on. The reason for the relative lack of scholarly material on such an interesting topic can probably be ascribed to the fact that it lies at the conjunction of several fields: zoology, linguistics and Biblical languages. To obtain a complete picture, one really needs to know something about zooarchaeology and art history as well, as these are the two main sources for ascertaining whether a particular animal existed in a certain place at a certain time.

In most cases the approach has been from a zoological background. The most comprehensive work, from a biological point of view, to be easily available is *Animals of Bible lands*, by George Cansdale.<sup>31</sup> However, this work contains very little reference to the Hebrew language. *Animal and Man in Bible lands* by F.S. Bodenheimer, originally written in Hebrew, is an important work focusing on palaeontology and archaeozoology.<sup>32</sup> A very brief but impressive contribution is *Living animals of the Bible* by Walter Ferguson.<sup>33</sup> Ferguson includes Hebrew terms (in transliteration), English equivalents, and his own illustrations. His theoretical approach seems to be impeccable, but it is only mentioned in passing. His conclusions in each case, which I find myself agreeing with an overwhelming proportion of the time, are stated simply as opinions with no arguments offered in their favour.

Right from the start one of the most useful works from the point of view of Hebrew literature is *Animal imagery in the book of Proverbs* by Tova Forti.<sup>34</sup> She approaches the topic as a scholar of Hebrew rather than a zoologist, using the techniques of textual analysis that I intend to

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<sup>31</sup> Cansdale 1970.

<sup>32</sup> Bodenheimer 1960.

<sup>33</sup> Ferguson 1972.

<sup>34</sup> Forti 2008.

employ,<sup>35</sup> in a scholarly and rigorous manner. Her main focus is certain forms of poetic imagery and metaphorical models in wisdom literature.

Other scholars whose work is particularly relevant include Naphtali Meshel,<sup>36</sup> Jacob Milgrom<sup>37</sup> and Richard Whitekettle.<sup>38</sup> Later on in the process I came across *Purity and danger* by Mary Douglas,<sup>39</sup> which became vital to some of the major conclusions of this work. Finally, an intriguing trend was discovered of writings from the seventeenth century by travellers, naturalists and Biblical scholars (and sometimes several of these at once) including H.B. Tristram,<sup>40</sup> Eduard Rüppell<sup>41</sup> and J.G. Wood.<sup>42</sup> Tristram's and Wood's books in particular collect and present a great deal of information on the animals mentioned in the Bible, but like their more modern equivalents (of which Cansdale's is the most comparable) they are not written for the language specialist and in the few cases where Hebrew words are included they are transliterated.

### 1.3. Method

To repeat the problem statement:

- i) What is meant by the various problematic animal names in certain texts?
- ii) What cognitive paradigm was used by the ancient Hebrews to classify the animals they came into contact with? What happens when we take prototype theory as described by Eleanor Rosch and George Lakoff,<sup>43</sup> among others, and apply it to the naming of animals in the Hebrew Bible?

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<sup>35</sup> For example, see the analysis of a chiasmic structure, Forti 2008:57.

<sup>36</sup> Meshel 2008; Meshel 2015.

<sup>37</sup> Milgrom 1990.

<sup>38</sup> Whitekettle 2001; Whitekettle 2006.

<sup>39</sup> Douglas 2001; Douglas 2002.

<sup>40</sup> Tristram 1883.

<sup>41</sup> Slifkin 2007:77.

<sup>42</sup> Wood 1881.

<sup>43</sup> Lakoff 1990:39.

iii) What new insights does this information then produce when taken and applied to the original texts in which the problematic words occur, and to the translation and identification of disputed terms?

iv) What new points of theory arise from this whole exercise? Point iii) asks what the application of the theory tells us about the texts; point iv) asks what the application to the texts tells us about the theory. Are certain theories challenged by the findings? Are others bolstered?

Point i) will be answered in Appendix A and chapter 3, and the main method used will be corpus analysis. In some cases, such as those of **רִאָם** and **נְיָר**, we have seen that a thorough intratextual analysis, involving figures of speech such as parallelism and metaphor, is already enough to start drawing conclusions about the correct translations of problematic terms. This part of the thesis will be distinguished from the large amounts of popular literature on the same topic by its linguistic (textual) focus. Most authors on the subject approach it from a naturalist's perspective. This study will instead approach the topic from a thoroughly text-based point of view as Forti does. An intertextual or corpus-based approach, comparing instances of a particular word across all occurrences in the Hebrew Bible with the help of an electronically tagged text, will also be used here.

The next step is the extratextual analysis, for which I will be drawing heavily on the field of cognitive linguistics (along with the related fields cognitive psychology and cognitive anthropology). A great deal has been written in these fields about categorisation, including the categorisation of plants and animals.<sup>44</sup> These general findings and theories will be applied to the specific case of the naming of animals in the Hebrew Bible. Does Lakoff's experiential realism, for example, fit the reality of the texts better than does the classical or objectivist theory of categorisation?<sup>45</sup> In anthropology, plant names in various languages have been studied rather

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<sup>44</sup> Lakoff 1990:118-121; 187-195; Conklin 1962 in Tyler 1969:41-60; Berlin, Breedlove & Raven 1966 in Tyler 1969:60-66.

<sup>45</sup> Not to be confused with political Objectivism.

extensively,<sup>46</sup> and I am also going to take the body of theory generated from this and see how well it applies to animal names, which have not come under quite such intense scrutiny. This covers point ii) of the research problem.

Point iii) consists of a return to the text. Here all the information gained and the possible solutions generated in the first two steps will be applied to the texts, at which point the questions are asked: “what does this change?” What does it mean? What difference does it make to our understanding of the text? What new insights do we now have into this particular verse because we now have accurate translations for six different words all meaning “locust”? Put a cheetah rather than a leopard into this verse in Habakkuk, and what does it do to the impact of that simile? This is the test of the significance of the thesis.

The results of the three steps named above will not always be found in that order in the thesis. The first step in the study is the formulation of the master table of (as far as possible) every instance of any word used as the name of an animal in the Hebrew Bible, along with how many times each word occurs and in what texts. This table is appended to the main study, as Appendix A. Putting together the master table is a form of intertextual analysis, in which all the instances of a particular term in the Hebrew Bible are looked at together, to see what the various contexts of each instance of its use tell us when looked at simultaneously.

This is a corpus-linguistic approach, in that the analysis is based on a large, machine-readable body of naturally-occurring language,<sup>47</sup> rather than on more anthropological methods such as interviews. According to corpus linguistics, a representative, systematic and exhaustive analysis should be done of all the relevant examples in the corpus.<sup>48</sup> In accordance with this, I have attempted to include every word in the corpus – the Hebrew Bible – that has been used as the name of a type of animal. This is not an easy task, and despite the use of a computerised,

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<sup>46</sup> Conklin 1962 in Tyler 1969:41-60; Berlin, Breedlove & Raven 1966 in Tyler 1969:60-66; Pavord 2005.

<sup>47</sup> Gries & Stefanowitsch 2007:4.

<sup>48</sup> Gries & Stefanowitsch 2007:4.

grammatically tagged corpus, it is possible that I have overlooked some terms. The major benefit of corpus linguistics as an approach to cognitive linguistics is that it allows one to observe a large body of natural language “in the wild”, as it were. This is distinct from the elicitation- and interview-based approach of most cognitive anthropologists, as well as the theoretical and philosophical approach of many cognitive linguists. For example, Gilquin talks about how Lakoff and Johnson:

...maintain that their model of direct manipulation “emerges directly from our experience”, but there does not seem to be any experimental basis for their claims. The same holds true for the billiard-ball model, which Langacker (1991:13) simply introduces with the words “we think of our world as...”. When we move from a purely cognitive approach to a more corpus-based cognitive approach, the establishment of the prototype apparently has stronger empirical foundations, relying as it does on the frequency of linguistic items in naturally-occurring language.<sup>49</sup>

In other words, a corpus-based approach provides something more like empirical evidence than is usually found in the field of cognitive linguistics. While there is certainly a place for the more philosophical type of cognitive linguistics where the inner human experience is examined directly, and while I am generally unconvinced by the attempts of scholars in the humanities to make their work appear more like the natural sciences, there is enormous value to be found in examining a large corpus of natural language for patterns that can provide evidence for or against ideas that have been developed by the more philosophically-inclined cognitive linguists.

Only once the master table is completed can certain verses be selected from it for intratextual analysis. First the table (which in its original form – see Appendix A – is in numerical order of occurrences) is broken down into less unwieldy sections in accordance with the theoretical part of the study. Then certain particularly interesting or problematic verses or words are selected from these sections for further investigation. These include words that vary widely from one translation to another, ones that have been subject to controversy in translation, as well as ones that are interesting because they are particularly good examples of certain aspects of the

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<sup>49</sup> Gilquin 2007:166-167.

theoretical underpinning of this study. The investigation is first and foremost a textual analysis: it will be firmly rooted in rigorous intra- and intertextual analyses of the texts involved. In other words, a word being investigated will first be looked at, in the original Hebrew, in the immediate context in which it is used. That context will be analysed, which can immediately lead to important insights (for example, the parallelisms in several verses involving רֶאֱמָן which argue strongly that the רֶאֱמָן is something very similar to domesticated cattle).

See below an example of the starting point of a textual analysis from a verse in Habakkuk that happens to include a tremendous number of animal references in a short piece of text, including the problematic נִמְרָא mentioned in section 1.2. The translation (as in all tables of this type) is original.

<p>וְקָלָיו מִנִּמְרִים סוּסָיו וְחֲדָיו מִזְאֵבֵי עָרֶב וּפָשׁוּ פָרָשָׁיו וּפָרָשָׁיו מֵרְחוֹק יָבֹאוּ יַעֲפוּ כְנֶשֶׁר חָשׁ לֶאֱכֹל:</p>	<p><i>Hab 1:8</i></p>	<p>And they are swifter than cheetahs, their horses and fiercer than wolves of evening And they gallop, their horses and their horses, from far away they come and they fly like an eagle hurrying to eat.</p>
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**Table 2: Habakkuk 1:8<sup>50</sup>**

After this, any striking patterns that have been revealed in the analysis of the data will be studied, with the help of secondary sources such as commentaries.

Once the intra- and intertextual analyses are done, the next step is extratextual analysis. This is a wide-ranging analysis which involves referring to a large number of secondary sources. The

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<sup>50</sup> A note on my reasons for demarcating lines in these tables: In prose texts, I will usually try to break the texts up into clauses, so that each line contains a finite verb. This is not always possible, so in some cases a line will contain a non-finite verb, or a verb that is only implied. Sometimes a clause will need to be split for purely practical purposes: if it does not fit into the table, either in Hebrew or English, it will be divided. In the case of poetic texts I will attempt to divide the texts into stichs. In particular, each element of a parallelistic or chiasmic construction gets its own line. Again, however, sometimes practical considerations will need to override these guidelines. In every case the English translation corresponds to the appropriate line in Hebrew.

main theoretical paradigm which will be used for the extratextual analysis is that of cognitive linguistics. The field of cognitive linguistics works on the basis that human language formation is both influenced by and influences human thought patterns. The interplay between patterns of language and patterns of thought, particularly with respect to patterns of classification, is the theoretical framework of this thesis. In particular, the prototype theory of categorisation will be applied.

However, cognitive linguistics is not the only field which will be consulted. The related discipline of cognitive anthropology has many insights to offer, as does linguistics in general, and even language studies of completely unrelated languages where the common factor is the non-scientific worldview. A ubiquitous and informative topic in both these types of secondary sources is that of the naming of plants. This is a favourite subject among cognitive anthropologists, second only perhaps to family relationships.<sup>51</sup> I have found that there is a great deal of theoretical literature on plant names, much more than on animal names, and so I have done a lot of extrapolation from the cognitive domain of plant naming to that of animal naming, and it works very well. As well as the categorisation of plants, works on the categorisation of other things – objects and colours, for example – have also proved useful. Other secondary sources include commentaries, archaeozoology, works on animals, works on plants, literary analyses concentrating on texts where the relevant terms appear, books on medicine, magic and food, articles on topics ranging from monstrous pregnancies to the sounds made by shrews, a very large number of IUCN Red List entries, and the occasional sound or image file archived online.

After this the significance of the analysis is tested by taking the results and looking at the original texts once more in the light of this new information, to see what new insights may result. The results of all this, both intratextual and extratextual analysis, are to be found in chapter 3.

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<sup>51</sup> As seen in Tyler 1969.

Finally, chapter 4 answers point iv) and acts as a conclusion to the whole exercise. While chapter 3 involves a return to the texts, chapter 4 is a return to theory. In it the findings of the study are presented and conclusions set out, including critique of and proposed amendments to certain points of the current theory in the field. In particular, certain theories proposed by Mary Douglas, though their importance was acknowledged at the time, were also criticised for what amounted to lack of a theoretical basis and were retracted by her at a later date. I propose that this study has provided the missing basis and argue for a reevaluation of these parts of her work.

A brief note on intra-, inter- and extratextual analysis: this approach is based on a variation of semiotic literary theory as defined by Yuri Lotman.<sup>52</sup> According to Lotman's paradigm, literary texts are made up of networks of codes that are based on the cultural, philosophical and social environment of the author. Effective communication is only possible when author and reader have enough of these codes in common. It is our job to decipher these social codes by understanding the context in which the text was written. Where Lotman distinguishes between intratextual and extratextual codes, the modified semiotic theory used here further divides Lotman's extratextuality into intertextuality (based on relationships between the text and other texts; what Lotman calls literary codes) and true extratextuality (what Lotman calls non-literary codes; based on the social, cultural and political context).

The research approach is first and foremost text-based, and falls into the field of corpus linguistics. First, an attempt is made to collect and systematically examine for patterns all the words used in the Hebrew Bible to name animals. Second, the body of animal words is divided up according to the patterns thus found and a systematic examination of terms within their taxonomic framework is conducted. Afterwards a number of problematic terms are selected for investigation.

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<sup>52</sup> See Lotman 1972.



All instances of these terms in the Hebrew Bible will be examined, and those texts which are deemed significant for gaining an understanding of the relevant terms will be chosen for closer study. A thorough analysis will be done of all the texts that are chosen in this way. The trends revealed by looking at all the instances of a given term will also be examined. A number of secondary sources dealing with Hebrew language and literature, for example commentaries on the Biblical books concerned, will be consulted. This constitutes the intra- and intertextual part of the thesis, and the methodology involved will be very familiar to anyone within the field. The extratextual part of the thesis, on the other hand, involves an interdisciplinary approach based primarily on the prototype theory of categorisation within the field of cognitive linguistics.

#### **1.4. Hypothesis**

I expect to find that the principles of cognitive linguistics, and in particular the prototype theory of classification as developed by Eleanor Rosch and George Lakoff among others, will prove useful in resolving certain intractable problems of translating words for animals in the Hebrew Bible, will provide a working paradigm for the way in which the ancient Hebrews classified animals, and that this in turn will provide new insights into the texts in which the words are used. Classification or categorisation highlights certain properties of the objects being classified while downplaying or hiding others.<sup>53</sup> Thus the system of animal classification used by a culture highlights what that culture saw as the most important properties of the animals concerned.

It will undoubtedly prove impossible to pinpoint in every case a particular species of animal to be identified with a corresponding term. This approach does work very well on the basic level<sup>54</sup> where terms of folk classification correspond more or less with the biological classification level of the genus,<sup>55</sup> but does not work so well with the subordinate (dealing with specialised

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<sup>53</sup> Lakoff & Johnson 2003:163.

<sup>54</sup> Lakoff 1990:46.

<sup>55</sup> Lakoff 1990:36.

categories and more subtle differences) level that is used for distinctive and/or economically important species, or for the superordinate (more general) level used for general categories that include other categories, as well as the smaller, less economically important or more obscure animals. It is certain that many terms will be found to be generic ones, and the task will be not so much pinpointing species as drawing linguistic boundaries to include some species and exclude others. This corresponds explicitly to the way prototype theory works, and so I expect that prototype theory will prove extremely useful and relevant to the topic at hand, and that it will be very easy to apply the cognitive linguistic theories to the Hebrew classification systems, and that prototype theory in general will prove perfectly suited for exploring pre-Linnaean methods of biological classification in cultures other than our own.

I expect to find or develop a system of categorisation or classification for animals that shares certain characteristics with the systems that have been found in many pre-scientific societies for classifying plants. Namely, that more lexical terms are found for species that are either useful or harmful, or symbolically important, to the point that distinctions are made that do not exist in Western thought. The most detailed attention is given to those species that are most economically important to the society. Species that do not fall into these categories, on the other hand, are often placed into wider categories such that one Hebrew term will have several equally valid English translations. The best translation may often be deduced from the context, but we must not fall into the trap of thinking that the ancient Hebrews had one word for several concepts in these cases. Rather, they had one word for one concept, but we divide that concept into several different ones in terms of our biological classification of species.

Certain principles for predicting which animals have more terms used to name them (and also more total mentions in the text) than others are derived, in chapter 2.4, from ethnobotanical theory. These ideas are further expanded upon, and argued for, in that chapter, but the basics are the following: The densest lexical fields will likely be associated with animals most useful to the people of the culture concerned – in our case, probably cattle and sheep. After that will

come animals that are significant in other ways – those that are either dangerous or symbolically important or both. In terms of plant classification the ideas “useful or harmful” referred to food plants, medicinal plants and poisonous plants (some of which were identical). The equivalent in terms of animals are those which are acceptable as food (as demonstrated in the story of Noah where he saves seven pairs of all kosher animals and only one pair of those not useful for food),<sup>56</sup> and predators and scavengers that are likely to kill or eat humans. A third factor which causes animals to have many names associated with them is symbolic or mythical significance. For example, the lion is important both symbolically and because it is likely to eat one; it has several different terms associated with it and is mentioned many times. The leopard is even more dangerous to human life, but without the rich symbolism associated with the lion, it has only one name (possibly shared with the cheetah) and few mentions.<sup>57</sup>

Classification will not necessarily coincide with our own categories for animals. The most economically and culturally important will have many different terms for them, and finely divided nuances of meaning, to the point that we as Westerners will not recognise some of the subtle distinctions.

Animals that do not fall into these groups, on the other hand, will have much broader categories of classification. For example, the same word is used for what we would call an eagle or a vulture. In all probability, speculation over “does this verse refer to vultures or eagles?” is asking the wrong question, since the authors probably did not draw a distinction between the two categories. However, for the purposes of translation, different criteria apply.

Similarly, we must understand that the word שרָעַל did not mean “fox, or jackal” – it meant “small, sharp-featured canid”. We must not impose our own categories on the writers of the texts, although for translation purposes it is useful to choose one biological category (this is often very easy to do, based on context) and translate the word as such in that context, and as

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<sup>56</sup> Gen 7:2.

<sup>57</sup> See chapter 2.4.

the other possible term in a different context. This is because today's readers would find it unsettling and artificial to come across "small, sharp-featured canid" or "large bird of prey" where they expect "jackal," "fox," "eagle" or "vulture."

The plan is to systematise and codify certain principles that will be useful for Bible translators. What implications will these conclusions have for translators? One option is obviously to try and come up with an entirely new translation convention for the names of plants and animals used in a non-Western classification scheme. Translating the words currently translated as "fox" or "jackal" with "small canid" or replacing "eagle" or "vulture" with "bird of prey" or "raptor," while technically more correct, would result in a loss of information for the reader, because of the lack of history and emotional connotations for those terms. It has been suggested that the word "fox" for instance be translated either as "fox" or "jackal" depending on context – "fox" in a context of slyness and "jackal" in a context of scavenging (the concept of foxes as being sly is not found in the Hebrew Bible, but is possibly referred to in one New Testament text).<sup>58</sup> Likewise, "bird of prey" could be translated as "eagle" in a context of predatory behaviour, and as "vulture" in a context of scavenging. Footnotes could be used, depending on the type of translation.

In all probability a number of the problematic texts will have solutions that will be reachable using intense textual analysis in addition to examination (from archaeology as well as the records of surrounding cultures in the region) of possible animals to which they may refer, but other problematic texts may not have "solutions" in terms of finding an exact species to which the author of the text was referring. The solution in these cases will consist of laying aside our preconceived notions that come from our immersion in a scientific culture (this is very difficult to do), and making peace with the fact that the author may have been referring to a very broad category of animals that were nevertheless a single linguistic entity in the culture at the time.

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<sup>58</sup> Luke 13:32.

Similarly, in a non-scientific culture, little or no distinction may be made between real and legendary or mythological animals, and we must also not try to force a text that has mythological elements to become a scientific description of a real animal – even if in some instances of the word’s use real animals are partially or fully referenced. Leviathan and Behemoth are good examples of this sort of usage, and I expect that dealing with the verses referring to such animals or mythical beasts will prove particularly challenging and interesting.

The objective of this thesis is to approach the subject of animal names in the Hebrew Bible from a text-centric and literary point of view, rather than the biology-centric one common to most current sources. Secondary objectives include the following: To research and find more definitive translations for a few of the most controversial and difficult to translate words in the Hebrew Bible; to test the applicability of prototype theory and other models in cognitive linguistics to Biblical Hebrew animal naming; to expand current research on plant naming in order to apply the theory that has been developed in this field, to the adjacent domain of animal naming, and to gain new insights into the texts in which animal names are important, in the light of the new ideas generated by the above research.

# Chapter 2

## Theory

### 2.1. Introduction

This chapter forms the theoretical basis of the study. Here the elements of cognitive linguistics and of other relevant fields that are most pertinent to the study are examined and systematised into a theoretical framework for the thesis. This is also where theory from other fields, particularly ethnobotany, is adapted and applied to the purposes of the study of animal categorisation.

The most important parts of this chapter may be divided roughly into linguistic theory and ethnobiological theory. First there is an introduction to the discipline of cognitive linguistics, working inwards from its history and place within the wider field of linguistics towards the specific theories that are particularly useful in examining the matters at hand. Metaphor, fuzzy set theory and the prototype theory of categories are all discussed, and various aspects of prototype theory are then examined in greater depth. After this, attention is turned to some aspects of linguistic and anthropological theory that are focused specifically on the ways people name and classify plants and animals. Folk taxonomies are discussed, and after this a major point of contention is addressed: the question of whether biological categories are objectively real or simply cultural constructs. A middle way is proposed with the help of Steven Pinker's theory of "lumpiness".

### 2.2. Notation

In linguistics, capital letters are often used when a concept or idea is referred to. This can become somewhat confusing when authors use this convention in different ways,<sup>59</sup> for which reason I will briefly state the way in which they will be used here. In this paper, when words

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<sup>59</sup> Biggam 2012:75-76.

or phrases are written in italics (other than in the usual cases where italics are used), this indicates that what is being referred to is the word or term itself. When words or phrases are written in small capitals this puts special emphasis on the fact that what is intended is the concept referred to by the term. This is not done often in this thesis, as most of the time simply using a word in the usual way is sufficient to refer to its concept.

Thus to say that צפור is the Hebrew for *bird* is to say that it can generally be translated by that particular English word. The concept BIRD, however, refers to an idea, one that we express with the word *bird*, and which may be closely or less closely related to the concept held by the ancient Hebrews which was expressed by them using the word צפור. Italics and small capitals are not practical to use with the Hebrew font used here, but in general if a word is written in Hebrew the word itself is intended, as if it were written in italics, and when terms are written in small capitals they refer to ideas that may exist in any language although here they are expressed using English.

Or as Biggam explains: “...the concept and the name, may have a one-to-one relationship in which a single word denotes a single concept, but this is not always the case, so it is essential not to confuse them. It is a convention (although not an invariable one) in linguistics to separate them visually in print, when required, by means of SMALL CAPITALS (concepts) and *Italics* (words). For example, I may say ‘In English, RED is denoted by *red*, but in Spanish, RED is denoted by *rojo*’”.<sup>60</sup>

### **2.3. Discussion of some of the dissension in the field of linguistics, especially cognitive linguistics**

This thesis relies heavily on the principles of cognitive linguistics, in particular the theories of categorisation developed by scholars such as Eleanor Rosch and George Lakoff. Lakoff’s work *Women, Fire and Dangerous Things: what categories reveal about the mind* is foundational to

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<sup>60</sup> Biggam 2012:20.

the study and provides much of its theoretical underpinning. However, it needs to be noted that these theories, and the general approaches of cognitive linguistics, are much disputed. By using the theories in my thesis I am of course admitting that I find them both interesting and useful, but I am aware that many linguists, especially the great Noam Chomsky, consider certain aspects of this application of linguistics to be problematic. I am neither throwing in my lot with Lakoff *et al* nor setting myself up against Chomsky – I am simply interested in what happens when cognitive linguistics and especially the prototype theory of categories are applied to the question of animal names in Ancient Hebrew. If something interesting and useful comes out, that is obviously a point in favour of the theories; but the intention of this study is not to examine the validity or otherwise, or the correctness or otherwise, of these theories. Rather it presupposes their validity in order to explore what happens when they are applied to this topic.

The entire endeavour of cognitive linguistics, the field pertaining to the intersection between language and thought, is fraught with controversy. Complicating things further is the highly emotionally-charged political atmosphere in the United States at the moment. Chomsky and Lakoff's political views are different: Chomsky is a vehemently leftist political activist,<sup>61</sup> while Lakoff, though still identifying as Progressive, and though his generative semantics movement was born and raised in the counterculture of the sixties,<sup>62</sup> is ideologically more moderate than Chomsky is (even though he does not actually believe in moderates, calling them *biconceptuals* instead).<sup>63</sup> This means that the chances of any argument on the topic being motivated by pure scholarship and the merits of the respective positions are practically nil. A very short version of the conflict between the two camps: Lakoff is involved with generative semantics, which mainly ignores linguistic subdisciplines and considers phonology, morphology, syntax and semantics to be points on a continuum, with similar rules governing them all. Chomsky's side are the interpretive semanticists, who differentiate strongly between the various subdisciplines

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<sup>61</sup> Harris 1993:78-79.

<sup>62</sup> Harris 1993:235-236.

<sup>63</sup> Lakoff and the Rockridge Institute 2006:14.



and are very analytical in approach.<sup>64</sup> The interpretive side considers themselves to be responsibly restricted and the generative side to be too broad and too vague.<sup>65</sup> Now it would be completely incorrect to imagine that Chomsky is opposed to using linguistics in order to get to mental phenomena. Harris says:

Noam Chomsky, in particular, says flatly and often that he has very little concern for language in and of itself; never has, never will. His driving concern is with mental structure, and language is the most revealing tool he has for getting at the mind. Most linguists these days follow Chomsky's lead here. The subtitle of George Lakoff's major book, for instance, is *What Categories Reveal about the Mind*, and Ray Jackendoff, who works in a department of cognitive science, has one entitled *Semantics and Cognition*; in general, linguists regard their discipline now as a branch of psychology.<sup>66</sup>

In other words, Chomsky's dispute with Lakoff has nothing to do with the principle that linguistics holds clues to cognition: both agree with this important point. It was Chomsky's predecessor of sorts, Leonard Bloomfield, who preferred to stay away from meaning and stick to structure as something that could be more scientifically measured and codified, largely defining structuralism and positioning it as the major theoretical underpinning of linguistics for several decades,<sup>67</sup> and it was Chomsky who brought the study of meaning and cognition into the field.<sup>68</sup> It was Chomsky, in fact, who first came up with the idea of generative grammar, in other words a system of rules that generates all grammatically possible utterances.<sup>69</sup> Generative semantics, on the other hand, is something quite different, and something he has no time for.<sup>70</sup> And when Chomsky has no time for something or someone, everyone knows it. Harris attributes to his influence the "gunslinger mentality" that has characterised the field since the fifties.<sup>71</sup> Generative semantics is a continuation of Chomsky's work by various linguists including

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<sup>64</sup> Harris 1993:7.

<sup>65</sup> Harris 1993:163.

<sup>66</sup> Harris 1993:11-12.

<sup>67</sup> Harris 1993:26-27.

<sup>68</sup> Harris 1993:28.

<sup>69</sup> Harris 1993:38-39.

<sup>70</sup> Harris 1993:80.

<sup>71</sup> Harris 1993:80.

Lakoff (who had been Chomsky's student),<sup>72</sup> that mutated into something of which Chomsky disapproved.<sup>73</sup> "I sort of believed [generative semantics] myself back in the early sixties," Chomsky has said, "and in fact more or less proposed it."<sup>74</sup> However, when Lakoff wrote his somewhat grandiose "Toward Generative Semantics" in 1963 and showed it to Chomsky, the latter was completely opposed to his ideas.<sup>75</sup> To make a very, very long story short, Lakoff went his own way, gained followers of his own, and the two groups have been sniping at each other ever since. Generative semantics eventually overreached itself and fell out of favour for attempting to cover too broad a set of phenomena,<sup>76</sup> while lacking a strong enough theoretical framework to hold itself together.<sup>77</sup> The principal scholars in the movement started applying new labels to what they were doing. Lakoff's included cognitive grammar and experiential linguistics, foreshadowing what would in his later work become cognitive linguistics.<sup>78</sup> However, bridges had been burned, sides had been chosen, and the splits in the field of linguistics were permanent.<sup>79</sup> Now the point of all this is to show that the conflict in the field really does not have much to do with the principle of using linguistics to learn about cognition, but a lot to do with personality clashes and academic (and general) politics. In other words, anyone tempted to dismiss the whole idea of cognitive linguistics must first consider that the urge to do so may sometimes be motivated by ideological prejudice rather than academic principles.

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<sup>72</sup> Harris 1993:103.

<sup>73</sup> Harris 1993:102.

<sup>74</sup> Harris 1993:104.

<sup>75</sup> Harris 1993:105.

<sup>76</sup> Harris 1993:228.

<sup>77</sup> Harris 1993:230.

<sup>78</sup> Harris 1993:230.

<sup>79</sup> Harris 1993:242-244.

## 2.4. Metaphor in cognitive linguistics

Probably the best-known application of cognitive linguistics is the study of metaphor and its fundamental role in the development of language and thought. While metaphor is not the main focus of this study, it is so central to the discipline of cognitive linguistics that a short discussion of it is appropriate at this point. The seminal work in the field is George Lakoff and Mark Johnson's 1980 book *Metaphors we live by* (reprinted with a new afterword in 2003). In it they drastically expand the understanding of metaphor from a mere poetic technique to being the foundation of all conceptual thought and key to the way we experience the world.<sup>80</sup> Guy Deutscher calls language "a reef of dead metaphors" and compares the formation of language to:

...a stream of metaphors that runs right through language and flows from the concrete to the abstract. In this constant surge, the simplest and sturdiest of words are swept along, one after another, and carried towards abstract meanings. As these words drift downstream, they are bleached of their original vitality and turn into pale lifeless terms for abstract concepts – the substance from which the structure of language is formed. And when at last the river sinks into the sea, these spent metaphors are deposited, layer after layer, and so the structure of language grows, as a reef of dead metaphors.<sup>81</sup>

In Deutscher's analogy (which is in itself a vivid example of living metaphor), this "reef" is laid down in a sedimentary fashion by currents of metaphors that flow from the concrete to the abstract.

It could perhaps be even more revealing to view the development of language in terms of another kind of reef, those built up by coral animals. In a coral reef only the very outer parts are living; the bulk of the structure is made up of the calcareous skeletons of long-dead corals upon which the newest generation finds footholds to grow. In the same way, metaphors start out as novel, poetic comparisons, and with long familiarity become *dead metaphors*, building blocks of language which we use routinely without ever even thinking about their metaphorical nature

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<sup>80</sup> Lakoff & Johnson 2003:145-146.

<sup>81</sup> Deutscher 2010:118.

or origins, and upon this structure new metaphors are constructed, only to calcify and die and be built upon once more.

It is relatively easy for anyone to think of a few examples of dead metaphors that have found their way into ordinary language, but the vital contribution of cognitive linguistics was to point out the sheer scale and fundamental importance of this process in the development of language – as with a coral reef, it's metaphors all the way down. And it is not only language that developed in this way, but the very structure of thought itself and the way we structure our experiences. Even the most simple and fundamental of abstract concepts ultimately originated as metaphors drawn from the physical world, particularly spatiality,<sup>82</sup> which is in turn metaphorically based upon the physical body.<sup>83</sup>

## **2.5. Linguistic relativity and linguistic determinism, the weak and the strong form**

No outline or history of cognitive linguistics can be complete without mention of the Sapir-Whorf hypothesis. Named after Edward Sapir and Benjamin Whorf, the hypothesis consists of two main principles: linguistic relativity and linguistic determinism.<sup>84</sup> Linguistic relativity is a principle that states that languages differ from each other in the way they interpret and structure reality, and thus that societies with different languages have correspondingly different worldviews.<sup>85</sup> Linguistic determinism, sometimes included under the phrase linguistic relativism,<sup>86</sup> states that language influences or determines thought.<sup>87</sup>

In its strongest form, largely out of favour at the moment, this means that people can have no concepts of things for which they have no words, and that we are actually incapable of thinking

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<sup>82</sup> Lakoff & Johnson 2003:56; Deutscher 2010:136.

<sup>83</sup> Lakoff & Johnson 2003:57; Deutscher 2010:138-142.

<sup>84</sup> Biggam 2012:17.

<sup>85</sup> Biggam 2012:17.

<sup>86</sup> Biggam 2012:213.

<sup>87</sup> Biggam 2012:18.

except in ways that are predetermined for us by the languages we speak.<sup>88</sup> The weaker form is less deterministic. The strong version, for example, says that speakers of a language with no separate term for the colour blue will have no concept or cognition of the colour. The weaker version, on the other hand, would say that although such people will, for instance, perform less well in tests requiring them to differentiate or recall colours including shades of blue, they will still be conscious of the fact that the sky is a different shade from the trees even though they have no separate words to describe the respective colours.<sup>89</sup>

This is the form that is assumed to be true for the purposes of this study: although the ancient Hebrews had a word, נֶשֶׁר, meaning *eagle or vulture*, and although we need to understand that this is a single concept in the language, they still would have been aware that some נְשָׂרִים had bald heads and others feathered; that some were more likely to eat carrion and others to hunt. However, the hypothesis cannot be ignored or thrown out altogether. Having a single word instead of two for eagles and vultures may have made it less likely that speakers of ancient Hebrew would have noticed or realised that the bald נְשָׂרִים were the ones that ate carrion and the ones with feathered heads were more likely to be hunters. Words do not necessarily determine cognition, but they certainly influence it, and to a great degree. However, it should never be overlooked that the opposite is also true – although so obvious a fact that it is easy to neglect it completely, *cognition determines words*. Language always tells us about the cognitive processes and worldviews of its speakers. This is a fact independent of the Sapir-Whorf hypothesis in either the strong or weak form.

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<sup>88</sup> Biggam 2012:18.

<sup>89</sup> Biggam 2012:18-19.

## 2.6. Experiential realism

Lakoff, in his book *Women, fire, and dangerous things*, originally published in 1987, proposes a new way of looking at reason which he calls “experiential realism,”<sup>90</sup> as opposed to the traditional view of reason which he calls “objectivism.”<sup>91</sup>

The roots of experiential realism can, however, be traced back further in his writing. It is already beginning to be developed in *Metaphors we live by* where he and Johnson write things such as the following: “The Nature of the Experientialist Account of Truth: We understand a statement as being true in a given situation when our understanding of the statement fits our understanding of the situation closely enough, for our purposes.”<sup>92</sup> Here they propose that the apparent need to choose between objectivism and subjectivism is a false dilemma, and that the truth lies in a third way that they call experientialism.<sup>93</sup> In this book a clear progression can be seen from theories of metaphor to the idea of experientialism,<sup>94</sup> and in *Women, fire and dangerous things* it is developed further.

The gist of experientialism, or experiential realism, as Lakoff prefers to call it in the later book,<sup>95</sup> is that it agrees with objectivism that there is a real world, that reality goes beyond mere internal coherence, and that stable knowledge of reality is possible, while disagreeing with its assertion that reason is transcendent and independent of the body. In experiential realism, human reason and thought grow out of the physical body.<sup>96</sup> Metaphor, and later categorisation, are the means by which the structure of the physical body, as experienced by the brain that forms part of that body, becomes first a set of concepts of spatiality and then an entire system

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<sup>90</sup> Lakoff 1990:xv.

<sup>91</sup> Lakoff 1990:xii.

<sup>92</sup> Lakoff & Johnson 2003:179.

<sup>93</sup> Lakoff & Johnson 2003:185-194.

<sup>94</sup> See for example Lakoff & Johnson 2003:183.

<sup>95</sup> Lakoff 1990:265.

<sup>96</sup> Lakoff 1990:xv.

of abstract reasoning.<sup>97</sup> The experientialist definition of truth is that “We understand a statement as being true in a given situation if our understanding of the statement fits our understanding of the situation closely enough for our purposes”.<sup>98</sup> Lakoff prefers the term *experiential realism* to *experientialism* in order to emphasise what it shares with objectivism: the belief in a genuinely external and knowable real world.<sup>99</sup> The important point of difference is that he believes that our conceptual systems are not merely a mirror of this real world, but are inextricably linked to our experiences as embodied creatures. Presumably, according to this theory, any sapient beings with very different bodies from our own would have dramatically different conceptual systems.

## 2.7. Lakoff, Rosch, and prototype category theory

Categorisation is central to Lakoff’s ideas on experiential realism, and he subscribes to a theory about categorisation called *prototype theory*<sup>100</sup> which comprises the fundamental theoretical basis for this study. The prototype theory of categories has been developed mainly by Eleanor Rosch,<sup>101</sup> and originated from the field of psychology.<sup>102</sup> Mervis and Rosch describe the failings of classical category theory and the beginnings of prototype theory as follows: “In a classical concept formation experiment, any one stimulus which fits the definition of the concept (possesses the relevant attributes in the correct combination) is as good an example of the concept as any other. More generally, if categories are seen as determinately established by necessary and sufficient criteria for membership (and if, in addition, the role of rationality is to abstract out what is essential to a situation while ignoring what is inessential; see e.g. James 1890a,b), then any member of a category should be cognitively equivalent qua the category to

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<sup>97</sup> Lakoff 1990:267.

<sup>98</sup> Lakoff 1990:294.

<sup>99</sup> Lakoff 1990:xv.

<sup>100</sup> Lakoff 1990:5.

<sup>101</sup> Lakoff 1990:7.

<sup>102</sup> Gilquin 2007:160.

any other member. However, there is now a growing amount of empirical evidence that all members are not equally representative of their category.”<sup>103</sup>

Lakoff first became influenced by Rosch’s work, along with that of the mathematician Lotfi Zadeh, in around 1973. Zadeh’s theories inspired the name he gave the approach he started devising at that time: fuzzy grammar.<sup>104</sup> In *Metaphors we live by* we can already see the fundamentals of prototype category theory being set out. Lakoff and Johnson write: “The objectivist account of definition is inadequate to account for understanding in another way as well. On the objectivist view, a category is defined in terms of set theory: it is characterized by a set of inherent properties of the entities in the category. Everything in the universe is either inside or outside the category. The things that are in the category are those that have all the requisite inherent properties. Anything that fails to have one or more of the inherent properties falls outside the category. This set-theoretical concept of a category does not accord with the way people categorize things and experiences. For human beings, categorization is primarily a means of comprehending the world, and as such it must serve that purpose in a sufficiently flexible way.”<sup>105</sup>

Prototype theory proposes that rather than being defined by sets of common properties, as the classical theory holds,<sup>106</sup> categories are instead based on best examples called prototypes<sup>107</sup> and that we judge whether or not a thing belongs in a certain category by whether we consider it to be “enough” like this prototype. This means that some members of a category may have nothing in common with some others (providing that both have something in common with the prototype).<sup>108</sup> Categories may have central members (prototypes and closely similar things,

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<sup>103</sup> Mervis & Rosch 1981:95.

<sup>104</sup> Harris 1993:221.

<sup>105</sup> Lakoff & Johnson 2003:122.

<sup>106</sup> Lakoff 1990:6.

<sup>107</sup> Lakoff 1990:7.

<sup>108</sup> Lakoff 1990:16.



that fit into the category if anything does), and non-central members,<sup>109</sup> things that might be considered part of the category or not, depending how strictly one is speaking, or else that definitely form part of the category but are considered to be “not-as-good examples” of items in that category.

Many categories are extendable, in that we may choose to make them larger or smaller by including or excluding various groups of non-central category members.<sup>110</sup> Central members of a category are more representative of the category as a whole, while more peripheral members are less representative.<sup>111</sup> Gaëtanelle Gilquin quotes Günter Radden<sup>112</sup> saying that a prototype is “the best, clearest and most salient exemplar among the members of a category and [serving] as a kind of cognitive reference point with respect to which the surrounding, ‘poorer’ instances of the category are defined”.<sup>113</sup> Rosch says “Perception of typicality differences is, in the first place, an empirical fact of people’s judgments about category membership. It is by now a well-documented finding that subjects overwhelmingly agree in their judgments of how good an example or clear a case members are of a category, even for categories about whose boundaries they disagree”.<sup>114</sup>

This is an extremely simplified account of prototype theory, and here is an even simpler one: prototype theory states that if we are trying to determine whether an object is a chair or not, we do not mentally tick off properties of chairs to see if it has them (“Seat, check. Legs, check. Can be sat on, check. Arms? No. Arms not an essential attribute. Still a chair.”) Rather, each of us has a mental image – not necessarily a purely visual image: in Lakoff’s earlier book with Mark

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<sup>109</sup> Lakoff 1990:17.

<sup>110</sup> Lakoff 1990:16-17.

<sup>111</sup> Gilquin 2007:160.

<sup>112</sup> Pp 519-520 of Radden, G. 1992. The cognitive approach to natural language. In: Martin Pütz (ed.), *Thirty years of linguistic evolution. Studies in honour of René Dirven on the occasion of his sixtieth birthday*, 513-541. Amsterdam/Philadelphia: John Benjamins.

<sup>113</sup> Gilquin 2007:160.

<sup>114</sup> Rosch 1978:11.

Johnson, *Metaphors we live by*, they write “...at least some of the properties that characterize our concept of an object are *interactional*. In addition, the properties do not merely form *a set* but rather *a structured gestalt*, with dimensions that emerge naturally from our experience”<sup>115</sup> – that constitutes our prototypical or ideal image of a chair, and anything that resembles this prototype closely enough is considered “a chair”. This explains why we can sometimes include in the category “chair” something like a doll-house chair, or a picture of a chair, both of which entirely lack the (one would have thought) indispensable property of being suitable for sitting on.

Rosch emphasises that this process is a cultural one and does not exactly describe the means by which a child learns categories or an individual decides whether something fits a category or not: “It should be noted that the issues in categorization with which we are primarily concerned have to do with explaining the categories found in a culture and coded by the language of that culture at a particular point in time. When we speak of the formation of categories, we mean their formation in the culture. This point is often misunderstood. The principles of categorization proposed are not as such intended to constitute a theory of the development of categories in children born into a culture nor to constitute a model of how categories are processed (how categorizations are made) in the minds of adult speakers of a language.”<sup>116</sup> This does not mean, however, that prototypicality plays no role in childhood learning or in adults’ judgements of categories – examples given in the literature, and the very experiments done to test the theories, show its effects again and again in just such situations.

### ***2.7.1. Categories and Lotfi Zadeh’s fuzzy set theory***

One might easily think of a category as being a simple binary, a circle on a Venn diagram where everything either is or is not a member of the category. This is not so. A category is a more complex conceptual object than that, and this is the main point of Rosch’s – and thus Lakoff’s

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<sup>115</sup> Lakoff & Johnson 2003:122.

<sup>116</sup> Rosch 1978:2.

– theories. The theory of categories in cognition has a great deal in common with mathematical set theory. Standard set theory works in the way we usually think about categories, with things either in or out of a set. This corresponds with classical category theory. Gilquin says:

While the classical, so-called Platonic view preaches the discreteness of categories and the existence of a limited set of necessary and sufficient properties defining them (see Givon 1986), cognitivists claim that natural categories contain good and less good examples, which possess a larger or smaller number of characteristic properties. To illustrate this with a classic example (Fillmore 1977:68-69), a ‘bachelor’ is defined, in the classical perspective (or ‘checklist theories of meaning’, see Fillmore 1975), by the properties [+ male] and [+ single], which are both necessary (a person must have these two properties to be called a bachelor) and sufficient conditions (a person need only have these two properties to be called a bachelor). In the cognitive perspective, on the other hand, the bachelor-category is organised around a prototype, namely a 30-year-old single man who has not yet married, but it includes other, more marginal members (e.g. a baby boy, a pope or a divorced man).<sup>117</sup>

This does not mean, however, that with the emergence of prototypicality category theory has left mathematical set theory behind. In prototype theory categories have foci, boundaries and areas in between the two<sup>118</sup> – and the boundaries can also be somewhat fuzzy. This structure can be illustrated by this excerpt from Biggam’s book, on the basic colour category GREEN:

The focal or prototypical area of the category represents the shade which a speech community considers to be the best example of a category, and which they might describe as ‘the greenest green’ or ‘typical green’ although not everyone’s typical green is located at exactly the same point on a colour chart.... Close to this focal area of the category are shades of green which are not quite the greenest possible, perhaps because they are slightly paler, darker or duller than ‘typical green’, or because they contain too much blue or yellow or any other detracting element. As we move further out from the focus, the shades of green become less and less like typical green. In language, the degree of distance from the focus, as judged by the speaker, can be conveyed by means of hedges, that is, terms or phrases such as almost, virtually, slightly and so on. Still moving away from the focus, we finally come to shades which are barely green at all. This marks the approach to the category boundary where membership of the category is tenuous. It is at the boundary where disagreement among members of the same speech community is most often found; for example, some may consider a particular shade of turquoise as green but others may classify it as blue. The category boundary is crossed when a colour is considered to be more like one of green’s neighbours on the hue

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<sup>117</sup> Gilquin 2007:160-161.

<sup>118</sup> Biggam 2012:60.

spectrum than like green itself, but the position of the boundary will not be exactly the same for every native speaker.<sup>119</sup>

The above description refers to a basic-level category that has particularly uncertain or fluid boundaries, varying with the colour perception of each individual speaker. This is the kind of situation where Lotfi Zadeh's work in fuzzy set theory becomes particularly useful. In 1965 the mathematician Zadeh introduced the concept of *fuzzy sets* where items have degrees of membership of a set rather than being simply in or out.<sup>120</sup> Harris explains Zadeh's theory as follows:

Zadeh's work concerns formal set membership, rather than mental categories directly, but the same notion of degree is clearly at play. Consider a collection like the set of tall people. Tallness is clearly a relative notion. Some people are obviously tall (say, those over seven feet); some people are obviously not tall (say, those under five feet); many people fall in between. Moreover, estimations of tallness vary by gender, age, race, occupation, and perhaps several other variables; the height of someone who is tall for a jockey would be much lower than the height of someone who is tall for a basketball center. Zadeh proposes that set membership, accordingly, not be a binary notion, but be assigned by degrees; say, a real number between 0 and 1. In this way, the proposition that Leila is tall would not be true or false in an absolute sense, but true to some quantitative degree (say, 0.38).<sup>121</sup>

Biggam connects Zadeh's fuzzy set theory with Rosch's prototype theory:

Fuzzy set theory had much in common with aspects of Rosch's 'prototype theory' of categories, first presented in 1973, whereby certain items were considered to be typical, or best examples, of their categories while other items could be located anywhere on a range of better to poorer examples (1973: 112). This is known as 'graded category membership' or 'family resemblance' (Rosch and Mervis 1975). For example, an informant may consider focal blue as prototypical of the blue category, while pale blue may be less so, bluish-grey less so again, and focal red has zero membership of the blue category.<sup>122</sup>

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<sup>119</sup> Biggam 2012:60.

<sup>120</sup> Biggam 2012:78.

<sup>121</sup> Harris 1993:221.

<sup>122</sup> Biggam 2012:78.

However, and this is absolutely essential to note, this structure exists even in categories whose boundaries are not fuzzy at all: categories where everything is very definitely and objectively either in the category or outside it will still have members that are nearer to the central focus than other members are. Many of the arguments proposed by various scholars against prototypicality and prototype category theory have been based on the incorrect assumption that prototypicality and prototype effects imply graded category membership.<sup>123</sup> This is simply not the case. Even when membership / non-membership of a category is absolutely clear-cut, certain members may still be prototypical while others are poorer examples while still being inarguably members of the category.

Birds provide a perfect example of this phenomenon: the prototype of our category BIRD is small, perches in trees, sings, and eats seeds and grubs. Harris says “In a wide range of experiments, prototype theorists have demonstrated what is clear to all of us with a moment’s thought, that people regard some birds (like robins and sparrows) as more central to the category, more birdlike, than other members of the category (such as ostriches and penguins). As members of the category move away from the prototype on such dimensions as size, capacity for flight, and nesting habits, they are perceived as less and less birdlike (though still birds).”<sup>124</sup> While birds that have few to none of the attributes of the prototype (hawks, ostriches, pelicans, penguins, and so on) are less good members of the category, the biological category BIRD cannot be said to be fuzzy as there is an inarguable dividing line (among extant animals at least) between BIRD and NOT-BIRD.

Harris also says “Prototype effects are why, for instance, most of us hesitate when asked to categorize an olive, but not an apple or a carrot.”<sup>125</sup> This phenomenon, also called representativeness, determines the centrality or otherwise of a category member. It is determined in experiments by asking subjects how good an example an item is of its category,

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<sup>123</sup> Lakoff 1987:130; 157-165.

<sup>124</sup> Harris 1993:221.

<sup>125</sup> Harris 1993:221.

and also by means of speed tests where subjects are meant to answer questions along the lines of “is object X a member of category Y?” as quickly as possible.<sup>126</sup> Prototypical category members are the most central and the most representative.

Zadeh’s work is very precise and is useful particularly in artificial knowledge representation.<sup>127</sup> He posits theorems for dealing with complements, intersections, unions, containment and so on with regard to these sets,<sup>128</sup> concentrating particularly on convexity,<sup>129</sup> as well as formulae for performing algebraic operations on them,<sup>130</sup> while conceding that “clearly, the ‘class of all real numbers which are much greater than 1,’ or ‘the class of beautiful women,’ or ‘the class of tall men,’ do not constitute classes or sets in the usual mathematical sense of these terms. Yet, the fact remains that such imprecisely defined ‘classes’ play an important role in human thinking, particularly in the domains of pattern recognition, communication of information, and abstraction.”<sup>131</sup> Fuzzy set theory and even graduated category membership can be integrated into classical objectivism without any real damage,<sup>132</sup> but prototypicality and the radial categories that result from it (see 2.7.2), demand a new way of thinking about thinking. Classical (even fuzzified classical) categories can go with the objectivist worldview, but prototype-based categories correspond with experiential realism.

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<sup>126</sup> Mervis & Rosch 1981:96.

<sup>127</sup> Harris 1993:221.

<sup>128</sup> Zadeh 1965:339-343.

<sup>129</sup> Convexity occurs when a graph where the y-axis is the membership function  $f_A(x)$  representing the degree of membership of  $x$  in  $A$ , and where the x-axis is  $x$ , forms a convex shape (with one peak in the middle). (Zadeh 1965:346-353).

<sup>130</sup> Zadeh 1965:344-346.

<sup>131</sup> Zadeh 1965:338.

<sup>132</sup> Lakoff 1990:196.

### 2.7.2. *Other applications of prototypicality in linguistics*

Prototypicality is a concept that is not confined in linguistics only to what is explicitly called category theory. Prototypicality, as described above, can be applied to other linguistic questions such as causation<sup>133</sup> or the definitions of verbs. Stefan Gries, in his introduction to *Corpora in cognitive linguistics*, speaks of using a “behavioural profile” of the verb *to run*, derived from a corpus study, to find the prototypical sense of the verb.<sup>134</sup> Now, the verb *to run* does not appear to be the sort of thing that can be described by category theory, but the *senses* of the verb *to run*, on the other hand, form a list or a grouping that can be categorised and prototypical and peripheral members identified. So prototypicality and category theory have quite a broad set of applications in linguistics.

Gries’s article in the abovementioned book gives us an intriguing picture of how peripheral senses of a word (or members of a category) can grow out of (or become associated with) the prototypical member in a process of accretion via metaphor and metonymy.<sup>135</sup> When we look at animal categories, we see that it is very likely that the development of these categories proceeded in very much the same way as verb senses did. Peripheral senses of the verb *to run* were added to its definition due to important similarities to the prototypical meaning, metaphorical connections to the prototypical meaning, *and similarities to important peripheral meanings that may themselves be at one remove from the prototypical meaning*. For example, the core, or prototypical sense of the verb *to run* refers to FAST PEDESTRIAN MOTION.<sup>136</sup> The same verb is then applied to fast motion that is not necessarily pedestrian (such as that of a river) and from there to other forms of motion that are similar to the motion of a river while not being fast (tears running), the consequences thereof (mascara running) or which can be

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<sup>133</sup> Gilquin 2007:164-165.

<sup>134</sup> Gries & Stefanowitsch 2007:8-9.

<sup>135</sup> Gries 2007:63-65.

<sup>136</sup> Gries 2007:63.

compared to such motion metaphorically (water running out of a container => resources running out => time running out).<sup>137</sup>

The same process happens in many different directions from the “hub” word, in such a way that certain of the more peripheral senses have nothing at all to do with some of the other peripheral senses – no one would have any idea that they were related in any way, in the absence of the “hub” or prototypical sense. Some non-prototypical senses (such as the idea of a river flowing) themselves form hubs from which other senses are derived. So instead of a single prototypical meaning with all the peripheral meanings radiating out of it, we instead find that some of these peripheral meanings themselves form the hubs of clusters of other peripheral meanings.<sup>138</sup>

This is where prototypicality really comes into its own as a theory of categorisation. The classical theory of categories, that requires a set of constraints or properties that must be satisfied by every member of a category, has a difficult time dealing with sprawling spidery categories of this sort where certain members appear to have nothing at all in common with certain other members. For example, in the Australian language Gurr-goni, aeroplanes fall into the category of vegetables.<sup>139</sup> At first glance this seems absurd, but prototype theory, which deals with tracing every member back to the “hub”, the prototype, can handle a case like this with ease. In this case the hub is a prototypical edible vegetable. A little further from the centre are found all plants; then things made from wood, including canoes. Canoes form the hub of their own peripheral cluster (still falling into the main category VEGETABLES) that includes all artificial means of transportation, and aeroplanes naturally fall into this cluster.<sup>140</sup> What seems ridiculous in terms of classical categorisation makes perfect sense using prototype theory.

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<sup>137</sup> Gries 2007:64-65.

<sup>138</sup> Gries 2007:74.

<sup>139</sup> Deutscher 2010:265.

<sup>140</sup> Deutscher 2010:265-266.



Categories of this type are known as radial categories.<sup>141</sup> The prototype theory of categorisation may be less easy to map mathematically than classical theory, but it fits better with the way languages and brains actually work.

It is often debatable which non-prototypical senses of a word constitute true polysemy (where one word has several senses or meanings) and which are simply metaphorical or metonymous uses of the prototypical sense. Lumpers will tend to consider many uses to be simply modulations of the prototypical sense while splitters will prefer to differentiate many distinct senses.<sup>142</sup> This is the point where prototypicality, which has been called “the heart of cognitive linguistics”,<sup>143</sup> meets up with metaphor, that other cornerstone of the field.

### ***2.7.3. How prototypical senses are determined***

Of course we cannot always trace the course of a word’s changing meanings through history, and even when we can, the central or prototypical uses of words are quite capable of shifting over time. So how is the prototypical meaning of a word, or the prototypical member of a category, determined? Gries offers the following non-exhaustive list of criteria for prototypicality based on the work of various researchers: “Asymmetrical judgments of goodness or similarity; ease of elicitation; gradation within the category; earliest attested meaning; centrality/predominance in the semantic network; use in composite forms; etc.”<sup>144</sup> He goes on to state, however, that conflicts among these criteria are the rule rather than the exception, and that “behavioural profiles” derived from corpus data are useful in determining prototypes.<sup>145</sup> Gilquin, meanwhile, says that “cognitivists tend to consider the prototype as the cognitively most salient exemplar, while corpus linguists often equate it with the most frequently corpus-attested item (cf. Stubb’s [2004] equation of ‘prototypical’ and ‘high-

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<sup>141</sup> Evans 2007:125-126.

<sup>142</sup> Gries 2007:77.

<sup>143</sup> Gilquin 2007:159.

<sup>144</sup> Gries 2007:75.

<sup>145</sup> Gries 2007:75-76.

frequency' exemplars). Most of the time, the (often implicit) assumption is that the two coincide with one another."<sup>146</sup> I lean towards cognitivism in principle, with corpus linguistics as a method rather than a theoretical foundation, and thus identify *prototype* with *most salient exemplar*, while being *the most frequently corpus-attested item* is an important addition to the non-exhaustive list of often-conflicting criteria that can be used in an attempt to determine the prototype. Very often the most frequently-used example of a category is also the most salient one. For instance, when Gilquin talks about Rosch's experiments with fruit categories in California, she says:

Since nectarines and boysenberries are more common in California than mangoes or kumquats, it is not surprising that the former were regarded by informants as more representative of the fruit-category than the latter. No doubt the results would have been different if the experiments had taken place, say, on the African or Asian continent. Geeraerts (1988:221-222), giving a similar example, goes even further and establishes a link between *linguistic* frequency (not just *referential* frequency) and prototypicality. Nectarines being more common than mangoes in California, people are more likely to talk about the former – hence a higher linguistic frequency. Frequency of linguistic occurrence, therefore, can be seen as a 'heuristic tool in the pinpointing of prototypes'.<sup>147</sup>

There are, however, exceptions to the rule. An example of this comes from Rosch's work again: Gilquin notes that in Rosch's experiments, rare terms such as *love seat* and *davenport* were rated as being more central to the category of FURNITURE than was the common term *refrigerator*.<sup>148</sup> There are many factors that can mediate the relationship between frequency and prototypicality, but in this case I propose that the mediating factor is the highly prototypical membership of *refrigerator* in a second category: HOME ELECTRICAL APPLIANCES. If the category HOME ELECTRICAL APPLIANCES did not exist, then *refrigerator* would probably be a very salient member of the category FURNITURE. But its central membership in a different category probably disqualifies it in many people's minds from a similarly central position in

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<sup>146</sup> Gilquin 2007:159.

<sup>147</sup> Gilquin 2007:168-169.

<sup>148</sup> Gilquin 2007:169.

the FURNITURE category. It will be interesting to see whether this effect comes into play in animal classification.

Elsewhere in Gilquin's article, she lists other features that can be used as criteria for prototypicality: prototypical terms are acquired earlier by children, they tend to be produced more rapidly in naming tasks, and they are more easily memorised.<sup>149</sup> These features are admittedly more useful for field anthropologists than corpus linguists, but they are still important.

It is necessary to note that a prototype is a mental construct rather than a real object. No matter how convenient it is to say that *sparrow* is the prototype of *bird*, it is the *idea* of a "SPARROW" that exhibits prototypicality; not the thing itself. Rosch says "to speak of a *prototype* at all is simply a convenient grammatical fiction; what is really referred to are judgments of degree of prototypicality..."<sup>150</sup> A last word from Gilquin warns against excessive positivism in this field, just in case we were tempted: "Prototypicality is itself a prototypical notion, with fuzzy boundaries and more peripheral instances. And the incursion of prototypicality into linguistics seems to have added to this fuzziness."<sup>151</sup>

#### **2.7.4. Category levels**

Several types of categories exist, and an important division to take note of is that of basic-level versus higher- or lower-level categories. The term *basic-level* as a description of a type of category is used often and needs to be well understood. It is not, as might be imagined, the highest-level or broadest type of category. In fact there are category types higher (broader) as well as lower (narrower; more specific) than basic-level ones. Basic-level terms are the most cognitively important ones.

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<sup>149</sup> Gilquin 2007:160.

<sup>150</sup> Rosch 1978:15.

<sup>151</sup> Gilquin 2007:180.

A simple way to think about it is to consider the first words that a child learns. *Mother*, for example is a basic-level term. *Parent*, *relative*, *ancestor* are all higher-level terms in the same domain, and *stepmother*, *biological mother*, *adoptive mother* etc. are lower-level – more specific – ones. Children are able to solve simple sorting problems involving basic-level categories at an earlier age than they can solve similar problems involving either superordinate or subordinate categories.<sup>152</sup> In the semantic domain of furniture (furniture is discussed with great regularity in category theory), *table*, *chair* and *bed* are all basic-level terms. *Furniture* is itself a higher-level term and *bunk bed*, *stool*, and *coffee table* are lower-level terms. C.P. Biggam (2012) says: “Categories below [the] basic level often have to be described with a basic-level term plus a modifier, as in kitchen chair, while categories above the basic-level term can be missing altogether or irregular in some way. For example, FURNITURE is uncountable in English, that is, we cannot say *\*a furniture* or *\*furnitures*. Basic-level terms exhibit a high frequency of occurrence, and they are likely to be short and/or structurally simple.”<sup>153</sup> She also gives this definition: “[basic terms] are frequently used, in both speech and writing, and they are well known to all adult speakers of the language. English speakers all know words such as *mother*, *arm*, *red* and *green* but they are less likely to encounter and/or understand *sibling*, *pancreas*, *burgundy* and *taupe*, which suggests that the second word-set contains *non*-basic terms.”<sup>154</sup> In American Sign Language basic-level categories tend to be coded by single signs.<sup>155</sup> The people of Bellona Island refer to their basic-level colour terms as “the big names for colours”.<sup>156</sup> Higher- and lower-level category terms tend to be less prevalent in the corpus of a language, and known by fewer speakers. You will note that some of these characteristics of basic-level terms are similar to the characteristics of prototypes as reported by Gilquin. Although I have not seen this explicitly discussed, it is obvious that basic-level terms and

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<sup>152</sup> Mervis & Rosch 1981:93.

<sup>153</sup> Biggam 2012:60.

<sup>154</sup> Biggam 2012:21.

<sup>155</sup> Rosch 1978:10.

<sup>156</sup> Biggam 2012:21-22.

prototypes have much in common and that basic-level categories can comprise the prototypes for higher-level categories.

Despite these general rules, it is important to note that in any language not all native speakers of the language will use categories in exactly the same way. Differences in socio-economic level, for instance, or special areas of interest or expertise, may result in certain individuals using lower-level categories for things which the average speaker of a language would refer to using basic-level categories only. This is illustrated by Biggam with regard to colour theory:

Results from only a small number of informants should not be extrapolated to the whole speech community, since it has been shown that individual speakers may differ in the number and nature of their colour categories: men may differ from women; young people may differ from older generations; bilinguals may differ from monolinguals; cloth dyers may differ from farmers; and so on... Readers are asked to bear this in mind, therefore, that when I speak of a language's colour system, this may not be true for all that language's native speakers.<sup>157</sup>

This assertion, true for colour categories, definitely holds for biological categories as well. For a simple contemporary example, see this fragment from an online exchange:

1. Definitely want to do a Yellow Watchman Goby and a Candy Striped pistol
2. Thinking about a Swiss Guard Basslet
3. 1 black and white clown with possibly a small BTA (Can I do a pair if I don't do the basslet)
4. Maybe a neon goby or clown goby<sup>158</sup>

To the average English speaker today, most of those categories would be described simply as “fish”. To the ancient Hebrews, they would *all* be דג, even the shellfish and invertebrates. In a similar way, in the ancient world, farmers or hunters may have used more lower-level category terms for certain animals, while city-dwellers would have used higher-level terms. Another way of putting this is to say that these people with specialist knowledge treat the lower-level categories as being basic-level. Where plants and animals are concerned, basic-level categories

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<sup>157</sup> Biggam 2012:59.

<sup>158</sup> Stellablue 2015:2.

normally correspond with surprising accuracy to the biological genus.<sup>159</sup> In some cases where a type of animal or plant is particularly well-known to an entire culture, as is the case with some domestic animals, basic-level categories may instead correspond with species or variety (for example DOG, which is biologically the designation of a subspecies), and when the organisms are less familiar, categories that would be expected to be superordinate may become basic-level, as Rosch discovered to her surprise when testing her fellow, presumably urban, Americans on the subject of trees.<sup>160</sup>

Apart from basic and non-basic categories, and higher versus lower-level categories, Biggam spends some time discussing macro-categories and micro-categories. She describes macro-categories as having the following characteristics: they cover conceptual ground that in English would fall into two or more categories. They are also known as composite categories or extended categories. They are similar in structure to ordinary categories in that they have a boundary and a focal area, but unlike ordinary categories they may have two or three foci (prototypes).<sup>161</sup> This implies that some macro-categories may also have only one prototype. Micro-categories, on the other hand, cover a smaller conceptual domain than ordinary categories; smaller than an English speaker would expect.<sup>162</sup> This raises the question of whether the concepts of macro- and micro-categories exist only in relation to the category system of another language – surely certain categories that we consider ordinary in English may be considered macro- or micro-categories by speakers of other languages. It is important here to try to avoid thinking of English as default or normative.

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<sup>159</sup> Lakoff 1990:37.

<sup>160</sup> Rosch 1978:7.

<sup>161</sup> Biggam 2012:61.

<sup>162</sup> Biggam 2012:62-63.

## 2.8. Folk taxonomy, plants, animals, and anthropology

Any classification system for animals found in or derived from the Hebrew Bible will comprise what is known as a folk taxonomy. Biggam says, in the context of red roses in Middle English:

Plant-names pose a serious problem for the historical semanticist. In modern times, we have botanical Latin names which aim to provide a unique international identifier for each species and sub-species, and we also have a list of recommended English names for plants in Britain which enable unambiguous discussion in the vernacular (Dony, Jury and Perring 1986). In the past, however, plants, animals and other elements of the natural world were classified and named according to unscientific and often extremely localized criteria. This form of categorization is known as a *folk taxonomy* and there are often several taxonomies in existence at the same time over a sizeable region. Folk classification and naming tends to class together different entities, in this case plants, according to their appearance, behaviour or value to humans, so a name might mean ‘bell-shaped flower’ or ‘water-loving plant’ or ‘wound-healer’. The problem for contemporary researchers is that different plants were considered typical ‘water-dwellers’ or ‘wound-healers’ in different areas, as dictated by local tradition and plant availability. This results in a single plant having several different names across a country like Britain (in some cases, fifty names or more have been recorded) and, similarly, one name may be used of many different species. Thus, plants which botanists consider to be unrelated might bear the same name in different regions, and plants which are botanically closely related might be considered quite distinct because of their differing uses. In other words, a traditional plant-name should never be trusted.<sup>163</sup>

Excessive suspicion aside, this illustrates the problems that arise in trying to compare folk taxonomies with scientific taxonomy. Of great importance is her mention of how classifications are arrived at: according to the appearance, behaviour or value to humans of organisms. Scientific taxonomy, of course, leaves out the “value to humans” part entirely, but up until recently appearance and behaviour have been important in our modern classification systems. Here is a brief explanation of taxonomy (or systematics; these two terms, while not completely synonymous, are usually used interchangeably)<sup>164</sup> from Reitz and Wing:

Although the concept of classification is old, the foundation of modern systematics is based on Linnaeus’s *Systema Naturae* (1758). This scientific treatise was written in Latin, the international language at the time.

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<sup>163</sup> Biggam 2012:135.

<sup>164</sup> Wilkins 2011:1.

The goal of the Linnaean system is that any single organism has one, and only one, valid name, and this name is not shared by any other organism. The hierarchical system Linnaeus envisioned is referred to as binomial (or binominal) nomenclature. Each taxonomic level is based on clearly defined species diagnoses describing similarities. Linnaeus included the variety, species, genus, order, and class in his nomenclatural hierarchy. Subsequently, many finer gradations were added. The most important levels continue to be the genus and species (a binomen), the family, order, class, phylum, and kingdom. Changes in the procedures and objectives of taxonomic research build on and modify the Linnaean system.

A species is defined as “*a reproductive community of populations (reproductively isolated from others) that occupies a specific niche in nature.*”<sup>165</sup>

Morphology has traditionally been the basis of taxonomy. Increasingly, however, the field is being revised with the help of DNA analysis, and will increasingly be based on phylogenetic relationships.<sup>166</sup> The end result is a tree diagram very much like one produced by the analysis of a text. “The results of [genetic] studies are presented graphically as phylogenetic trees that depict the degrees of similarity or differences between individuals or among groups of individuals. Groups of animals with similar haplotypes indicating relatedness form a clade and are on separate branches of the tree from the clades of more distantly related animals.”<sup>167</sup> This is the basis of plant and animal taxonomy today.

The reason for the extensive citation, in the theoretical portions of this study, of ethnobotany and studies of plant classification systems is that a great deal of work has been done, largely within the field of anthropology, on the naming and classification of plants in various cultures. Ethnozoology is also an established field,<sup>168</sup> but a much smaller one than ethnobotany. A Google search on 2017/03/18 returned about 34 200 results for “ethnozoology” compared with about 1 150 000 for “ethnobotany”. The theoretical basis of ethnobotany is also better developed than that of ethnozoology. The body of research and theory that exists on plant names is a great deal larger than the body of similar work on animal names, and research on the human

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<sup>165</sup> Reitz & Wing 2008:33-34.

<sup>166</sup> Reitz & Wing 2008:34.

<sup>167</sup> Reitz & Wing 2008:289.

<sup>168</sup> Alves & Souto 2015:1-13.



use of animals has always lagged behind similar work on plants.<sup>169</sup> What is the reason for this disparity? It is likely that the naming and categorisation systems of the tribes studied by these anthropologists were more complex and interesting to the researchers than their analogous systems for animals. And why would that be? Not because there are more species of plants than animals – insects alone far outnumber plants in species diversity. No, the simple answer is medicine. Primary sources in the form of folk taxonomies are more developed and more complex where plants are concerned simply because more chemicals with poisonous or medicinal properties may be derived from plants than from animals. This would have been a richer source of information for early anthropologists, resulting the disparity in literature and theory between the two fields.

Perhaps the most important thing to note about the naming of plants in pre-modern civilisations is the inextricable link between plants and medicine. A major motivating factor for the attempts during the course of the Renaissance in Europe to standardise the naming of wild plants was the desire to keep doctors from being cheated by herbalists who would often sell common, and sometimes poisonous, plants under the name of expensive medicinal ones.<sup>170</sup> Anna Pavord (2005) says:

Most medicines came from herbs ('simples' they were called) and new ingredients promised the hope of new cures, provided the ingredients were true to name. A plant's pharmaceutical value depended on the plant-hunter's ability to distinguish one botanical species from another; its economic value would increase in equal measure.

But apothecaries worried that they were often duped with substitutes, plants that were more easily obtained than the real thing...<sup>171</sup>

So plant taxonomy, in Europe at least, began with medicine.

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<sup>169</sup> Alves & Souto 2015:5.

<sup>170</sup> Pavord 2005:5-6.

<sup>171</sup>Pavord 2005:14.

Medicine, although certainly the most important discipline to use plants and thus to begin the study of what would become botany, was not the only one to do so. Pavord says that in mediaeval Europe, plants were defined “by their usefulness, their potential for food, medicine or magic”.<sup>172</sup> This may be part of the reason why flowers were not seen as important. Today they are recognised as usually the most diagnostic organ for identifying plants. Pavord says of Theophrastus:<sup>173</sup> “The seminal parts of a plant, he suggested, were the root, stem, branch and twig. Nowhere does he ascribe any importance to the flower.”<sup>174</sup> This phenomenon parallels in an odd way the lack of attention given to the brain in pre-modern times. The kinds of plants, too, that are given attention, are those that are useful, and in particular those that are cultivated. Theophrastus himself, writing in the third century BC, noted this. He says: “Most of the wild kinds have no names. Few know about them, while most of the cultivated kinds have received names and they are more commonly observed; I mean such plants as vine, fig, pomegranate, apple, pear, bay, myrtle and so forth; for, as many people make use of them, they are led also to study the differences.”<sup>175</sup> This is as good a philosophy on the naming of plants in the ancient world as one could ever come up with. The plants that were useful in one way or another were

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<sup>172</sup>Pavord 2005:4.

<sup>173</sup> An extremely important figure in the history of science. He was an Athenian philosopher, born c. 372 B.C. at Eresos on Lesbos (Pavord 2005:24). Not only the first person to give serious attention to the naming of plants (Pavord 2005:21), but he also attempted to understand their relationships to each other, their groupings, their similarities and differences. Most unusually, he attempted to formulate a system of grouping plants that relied on essential characteristics, and not merely according to function (Pavord 2005:30). He was the only person in hundreds, even thousands, of years to give any thought to these things. Pavord’s admiration for him permeates her entire book, and for good reason. He was one of those flashes in the pan of human knowledge, someone whose before-their-time insight means that they stand completely alone, their ideas unexplored and even unacknowledged until generations later when the rest of the world catches up. Not that Theophrastus was unacknowledged in his own time: he studied under Plato and Aristotle at the Academy in Athens, and taught with Aristotle at the Peripatetic School at the Lyceum (Pavord 2005:24), where more than 2 000 people came to listen to him. (Pavord 2005:22. Quote from R.D. Hicks (ed.) *Diogenes Laertius Lives of Eminent Philosophers* vol 1, book 5, ch. 2.) However, the true extent, almost prescience, of his insights can only be appreciated from the vantage point of modern scholarship.

<sup>174</sup>Pavord 2005:27.

<sup>175</sup> Book I, xiv, 3-5, p.101. Quoted in Pavord 2005:39-40.

named and distinguished from each other; those that were not, were not. Non-fruit bearing trees, for instance, were named and distinguished in terms of their wood and what it was useful for. In this utilitarian scheme of things, it is little wonder that flowers were accorded little attention. As Pavord states, “since function dictated to such a great extent the amount of attention that was paid to any one plant, nobody showed much regard for those dominated by their flowers. The rose is the only bloom that gets more than a cursory mention. Even by Theophrastus’ time, there were many different kinds”.<sup>176</sup> The fact that the rose was one of the very few plants cultivated in the ancient world for aesthetic purposes probably has something to do with the fact that any number of flower terms are translated as “rose”.

These fundamental elements of ethnobotanical theory form an important part of the framework for this study. I contend that the principles of ethnobotanical theory are applicable as well to ethnozoology. The same principles applied to plants can be taken to apply to animals as well: they were defined in a culture by their usefulness, their potential for harm or good. It might be said that for the most part, the amount of space that animals took up in the collective psyche of the ancient Israelites, and thus in their language, parallels the amount of space they took up in Noah’s Ark.<sup>177</sup> Clean animals, those that were used for food, are likely to have many more names than the unclean ones that were of no practical use to the nation. Animals that are used as food are usually accorded symbolic importance on top of their practical value. Reitz and Wing say: “The role of animals as social markers is the distinction between nutrition and cuisine. Components of cuisine, such as when foods are consumed, who eats together, the spices used, food combinations, and other aspects of food consumption, are rarely accessible archaeologically but are the basis of cultural identity. Cuisine also involves concepts of social order, propriety, role expectations, and belief systems.”<sup>178</sup> Dangerous animals were also very important, and accrued a great deal of symbolism about themselves. The animal names that are

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<sup>176</sup>Pavord 2005:39.

<sup>177</sup>Gen 7:2.

<sup>178</sup> Reitz & Wing 2008:278

obscure are very often those of unclean (inedible) wild animals, usually small, without very obvious distinguishing features or with similarities to other species that confuse the issue. However, animals also play roles in social life independent of their use as food.<sup>179</sup>

When we take these criteria of economically important/useful/dangerous/symbolically important, apply them to animals, and look at them through the lens of cognitive-linguistic theories of categorisation, and we find that they map very well: the most economically and symbolically important animals, mainly domesticated ones, are classified on the subordinate level (sophisticated differentiation), those that are somewhat important and generally known are classified on the basic level (the most intuitive level at which humans classify things), and more obscure animals or simply those that are generally similar to each other and which are not economically important are classified on the superordinate level (broad categories).<sup>180</sup> Even colours work the same way – Biggam says: “I suggest that the motivation for the development of contextually free colour categories in early societies is simply their practical value, based on the need to refer to dangerous, socially important and/or exotic entities.”<sup>181</sup> This parallels precisely the animal categories of dangerous, economically important and ideologically important.

This weighting of focus is not confined to the ancient world. In the preface to Reitz and Wing’s *Zooarchaeology* (2008), they explain their choice of which animals they concentrate their attention on in this volume: “Among these animals, those that offer food, shelter, transport, fuel, tools, ornaments, clothing, and social identity receive particular attention.”<sup>182</sup> Later on in the same book, they discuss how folk taxonomies use the very same criteria:

Some folk classifications correspond closely with scientific classification for organisms that are economically important but use broad-category names for animals of little economic significance. The Fore

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<sup>179</sup> Reitz & Wing 2008:279

<sup>180</sup> Lakoff 1990:46.

<sup>181</sup> Biggam 2012:171.

<sup>182</sup> Reitz & Wing 2009:xx-xxi.

people of the New Guinea Highlands classify all animals into a few higher categories, which are subdivided into lower categories. Many of these lower categories correspond directly to species defined using scientific nomenclature. Both the birds hunted for food and those of little economic value have folk taxonomic names that distinguish them and allow the Fore hunter to recognize the choice prey that are the object of the hunt. In contrast to the detailed classification used for economically important species and related forms, diverse and conspicuous animals with little economic value, such as butterflies, have only one higher category name.<sup>183</sup>

The eminent British zoologist George Cansdale, writing in 1970, noted something similar in Ghana, this time with the addition, as predicted, of dangerous or harmful animals:

The modern reader, and especially the naturalist, should not be disappointed that some Bible animals are hard to name. Accurate study of animals really began only in the nineteenth century; there had been a few notable exceptions, such as the elder Pliny, but in the ancient world, as in most under-developed countries today, animals were largely of objective interest only, as the above discussion about classification suggests. This was certainly my experience in Ghana, where I did much of my field work on animals; the villager was concerned mainly with two groups – those he could eat and those that might endanger him or his crops. These were known in some detail, and named with an accuracy that often varied with size and importance. Other animals needed to be bizarre or conspicuous to merit a name. This is not unlike the situation in Palestine in biblical times. Failure to appreciate this point has perhaps allowed some writers to suggest individual names for animals which would probably not have been distinguished. If the ordinary person in Palestine today does not recognize two animals as being sufficiently different to have separate names, it seems likely that this was also true then.<sup>184</sup>

From all of this a basic principle can be derived which will be applied in chapter 3. It states that larger numbers of names, as well as larger numbers of instances of individual names, will apply to animals that are one or more of the following:

- economically important to humans
- dangerous to humans
- ideologically or symbolically important to humans.

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<sup>183</sup> Reitz & Wing 2008:33.

<sup>184</sup> Cansdale 1970:15.

## 2.9. Cleanness/uncleanness and the reality of biological categories

### 2.9.1. *The cleanness/uncleanness paradigm*

The first thing one notices when doing a literature review of what has been written about animal classification in the Hebrew Bible is that a very large amount of material has been produced focusing on the laws about clean and unclean animals in various texts, Leviticus 11 being a prime example. When first considering working on the topic of animal names and taxonomy in the Hebrew Bible, I did not realise how many formal works of animal categorisation actually exist in the primary text (although perhaps I should have.) The animal categorisation text is a genre in itself, and it is unsurprising that this genre has been much studied. Houston says of these texts, here focusing on Leviticus 11: “We first note the learned character of our text. It does not represent primitive thought, but learned reflection by men with at least basic zoological knowledge.”<sup>185</sup>

Of course, the primary question of this genre (on the surface, at least) is “can we eat it?” However, arguments have been made that these texts cannot be thought of as having been written merely for materialistic or practical reasons. Meshel,<sup>186</sup> in his 2008 article *Food for thought: systems of categorization in Leviticus 11*, draws attention to some very arresting arguments made by Claude Lévi-Strauss in his two 1962 publications *Le Totémisme aujourd’hui* and *La Pensée sauvage* about the significance of animal classification in human thought and in particular in early societies. Lévi-Strauss theorises that the classification and categorisation of animals is a theoretical framework that functions like a language,<sup>187</sup> although he does not have much to say about the semantics or content of this “language,”<sup>188</sup> making his argument somewhat vague on this point.

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<sup>185</sup> Houston 1993:231.

<sup>186</sup> Meshel 2008:203-205.

<sup>187</sup> Meshel 2008: 203.

<sup>188</sup> Meshel 2008:205.

### 2.9.2. *Animal categories and objective reality*

If one follows these arguments to their limit and agrees with them completely, not only are the natural categories of animals “good to think,” providing a physical framework for all sorts of later theoretical development and mapping onto other domains,<sup>189</sup> but one could even go so far as to say that the classification of animals lies at the root of all classification, and that this mental act of classification is at the root of all culture.<sup>190</sup> Meshel is a little circumspect about Lévi-Strauss’ more sweeping pronouncements, but he seems to confine his scepticism to the idea that animal classification systems are *foremost* a theoretical system or language meant to convey some indeterminate message, arguing that we cannot ignore or underestimate the practical and the material.<sup>191</sup> He does not appear to object to any great degree to the thought that, firstly, the taxonomy of animals is a uniquely suitable framework on which to “hang” a system of categorisation, and secondly, that this primitive act of categorising animals might have been the origin of categorisation as a whole, and of a whole set of mental activities – to the extent of saying that it is “the cultural act *par excellence*, distinguishing humans from animals and expressing the shift of human communities from nature to culture”.<sup>192</sup> This is a rather tremendous claim, and requires further investigation. Lakoff,<sup>193</sup> for instance, would take great exception to Meshel’s statement that

Lévi-Strauss shows that the reason primitive cultures tend to choose animal species as the basic units of their ritual classification systems lies primarily in the structure of these systems: animal taxonomy is a useful model for categorization, since in the division of animals into species nature offers primitive man a rare example of discreteness. Whereas most natural phenomena are encountered as a continuous spectrum (e.g., the light spectrum), animal taxa are by nature distinct.<sup>194</sup>

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<sup>189</sup> Meshel 2008:204.

<sup>190</sup> Meshel 2008:205.

<sup>191</sup> Meshel 2008:204-205.

<sup>192</sup> Meshel 2008:205.

<sup>193</sup> Lakoff 1990.

<sup>194</sup> Meshel 2008:204.

In fact, Lakoff devotes a good part of chapter 12 of his book *Women, fire and dangerous things* to using the example of biological species to argue that categories do *not* exist as objectively defined entities in nature (or the world outside human thought) but rather are subjective constructs of human cognition. Chapter 12 is entitled “What’s wrong with objectivist metaphysics” and his choice of what Lévi-Strauss, among others, saw as a uniquely objective example of natural discreteness in order to refute that viewpoint demonstrates his confidence in his theory. Lakoff’s argument is that evolutionary biology, and in particular the disputes in classification that exist between cladists and pheneticists, disproves the idea that biological categories exist objectively and independently of any human taxonomist.<sup>195</sup>

Lakoff makes extensive use of Stephen Jay Gould’s essay *What, if anything, is a zebra?* which is found in his book *Hen’s teeth and horse’s toes* and which takes its name from a play on a previous article by palaeontologist Albert E. Wood from 1957 entitled *What, if anything, is a rabbit?*<sup>196</sup> These are questions that, while whimsical, are fundamental to the theoretical basis of the study of animal names in any language and any context. Gould’s essay is at heart a response to Debra K. Bennett’s article *Stripes do not a zebra make*,<sup>197</sup> in which she proposes that the animals we categorise as zebras are not a biological clade (in other words, they do not comprise the sum total of living descendants of any particular common ancestor). It is not, however, primarily an engagement with Bennett’s article from a biological point of view – at one point he says “I conclude that Bennett’s proposal is interesting, but very much unproven. Suppose, however, that she is right.”<sup>198</sup> In other words, he is using Bennett’s proposal as a jumping-off point for philosophical and linguistic speculation about the relationship between evolutionary biology and the names we give animals.<sup>199</sup>

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<sup>195</sup> Lakoff 1990:185.

<sup>196</sup> Gould 1983:355.

<sup>197</sup> Gould 1983:355.

<sup>198</sup> Gould 1983:362.

<sup>199</sup> In fact, Bennett’s theory has since been disproven (Lowenstein 1985:27) and a different taxonomy of zebras is currently accepted in which they do indeed form a clade.



At the start, Gould says that essentially by applying a name, whether “zebra,” ape” or “fish,” to a group of organisms, one is making a statement that the named group forms a family unit, where all the species in the group share a common ancestor that gave rise to them and only them.<sup>200</sup> As he says:

The potential dilemma for zebras is simply stated: they exist as three species, all with black-and-white stripes to be sure, but differing notably both in numbers of stripes and their patterns. (A fourth species, the quagga, became extinct early in this century; it formed stripes only on its neck and forequarters.) These three species are all members of the genus *Equus*, as are true horses, asses, and donkeys. (In this essay, I use “horse” in the generic sense to specify all members of *Equus*, including asses and zebras. When I mean Old Dobbin or Man o’ War, I will write “true horses.”) The integrity of zebras then hinges on the answer to a single question: Do these three species form a single evolutionary unit? Do they share a common ancestor that gave rise to them alone and to no other species of horse? Or are some zebras more closely related by descent to true horses or to asses than they are to other zebras? If this second possibility is an actuality, as Bennett suggests, then horses with black-and-white stripes arose more than once within the genus *Equus*, and there is, in an important evolutionary sense, no such thing as a zebra.<sup>201</sup>

However, this is not his final word on the subject, and later he argues the opposite point, this time using fish as an example:

Some of our most common and comforting groups no longer exist if classifications must be based on cladograms. With apologies to Mr. Walton and to so many coastal compatriots in New England, I regret to report that there is surely no such thing as a fish. About 20,000 species of vertebrates have scales and fins and live in water, but they do not form a coherent cladistic group. Some – the lungfishes and the coelacanth in particular – are genealogically close to the creatures that crawled out on land to become amphibians, reptiles, birds, and mammals. In a cladistic ordering of trout, lungfish, and any bird or mammal, the lungfish must form a sister group with the sparrow or the elephant, leaving the trout in its stream. The characters that form our vernacular concept of “fish” are all shared primitives and do not therefore specify cladistic groups. At this point, many biologists rebel, and rightly I think. The cladogram of trout, lungfish and elephant is undoubtedly true as an expression of branching order in time. But must classifications be based

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<sup>200</sup> Gould 1983:356; 357.

<sup>201</sup> Gould 1983:356.

only on cladistic information? A coelacanth looks like a fish, tastes like a fish,<sup>202</sup> acts like a fish, and therefore – in some legitimate sense beyond hidebound tradition – *is* a fish.<sup>203</sup>

Lakoff takes these two disparate and basically irreconcilable systems of classification – the cladistic and the morphological – and derives from the fact that both exist, the conclusion that no system of classification is a thing that is objectively “there”, in the world. This is in direct opposition to Lévi-Strauss’ contention that animal taxonomy is observably “there”, to a degree that is not found in other natural phenomena. So who is correct? Cognitive psychologist Steven Pinker has very definite opinions on the matter and goes into it in depth in *The Blank Slate*, using the category of DUCKS as an example (*italics* Pinker’s; **bold** mine):

Some categories really are social constructions: they exist only because people tacitly agree to act as if they exist. Examples include money, tenure, citizenship, decorations for bravery, and the presidency of the United States. But that does not mean that *all* conceptual categories are socially constructed. Concept formation has been studied for decades by cognitive psychologists, and they conclude that most concepts pick out categories of objects in the world which had some kind of reality before we ever stopped to think about them.

Yes, every snowflake is unique, and no category will do complete justice to every one of its members. But intelligence depends on lumping together things that share properties, so that we are not flabbergasted by every new thing we encounter. As William James wrote, “A polyp would be a conceptual thinker if a feeling of ‘Hollo! thingumbob again!’ ever flitted through its mind.” We perceive some traits of a new object, place it in a mental category, and infer that it is likely to have the other traits typical of that category, ones we cannot perceive. If it walks like a duck and quacks like a duck, it probably is a duck. If it’s a duck, it’s likely to swim, fly, have a back off which water rolls, and contain meat that’s tasty when wrapped in a pancake with scallions and hoisin sauce.

This kind of inference works because the world really does contain ducks, which really do share properties. If we lived in a world in which walking quacking objects were no more likely to contain meat than any other object, the category “duck” would be useless and we probably would not have evolved the ability to form it. If you were to construct a giant spreadsheet in which the rows and columns were traits that people notice and the cells were filled in by objects that possess that combination of traits, the pattern of filled cells would be lumpy. You would find lots of entries at the intersection of the “quacks” row and

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<sup>202</sup> Although this point is somewhat debatable – the coelacanth can certainly be eaten but is not desirable as food. Weinberg says of this fish: “*Gombessa*, on the other hand – which in Swahili translates as something taboo, strictly forbidden – does not taste good, and its oily flesh is a violent purgative” (Weinberg 1999:136).

<sup>203</sup> Gould 1983:364.

the “waddles” column but none at the “quacks” row and the “gallops” column. **Once you specify the rows and columns, the lumpiness comes from the world, not from society or language.** It is no coincidence that the same living things tend to be classified together by the words in European cultures (including preliterate cultures), and the Linnaean taxa of professional biologists equipped with calipers, dissecting tools, and DNA sequencers. Ducks, biologists say, are several dozen species in the subfamily Anatinae, each with a distinct anatomy, an ability to interbreed with other members of their species, and a common ancestor in evolutionary history.<sup>204</sup>

*Once you specify the rows and columns, the lumpiness comes from the world.* In other words, both Lakoff<sup>205</sup> and Lévi-Strauss<sup>206</sup> are correct. Lakoff is talking about the process of specifying the rows and columns: this process is theoretically unconstrained by any external reality (although in practice we tend to classify things in the ways that are most useful to survival). Lévi-Strauss is talking about the patterns that appear, the “lumpiness” – this is caused by things that are really “there”, in the world, and that exist independently of our thinking about them. We could, technically, decide to classify all animals according to colour alone, or size, or number of DNA base pairs. Some of these systems would be more useful than others, and the ones that were useful would be useful because they were more relevant than the others to the patterns that are “there” in the world. Perhaps we would find some new patterns that we had not noticed up to that point. But the useful systems would survive and the ones that have little connection to external reality would quickly be abandoned, and we would probably end up with something quite similar to the ancestry-based classification system we are using at the moment.

Prototype category theory states the same thing: that there are “natural” categories that are easier to learn than artificially arbitrary categories invented for experimental purposes. Rosch says:

...the domains of color and form are structured into nonarbitrary, semantic categories which develop around perceptually salient “natural prototypes.” Categories which reflected such an organization (where the presumed natural prototypes were central tendencies of the categories) and categories which violated the organization (natural prototypes peripheral) were taught to a total of 162 members of a Stone Age culture

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<sup>204</sup> Pinker 2002:202-203.

<sup>205</sup> Lakoff 1990:185.

<sup>206</sup> Meshel 2008:204.

which did not initially have hue or geometric-form concepts. In both domains, the presumed “natural” categories were consistently easier to learn than the “distorted” categories, Even when not central, natural prototype stimuli tended to be more rapidly learned and more often chosen as the most typical example of the category than were other stimuli.<sup>207</sup>

This point is also supported by the fact that the habitat- or realm-based classification system used in the Hebrew Bible produces a division of animals that is reasonably close to our system – for the most part placing birds together, mammals together, fish together, and insects together. Anomalies occur, of course: for example bats and whales; small mammals and reptiles grouped with crawling insects and flying insects with birds, and all aquatic creatures grouped together despite their enormous genetic diversity. But in general the system, because it works, maps reasonably closely with the cladistic system, which also works, and with the old Western morphological system, which worked so well that we still use it much of the time.

### ***2.9.3. Reality and the scientific world-view***

The last important principle that should be mentioned here is the absolute necessity of attempting to avoid imposing our current scientific world-view on the ancient authors. That seems obvious, but it is very difficult to do. One of the most ingrained of the cultural assumptions with which contemporary readers approach the text of the Bible, and the hardest from which to disengage, is the scientific mindset. For example, even fundamentalist creationism, the last thing you would expect, falls firmly within the modernist scientific paradigm. Trying to read ancient texts “literally” without examining the cultural assumptions that one brings into one’s reading of the text is a sure way to remain limited by modernist Western thought. In contrast, any serious student of the ancient world must recognise their own cognitive biases, including the one that says that the scientific method is the only right and true way to understand anything, and try their very best to acknowledge and compensate for the inevitable barrier of culture and time that stands between us and the original intentions of the authors of the text.

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<sup>207</sup> Rosch 1973:328.

We all know this, in theory, but it is extremely difficult to really comprehend. Even our assumptions about what the absence of a certain body of knowledge might entail can be misleading. Take evolution, for example. As Pavord says of the ancient Greeks: “There had been no Darwin. No *Origin of Species*. No conception of evolution.”<sup>208</sup> The obvious inference to make from this fact is that the ancients considered species or types to be separate and immutable. Pavord says of Aristotle: “We look back on his work through Darwin, through the theory of evolution. Aristotle, though, had no concept of a continuum. He thought in terms of fixed types, that differed only in proportion or relative size”.<sup>209</sup> It seems to be simple – in the absence of a theory of evolution, surely everyone would believe that species were immutable?

But that assumption is completely wrong. The folklore of the ancient world is full of one species changing into another. Darnel, for instance, the “tares” of the parable<sup>210</sup>, was thought to be a degenerate form of wheat and barley. It was believed that either wheat or barley could turn into darnel under certain conditions. This was supposed to happen in wet weather and in the muddiest parts of the fields. Pavord says “They did not assume that the wet weather had rotted their seed corn and that the seed of this unwanted weed had germinated instead. The leaves of darnel, and its way of holding its seeds in clusters either side of the stem, were sufficiently like corn for them to suppose that the one must have degenerated into the other.”<sup>211</sup> (The parable, by contrast, presents each as growing from its own seeds – much closer to our own understanding.) Theophrastus in his book did not either agree or disagree with this belief about darnel, but he disagreed with the notion, also widely held, that wheat and barley could turn into each other.<sup>212</sup>

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<sup>208</sup>Pavord 2005:22.

<sup>209</sup>Pavord 2005:47.

<sup>210</sup> Matthew 13:24-30.

<sup>211</sup>Pavord 2005: 40.

<sup>212</sup>Pavord 2005:40.

Another example is the knowledge, obvious to us, that domesticated animals are derived from wild animals. We need to realise that it is by no means certain that everyone (or indeed anyone) in the ancient world realised that domesticated kinds of animals or plants were in fact derived from wild ones. It seems like such an obvious thing (even people who do not generally believe in evolution, for the most part, acknowledge it) but was not necessarily so to pre-modern people. Pavord says “The early Greeks saw cultivated types of grape, plum, peach, apple as gifts from the Gods, in benign mood after a particularly good day on Mount Olympus. The Ionian philosopher Hippon had already suggested that cultivated plants may perhaps derive from wild ones, but it was a wildly radical thought to absorb. Theophrastus noted it as an interesting proposition, but still suggested a division between wild plants and cultivated ones as a primary mode of classification.”<sup>213</sup>

The term “wild ox”, currently used in most translations for אַרְיֵה, then, is in a sense misleading. It is not necessarily the case that the ancient Hebrews knew that the aurochs was the wild ancestor of domesticated cattle. It is likely that the connection was more easily made with species where the wild and domesticated forms were not radically different, but we may not start by assuming that it was so. This study begins from the assumption that there is no reason to believe that the Ancient Hebrews connected the אַרְיֵה with domestic cattle, but from an examination of the instances of the word in context, it later becomes clear that the two were indeed seen as the same sort of animal. It is certain, in any case, that wild versus domestic is an important division of animal groups in the Hebrew Bible, as will be seen in this study. Connections between wild and domesticated animals of the same species have been unknown, in some cases, until very recently – the classification of the domestic dog as a subspecies of wolf has only occurred in recent decades.<sup>214</sup>

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<sup>213</sup>Pavord 2005:22.

<sup>214</sup> Reitz & Wing 2008:290-291; 294.

Pavord puts it very eloquently in this way: “...we have to unknow such a vast amount of knowledge to get back to Theophrastus and the world he was trying to understand.”<sup>215</sup> To unknow what we know. It is difficult, but it is the only way to dig deeper into the ancient texts that have to do with the natural world.

One of the few Biblical passages that hint at what was believed at the time about animal breeding and inherited characteristics is the story of Jacob improving his herds. Cansdale says the following:

Gen. 30:32-43 is an interesting passage which refers to a false theory, still widely believed even in the West, that things eaten or seen by the mother before or at birth may affect the colour, shape, etc., of the young. In this incident Jacob deliberately put a striped white pattern in front of lambing ewes, believing that this would increase the ratio of marked animals, which would be his, in lieu of wages. vv. 41,42 explain that he studied the flock and separated the vigorous from the feeble, and the inference is that he unconsciously understood the flock genetics and mated accordingly, as he should have done after serving as flock-master for nearly twenty years. Then he wrongly attributed his success – a mistake sometimes made even today by competent scientists!<sup>216</sup>

In fact the passage does not state that Jacob put the pattern in front of lambing ewes, but in front of mating animals; it was what the animals were looking at at the moment of conception rather than the moment of birth that was thought to affect the appearance of the young. In any case, it is a fascinating, almost Lamarckian, view of biological heritability, and one that has shown remarkable persistence through time. Known as the theory of maternal impression, it played a role in the infamous 1726 hoax in which Mary Toft of Godalming in Surrey claimed to have given birth to seventeen rabbits. “Toft claimed that during her pregnancy she had been startled by a rabbit in a field and that the experience had so forcefully impressed her thoughts thereafter that it subsequently deformed the child in her womb”,<sup>217</sup> and this was considered credible enough at the time that a number of London’s eminent physicians were taken in by Toft’s hoax. According to Kiran Toor, “The concept of maternal imprinting, or 'maternal impressions' as it

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<sup>215</sup>Pavord 2005:22.

<sup>216</sup> Cansdale 1970:53.

<sup>217</sup> Toor 2007:257.

was more often known, held that the maternal imagination at the time of conception or at any moment during pregnancy, be it influenced by something the mother dreamt or saw, played a particular role in shaping the foetus.”<sup>218</sup>

Much of the popular literature on the subject implicitly assumes, or allows the reader to assume, that the Biblical authors had the same scientific worldview as we do today. The writers attempt to determine the exact species, even subspecies of animal being referred to by a particular word. Ferguson,<sup>219</sup> the United Bible Societies,<sup>220</sup> Schwartz<sup>221</sup> – they all occasionally make identifications, however tentative, down to the level of subspecies. Ferguson says: “...The most likely English common name follows, then the nearest approximation to the scientific name – species or subspecies, genus, family, or order”.<sup>222</sup> This is sometimes realistic, as in the case of the hyrax, where only one species or subspecies is found in the area and is thus the only one that could be intended.<sup>223</sup> However for the most part it is an impossible exercise, because the ancient authors did not have species and subspecies in mind when they wrote the texts. Instead, while some types of culturally-significant animal, sheep for example, had an enormous number of different words referring to them, others, such as birds of prey, had fewer categories than we have covering all the different species of eagles, vultures and so on. A cognitive-linguistic approach – what sort of categories are being used here, what did the authors mean, what were they trying to achieve? – will bring one to a much more rational way of dealing with the research question than would an attempt to force the text to fit into a scientific paradigm.

In this study, when I write of “our” concepts, “our” culture and so on, what is intended is not so much the culture of English-speaking Westerners, but the global scientifically-literate culture

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<sup>218</sup> Toor 2007:257.

<sup>219</sup> Ferguson 1972:21.

<sup>220</sup> United Bible Societies 1972:36.

<sup>221</sup> Schwartz 2000:301.

<sup>222</sup> Ferguson 1972:6. He does not succumb to the fallacy of attributing scientific categories to the authors, though, as can be seen from his treatment of the birds of prey on p50ff.

<sup>223</sup> Fourie 1985:27.



of today. Especially when I speak of concepts that have a biological dimension, an Asian scientist, or a German-speaking one, may form part of “our” or “today’s” culture, while an English-speaking Westerner may easily inhabit the same world of biological concepts as that of the Ancient Hebrews. Additionally, although science uses classical categorisation exclusively and this does seep over into our everyday consciousness, the normal, everyday mode of categorisation of all people in all societies including our own is the prototypical mode. It is the default categorisation method for all of us today, the one we use subconsciously and at all times unless we make a special mental effort to switch our thinking into the classical or Aristotelian mode.<sup>224</sup> (See 4.4.6.)

## 2.10. Conclusion

This chapter has brought together strands of theory from various disparate fields to construct a solid theoretical foundation upon which the rest of the thesis is based. This theoretical foundation involves the use of cognitive linguistics, in particular the prototype theory of categories, to examine animal names and zoological systematisation in the text in conjunction with ethnobiological principles. A solution to a major point of difference – whether biological categories are objectively “there” in the external world or whether they are merely cultural constructs, is proposed with the aid of Steven Pinker’s idea of “lumpiness”, where the “lines and grids” of categorisation are constructed by culture, but the “patterns” that appear within those lines are a direct effect of the real, external world. “Once you specify the rows and columns, the lumpiness comes from the world, not from society or language”.<sup>225</sup> A corollary of this is that with a different set of lines and grids the lumpiness would form another pattern that would be entirely different in appearance but just as real; however Rosch’s experiment suggests that some sets of lines and grids are more natural than others.

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<sup>224</sup> Houston 1993:19; Pinker 2002:80; Pinker 2002:205.

<sup>225</sup> Pinker 2002:203.

## Chapter 3

# Textual analysis

### 3.1. Introduction

This chapter consists of the textual analysis of every<sup>226</sup> animal name in the Hebrew Bible. The first part of it to be done, and the starting point for all the other analysis, is what I call the master table: a list of every Hebrew (and Aramaic) root used to name an animal, in order of number of occurrences, along with the best translation afforded by the work done in this thesis and a verse-by-verse list of where each word is found. This table is included at the end of the thesis as Appendix A.

After the main corpus-analytical work was completed, the words found by this method were rearranged, this time into groups of closely related terms. The end result of this exercise is chapter 3.4. The grouping of related words makes it easier to examine all the terms, for example, for birds: to see where birds fit in within the higher-level category of animals, to see what lower-level categories birds are divided into, and finally to examine any difficult or disputed translations in the bird category and decide in the context of all the other bird words what they are most likely to mean. Of course, the grouping of related words also forces one to think very hard about how they really should be grouped: in other words, about how they would have been grouped by the original authors – the true structure of the zoological systematics of the ancient Hebrews.

This of course means that the groups of related terms were not determined beforehand: they formed, gradually, as the work was done. The process of examining all these words, in their contexts, and deciding how they should best be grouped, is the process by which the findings

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<sup>226</sup> I am satisfied that I have catalogued every animal word in the Hebrew Bible. However, it is impossible to prove that I have not overlooked any, and I will be grateful if any overlooked words are brought to my attention. Words that occur exclusively as proper nouns are not included.

of this thesis were discovered. The groupings in chapter 3.4 are an important part of what has been discovered. The findings were entirely unexpected: the aim of this research was not so much to prove or disprove a certain theory, but to take the theory, apply it to the corpus, and see what came out. Some fascinating results came out, which are elaborated on further in chapter 3.3, and then thoroughly investigated in chapter 4.

### 3.2. Corpus analysis

A computer-aided corpus analysis of all the words referring to animals or types of animals in the Hebrew Bible was performed, with the aid of BibleWorks 7 software. BibleWorks 7 helped immensely by making it easier to look up all the occurrences, electronically tagged, of Hebrew roots. However even this software has its limitations,<sup>227</sup> and in the end the compilation of the master table (Appendix A) was essentially a manual job. The most important limitation is that there is no way for the software to distinguish the category of “animal words” and so the actual determining of roots to be searched for was achieved by a laborious process of cross-referencing every animal-related word found in the text or referenced in any other source, with the master table. Eventually new roots were no longer being found, indicating that all the relevant words were already included in the table.<sup>228</sup>

<sup>227</sup> For example, certain homonyms are indistinguishable from each other, and certain tags are occasionally missing.

<sup>228</sup> A few words were found that did not fit neatly into the category *animal words*, but were too relevant to leave out entirely. They do not form part of Appendix A, but are given here for the sake of completeness:

אֲבֵרָה	wing	4	Deut 32:11; Job 39:13; Ps 68:14; 91:4(in every case used in parallel with כָּנָף)
כָּנָף	wing	8	Gen 7:14; Prov 1:17; Eccl 10:20 (x2); Isa 10:14; Ezek 17:23; 39:4; 39:17. This word is sometimes used <i>pars pro toto</i> (synechdochically) for birds. Only this usage is recorded here. Forti mentions several of the occurrences of this term, calling them an inclusive designation for birds or for winged creatures in general (Forti 2008:25-26).
נוֹצָה	feather	4	Lev 1:16; Job 39:13 (as נֹצָה); Ezek 17:3; 17:7.
אֲבַר	wing	3	Ps 55:7; Isa 40:31; Ezek 17:3
מִין	species		Used as such in, for example, Gen 1:11.
מִשְׁפָּחָה	clan		Used in Gen 8:19 for animal categories.

Also see chapter 3.4.2.1.

### 3.3. Preliminary results arising from the corpus analysis

The exercise of going through every mention of an animal in the Hebrew Bible in order to classify and count them presents certain insights even before any analysis of the results is done. These findings need to be mentioned here, as they inform much of what is written in chapter 3.4.

The single point that stood out the most while working through all these texts is the importance of habitat – in other words, spatiality. Habitat terms directly follow animal terms in an enormous number of the texts, a pattern which has led (through the importance of Bible translations in the development of the English language) to English idioms such as “birds of the air”, beasts of the field” and so on. These idioms are even more prevalent in the Hebrew text than in translation, and although they are very important in terms of higher-level groupings of animals they are not restricted to these categories – many basic-level terms such as ravens, lions and ibexes have their own unique preferred habitat words that often occur alongside them.

The three major spatial divisions of the natural world in Ancient Near Eastern thought – earth, sky and sea – each have their own set of animal inhabitants and this forms the broadest, highest-level, set of animal categories in the Hebrew Bible. These spatial divisions are well attested: Othmar Keel says “...the world can be described not only as the sum of two parts, but of three or more as well. The triad of heaven, earth, and sea appears quite frequently (Pss 8:7-8; 33:6-8; 36:5-6 ; 69:34; 96:11; 104:1b-2b; 135:6; 146:6). In the triad, the world of the dead may replace the sea via the concept of the primeval flood (thm) inherent in the ocean (Ps 115:15-17). This threefold division is also common in Egypt, at least from the time of the New Kingdom (p.t, t!, dw/t). In the OT, the third place is normally taken by the sea (ym), and not by the primeval ocean (thm) or the world of the dead”.<sup>229</sup>

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<sup>229</sup> Keel 1997:35.

Forti mentions this as a major driver of the metaphorical and symbolic importance of animals especially in the wisdom literature: “Animals move in three different spaces – earth, sky and sea – where they seem to share with God an intimate secret of His creation.”<sup>230</sup>

The major exception to the general rule of an animal’s habitat usually being mentioned alongside it is the case of domestic animals. While wild animals are often referred to in terms of their realm or habitat, domestic animals, despite their obvious membership of the earth realm, are not. It is possible that this is because their habitat is the realm of human beings, which is the baseline or default environment and thus not considered noteworthy.

There is also a second subdomain apart from the human realm. As Houston points out regarding Leviticus 11: “The subsections (A, B and C in my translation) divide the animals between the three spheres of life: land, water and air. But the term used for the land animals raises a difficulty. One would expect it to refer to all land animals, but it would appear that it does not.”<sup>231</sup> In short, **בְּהֵמָה** refers to large land animals (in this context; in other contexts it refers to livestock in particular) which are seen as inhabitants of the earth domain, and a less important extra domain – the surface of the ground or earth – is the realm of things that creep and swarm, the **רֶמֶשׂ** and **שָׂרֵץ**.<sup>232</sup> The exact line between the two depends on the size of the animals concerned: any land animal the size of a rabbit or hyrax, or larger, counts as a **בְּהֵמָה**, while anything smaller is **רֶמֶשׂ** or **שָׂרֵץ**.<sup>233</sup>

The threefold division of sky/water/earth is still the fundamental one, but the earth domain is divided into three subdomains: the ground surface, the domain of humans, and the wild (**שָׂדֵה**)<sup>234</sup> which represents the remaining balance of the earth sphere. According to Whitekettle,

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<sup>230</sup> Forti 2008:2.

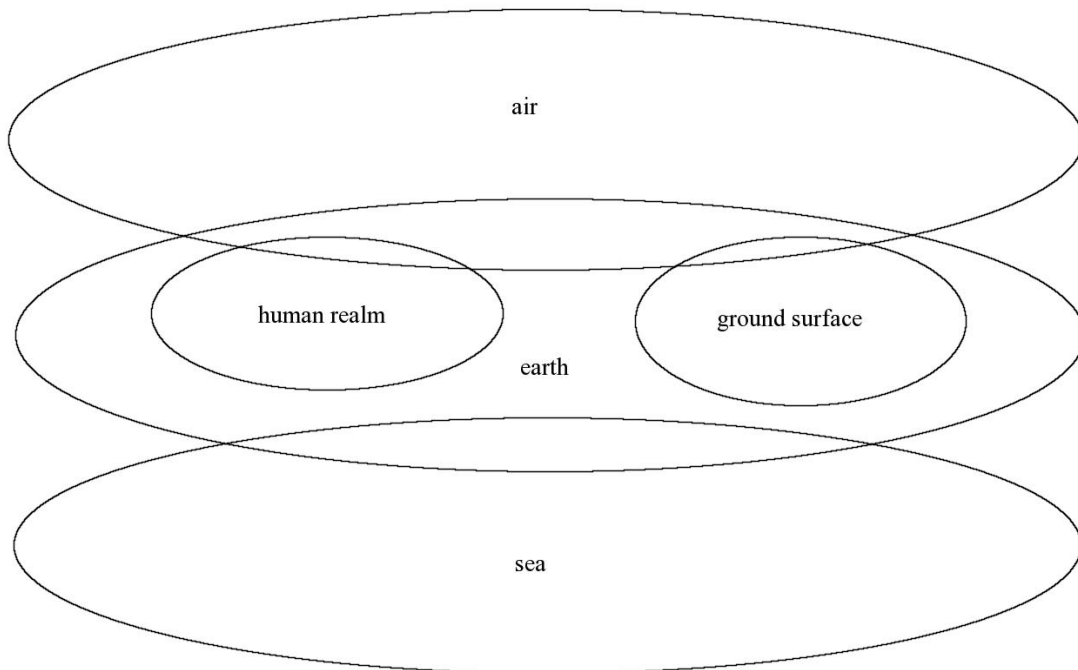
<sup>231</sup> Houston 1993:33.

<sup>232</sup> Houston 1993:33-34.

<sup>233</sup> See 3.4.3.11.

<sup>234</sup> This word means *a field* and as often translated as such in the context of habitat, as in “beasts of the field”; but the work on habitat and spatiality done here shows that a more accurate translation in this context is *the wild*.

“...there are seven different primary-level, zoological taxonomical schemas found in the Israelite textual record. [...] the simplest is a threefold schema based on habitat distinctions (see, e.g., Gen 1:28); more complex fourfold and fivefold schemas divide one or two of the habitat-based taxa into two or more primary-level taxa on the basis of anatomy (see, e.g., Lev 11:2-23), means of locomotion (see, e.g., Gen 9:2), or, more rarely, human-animal relations (see, e.g., Gen 9:10)”.<sup>235</sup> In fact, the divisions in the Genesis texts mentioned can also be interpreted as referring to habitat: the ground surface and the human domain. (The Leviticus text forms part of another paradigm altogether; see 4.4.6). This diagram depicts the three major and two minor domains:



**Figure 1: The three major and two minor spatial domains**

The domains overlap because there are always animals that belong to more than one category. Where “human realm” meets “air”, for instance, one would find the few birds that could be considered domesticated, such as doves to an extent and also chickens.<sup>236</sup> Where “ground

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<sup>235</sup> Whitekettle 2006:754.

<sup>236</sup> These were known in the Ancient Near East earlier than is popularly assumed; see 3.4.1.5.

surface” meets “air” one would find locusts and other flying insects. The ground surface, with the notable exception of locusts, is the only realm that is entirely tabooed for eating: this may mean that the taboo on creeping things is older and more fundamental than the other food taboos.<sup>237</sup>

While a number of nouns used for animals are collective and do not exist in a plural form, most do have a plural but the singular is often still used in a collective sense. Examples include טוֹס, גָּד and many more. At first an attempt was made to record this phenomenon wherever it occurred, but later it became clear that this was the rule rather than an exception.

### 3.4. Analysis of problematic texts

#### 3.4.1. Birds of the air

##### 3.4.1.1. עוֹף versus צְפוֹר; sparrows, swallows and swifts

עוֹף	flying creatures	73	Gen 1:20; 1:21; 1:22; 1:26; 1:28; 1:30; 2:19; 2:20; 6:7; 6:20; 7:3; 7:8; 7:14; 7:21; 7:23; 8:17; 8:19; 8:20; 9:2; 9:10; 40:17; 40:19; Lev 1:14; 7:26; 11:13; 11:20; 11:21; 11:23; 11:46; 17:13; 20:25(x2); Deut 14:19; 14:20; 28:26; 1 Sam 17:44; 17:46; 2 Sam 21:10; 1 Kgs 5:13; 14:11; 16:4; 21:24; Job 12:7; 28:21; 35:11; Ps 50:11; 78:27; 79:2; 104:12; Eccl 10:20; Isa 16:2; 31:5; Jer 4:25; 5:27; 7:33; 9:9; 12:4; 15:3; 16:4; 19:7; 34:20; Ezek 29:5; 31:6; 31:13; 32:4; 38:20; 44:31; Dan 2:38; 7:6; Hos 2:20; 4:3; 7:12; 9:11; Zeph 1:3
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**Table 3: עוֹף flying creatures**

<sup>237</sup> See Houston 1993:49.

עוף is a noun derived from the verb root עוף, meaning *to fly*.<sup>238</sup> עוף, translated as literally as possible, means *things that fly*. It is a collective term that only exists in the singular. Brown-Driver-Briggs defines the term as “coll. flying creatures, fowl, insects”.<sup>239</sup> Out of the 73 occurrences, four<sup>240</sup> refer definitively to insects while the rest refer to birds or generically to all flying creatures. It is strongly linked with the habitat or domain term שָׁמַיִם, being used in a construct state with this word in 36 out of its 73 occurrences.<sup>241</sup> The only other habitat term used with this word is a single case in Psalm 50:11 where it is linked with הָרִים.

עוף is often found in parallel structures opposed to בְּהֵמָה or חַיָּה, of the אָרֶץ or of the שָׁרָה, and quite often also with הַיָּם הַיָּבֵשׁ. These structures together represent the animals of the three main realms: earth, sky and sea.

If one looks at all the instances of the word while thinking in terms of prototype theory, a number of interesting phenomena appear. Most versions translate עוף as *birds*<sup>242</sup> (or *fowl*)<sup>243</sup> most of the time – but it is not the only word that is translated this way. The term צִפּוֹר in Hebrew covers very much the same linguistic territory as the English *bird*. However, this is the one major exception to this rule: the term *bird* is consistently used in a number of texts to translate the broader term עוף as well, which is actually a higher-level and more inclusive term that more correctly refers to everything that flies, including flying insects. Although this may not be technically correct, it is nevertheless a good translation most of the time, given that the concept BIRD (or, at least, something approaching our concept BIRD) is the prototype at the centre of the category עוף.

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<sup>238</sup> Brown-Driver-Briggs 2000:733.

<sup>239</sup> Brown-Driver-Briggs 2000:733.

<sup>240</sup> Lev 11:20; 11:21 (locusts by implication); 11:23; Deut 14:19.

<sup>241</sup> Forti 2008:25.

<sup>242</sup> NIV; ESV; RSV etc, in for example Gen 1:28; 1 Kgs 14:11; Jer 12:4.

<sup>243</sup> Notably the KJV and other older translations.





<p>וַיֹּאמֶר אֱלֹהִים יִשְׂרְצוּ הַמַּיִם שָׂרָץ נֹפֵשׁ חַיָּה וְעוֹף יְעוֹפֵף עַל-הָאָרֶץ עַל-פְּנֵי רְקִיעַ הַשָּׁמַיִם:</p>	<p>Gen 1:20</p>	<p>And God said: May the waters teem with swarming living things and may flying things fly over the earth over the face of the firmament of the sky.</p>
<p>וַיִּבְרָא אֱלֹהִים אֶת-הַתַּנִּינִים הַגְּדֹלִים וְאֵת כָּל-נֹפֵשׁ הַחַיָּה הַרֹמֶשֶׂת אֲשֶׁר שָׂרְצוּ הַמַּיִם לְמִינֵיהֶם כָּל-עוֹף כָּנָף לְמִינֵהוּ וַיֵּרָא אֱלֹהִים כִּי-טוֹב:</p>	<p>Gen 1:21</p>	<p>And God made the great sea serpents and every teeming living being with which the water swarms, according to their species, (and) all winged flying things according to their species, and God saw that (it was) good.</p>

**Table 3: Genesis 1:20-21**

The question arises whether עוף or צפור is the basic-level category in this domain. It is certain that one of the two has this function, but it is a little more difficult to tell which one. To contemporary Western sensibilities, צפור seems like the obvious choice – we do not even have a proper equivalent term for עוף. However, this cannot be taken for granted. Some of the identifying features of a basic term or category as given by Biggam – being understood by all adult speakers of a language, cognitive importance, a feeling among speakers that they are the most important terms – are difficult to investigate from textual evidence alone. Two of her criteria though, high frequency of occurrence, and shortness and/or structural simplicity,<sup>244</sup> can be. Both these measures favour עוף - it is the shorter and morphologically simpler word, and it occurs almost twice as often in the Hebrew Bible as צפור does.

On the other hand, עוף, like *furniture*, has an irregular structure – it is a collective word that does not exist in a singular form. This is a characteristic of higher-level terms. Also, it is probable that children would learn the word צפור before עוף, as it is conceptually simpler, although the longer word, and closer to the prototype. עוף is a more abstract term encompassing a large number of unlike creatures united only by the habitat or realm in which they live. For these reasons I consider צפור to be the basic-level category term and עוף the higher-level one.

<sup>244</sup> Biggam 2012:60.

In the scientific sense, BIRDS are a group of animals descended from a common dinosaur ancestor and identifiable by their feathers. Any currently living creature that has feathers is a bird (if extinct animals are considered the line between dinosaurs and birds becomes somewhat blurry). However, this is a technical definition that does not have anything to do with everyday language use. To a lay person, BIRD is a small, feathered creature with wings and a beak that sings and eats seeds and grubs. The mental image conjured up by the word *bird* will most likely be a sparrow for a large proportion of English speakers today. This is the prototypical bird in our culture, and birds that have other features – birds of prey, ostriches, seagulls – are less central to the category; despite this, it is a category with defined borders. The biological definition is common enough knowledge that among living animals, there is a definite yes/no answer as to whether something is a bird or not.

Birds are used surprisingly often as examples to explain aspects of prototype category theory. Gilquin, for example, in her article *The place of prototypicality in corpus linguistics* (2007), says regarding Rosch’s work: “Through various experimental tests, she established the existence, within a category, of more representative and less representative members. Thus, a robin is considered a better example of the bird-category than a penguin, and a chair a better example of the furniture-category than a telephone”.<sup>245</sup> The prototypicality among birds of a certain type of small bird is as well-attested and as old as prototype theory itself.

צִפּוֹר	bird; sparrow	40	Gen 7:14; 15:10; Lev 14:4; 14:5; 14:6 (x3); 14:7; 14:49; 14:50; 14:51 (x2); 14:52 (x2); 14:53; Deut 4:17; 14:11; 22:6; Neh 5:18; Job 40:29; Ps 8:9; 11:1; 84:4; 102:8; 104:17; 124:7; 148:10; Prov 6:5; 7:23; 26:2; 27:8; Eccl 9:12; 12:4; Isa 31:5; Lam 3:52; Ezek 17:23; 39:4; 39:17; Hos 11:11; Amos 3:5 <sup>246</sup>
צִפִּיר	bird, Aram.	4	Dan 4:9; 4:11; 4:18; 4:30

**Table 4: צִפּוֹר bird, sparrow**

<sup>245</sup> Gilquin 2007:160.

<sup>246</sup> Not counting its use as a personal name.

צפור is an important word, representing, it appears, the prototype of the concept BIRD in the Hebrew classification system. It is certain that in some places where it appears, it is a generic term including all birds. For example in Deuteronomy 14:11 it is used synonymously with עוף in the parallel Leviticus 11:13, and introduces a long list of winged creatures including bats. In other texts, however, it appears to refer to a specific bird, often identified as the sparrow. Whitekettle says that it refers to “domestic/commensal aerial animals” which he defines to include sparrows.<sup>247</sup> The translation of צפור as *sparrow* is found particularly in two verses where it is used in parallel with another bird word, דרור. Now, when looking at the possibility of צפור meaning *sparrow* in addition to its usual meaning *bird*, we need to consider Forti’s arguments that דרור actually means *sparrow*, leaving צפור meaning only the generic *bird*.

<p>גַּם־צִפּוֹר   מְצָאָהּ בַּיִת וְדִרְוֹר   קָן לָהּ אֲשֶׁר־שָׂתָהּ אֶפְרָחֶיהָ  אֶת־מִזְבְּחֹתֶיךָ יְהוָה צְבָאוֹת מִלְכֵי וְאֱלֹהֵי:</p>	<p>Ps 84:4</p>	<p>Even the sparrow has found a home and the swallow a nest for herself where she can lay her young: Your altars, LORD of hosts, my king and my God.</p>
<p>כַּצִּפּוֹר לָנוֹד כְּדִרְוֹר לְעוֹף כֵּן קָלְלַת חָנָם (לֹא) [לוֹן] תָּבֵא:</p>	<p>Prov 26:2</p>	<p>Like a wandering sparrow, like a flying swallow, so an undeserved curse (does not land / comes back upon him)</p>

**Table 5: Psalm 84:4 and Proverbs 26:2**

When she first mentions דרור Forti considers it to be a sparrow, and says that it is “the bird of freedom.”<sup>248</sup> However she translates צפור as *sparrow* and דרור as *swallow* in Proverbs 26:2.<sup>249</sup> This is probably an oversight, because later again she argues for the identification of צפור as *bird* and דרור as *sparrow*, saying that “it is commonly accepted that the *d’rôr* is the

<sup>247</sup> Whitekettle 2006:751.

<sup>248</sup> Forti 2008:6.

<sup>249</sup> Forti 2008:15.

sparrow (*Domesticus passer* [sic]), a permanent resident of Palestine. The *d'rôr* nests near human habitations, in attics, gutters, windowsills, skylights, caves, crannies in rocks, and trees, but is not easily domesticated.”<sup>250</sup> I counter that many other sources, including Rashi,<sup>251</sup> almost all English Bible translations,<sup>252</sup> and Brown-Driver-Briggs<sup>253</sup> translate **דְּרוֹר** as *swallow*. Also, whereas both the house sparrow and the swallow nest near or in human habitations, the house sparrow (actually *Passer domesticus*) spends all its time near humans, hence its Latin name, while the swallow is not only a migratory bird but also an eater of flying insects that flies very fast and high, removing it from the human sphere for varying periods of time. This makes it a more likely candidate than the sparrow for the term derived from the verb root **דָּרַר** *flow abundantly; run swiftly* – and its mode of flying, which appears effortless and gliding as opposed to the fluttering motion of most small birds, only adds to the appropriateness of the identification. Even if the translation of **צִפּוֹר** as *sparrow* as in addition to the generic *bird* is rejected, *swallow* is still a better translation for **דְּרוֹר**.

It appears that Forti’s argument for translating **דְּרוֹר** as *sparrow* is based on her conviction that **צִפּוֹר** means the generic *bird* rather than *sparrow*. However, when the problem is viewed through the lens of categories and prototypes this is no longer a difficulty. **צִפּוֹר** does indeed mean *bird* – but it can also sometimes mean *sparrow*, the prototypical bird. The choice of which word to use in translation depends on the context. In some contexts *sparrow* is probably the correct translation, but at other times it definitely refers to birds of prey, doves, and in some cases perhaps even chickens or similar terrestrial birds. The only case where it seems to refer to a flying creature that is not what we would consider a bird is Deuteronomy 14:11 where the bat is included by implication, as the word **צִפּוֹר** initiates a list that later, in Deut 14:18, includes the bat. This shows that feathers and beaks were not considered an essential characteristic of

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<sup>250</sup> Forti 2008:68. She cites Tristram, *Natural history of the Bible*; Bodenheimer, *Animal life in Biblical lands*; ibid (1935), *Animal life in Palestine*; and Smo’li (1957), *Birds in Israel* as sources for this.

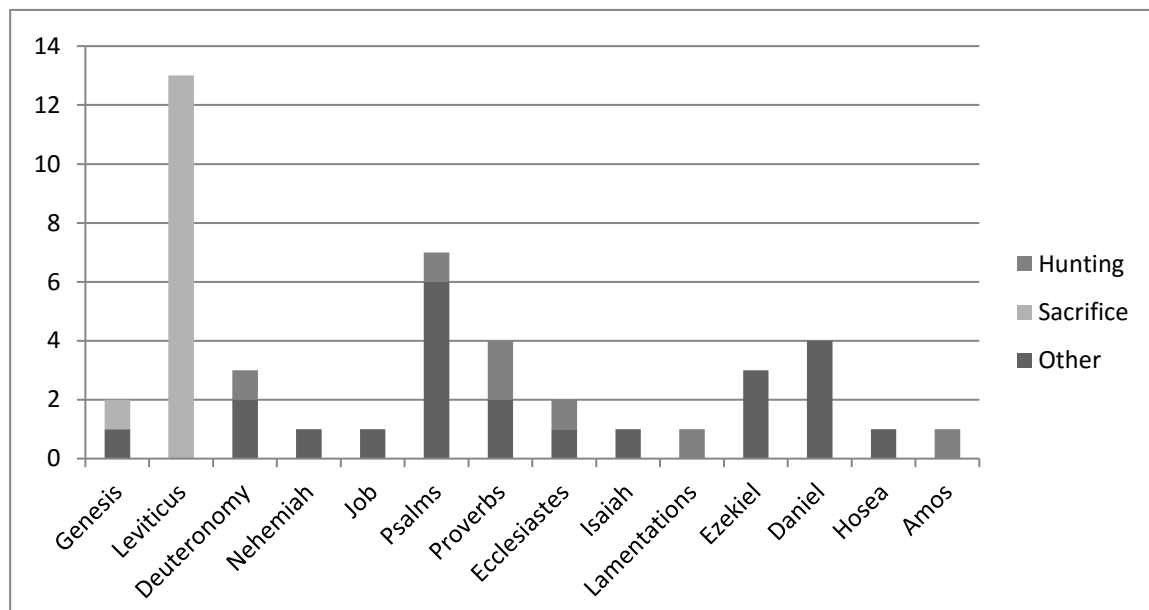
<sup>251</sup> Forti 2008:68.

<sup>252</sup> Ps 84:4 and Prov 26:2 in KJV; NIV; ESV; JPS etc.

<sup>253</sup> Brown-Driver-Briggs 2000:204.

birds, but rather that the category was based on a prototype that considered general size, shape, diet and behaviour. In these things a bat is similar enough to a sparrow to be included in the category, but not similar enough to be included in the central part of the category that confers edibility.<sup>254</sup>

The term **צִפּוֹר** is not closely attached to **שָׁמַיִם** as **עוֹף** is. The two words are found in conjunction in only 4 of the 44 instances of **צִפּוֹר**.<sup>255</sup> It is also sometimes associated with nests, trees, mountains, the field, and in two cases human habitations. It is often used in the context of sacrifice or hunting for food; other uses are varied.



**Figure 2: Contexts of the word צִפּוֹר**

דָּרוֹר	swallow	2	Ps 84:4; Prov 26:22 <sup>56</sup>
סִי	swift	2	Isa 38:14; Jer 8:7

**Table 6: דָּרוֹר swallow and סִי swift**

<sup>254</sup> See 4.2.

<sup>255</sup> Deut 14:17; Ps 8:9; Dan 4:9; 4:18.

<sup>256</sup> Excluding the use of the word to mean *freedom*.

The word טִיט is found in two verses. In both of them it is qere for טוֹט which would be patently impossible in each case. In Isaiah 38:14 it is named alongside the עֲגוּר as “twittering” (צִפְפִּי), and in Jeremiah 8:7 alongside several other birds as “knowing the time of their coming”, from which it can be deduced that all the birds named in this verse are migratory. Forti calls the טִיט a swift and considers the name to be onomatopoeic.<sup>257</sup> *Apus apus*, the common swift, is indeed migratory and occurs in Israel during its breeding season.<sup>258</sup> Investigation of the call of the common swift reveals that it consists of a loud, thin twittering noise that could certainly be rendered as טִיט.<sup>259</sup> However, swallows, swifts and martins are probably not reliably differentiated from each other as their appearance and habits are all very similar. Nearly all translations of the two verses where טִיט appears render it as *swallow*, which is a perfectly acceptable translation. Brown-Driver-Briggs has *swallow or swift* which covers all possibilities.<sup>260</sup>

#### 3.4.1.2. Doves

<p>יוֹנָה</p>	<p>dove</p>	<p>33</p>	<p>Gen 8:8; 8:9; 8:10; 8:11; 8:12; Lev 1:14; 5:7; 5:11; 12:6; 12:8; 14:22; 14:30; 15:14; 15:29; Num 6:10; 2 Kgs 6:25 (perhaps metaphorical); Ps 55:7; 56:1 (part of song title); 68:14; Song 1:15; 2:14; 4:1; 5:2; 5:12; 6:9; Isa 38:14; 59:11; 60:8; Jer 48:28 (habitat: holes in cliff); Ezek 7:16; Hos 7:11; 11:11; Nah 2:8.<sup>261</sup></p>
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<sup>257</sup> Forti 2008:6.

<sup>258</sup> BirdLife International 2014.

<sup>259</sup> Van Bruggen 2015.

<sup>260</sup> Brown-Driver-Briggs 2000:692.

<sup>261</sup> Excluding the personal name Jonah.

תֹּר	turtledove	14	<p>Gen 15:9; Lev 1:14; 5:7; 5:11; 12:6; 12:8; 14:22; 14:30; 15:14; 15:29; Num 6:10; Ps 74:19; Song 2:12; (migratory) Jer 8:7 <sup>262</sup></p> <p>The European turtle dove is migratory and makes sounds described as “turr turr” (hence its scientific name, <i>Streptopelia turtur</i>)<sup>263</sup> which would make the Hebrew name onomatopoeic. Forti agrees with this.<sup>264</sup></p>
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**Table 7: Doves**

The dove, יֹונָה, is characterised as living in holes in rocks, making moaning noises<sup>265</sup> and especially as going purposefully towards or out of a place (home or other). In the Song of Songs it is used as a term of endearment<sup>266</sup> and as a metaphorical image of beautiful eyes.<sup>267</sup> An example of the use of the dove as a symbol of coming home can be seen in Hosea 11:11:

יִחַרְדּוּ כְצִפּוֹר מִמִּצְרַיִם וּכְיוֹנָה מֵאֶרֶץ אַשּׁוּר וְהוֹשַׁבְתִּים עַל-בָּתֵּיהֶם נְאֻם-יְהוָה:	<i>Hos</i> <i>11:11</i>	<p>They will come trembling like a bird out of Egypt and like a dove out of the land of Assyria and I will cause them to dwell in their homes, says the LORD.</p>
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**Table 8: Hosea 11:11**

Cansdale confirms these habits: “The Rock Dove, ancestor of all tame pigeons, nests on steep rock faces, such as in the deep gorge of Ein Avdat, but it flies great distances to the desert edge

<sup>262</sup> Excluding the homonym meaning *turn* as well as *plait* or *chain/string* (jewellery). See also homonym meaning *bullock*.

<sup>263</sup> BirdLife International 2015(c).

<sup>264</sup> Forti 2008:6.

<sup>265</sup> Isa 38:14; 59:11.

<sup>266</sup> Song 2:14; 5:2; 6:9.

<sup>267</sup> Song 1:15; 4:1; 5:12.

every day, or to oases or new farms, for both food and water.”<sup>268</sup> The homing symbolism could refer both to this daily habit and to more seasonal migrations. This symbolism is still important to Israelis today: in 2008 then Prime Minister Shimon Peres (himself the bearer of an avian name, פֶּרֶס) when announcing the results of a vote which name the hoopoe Israel’s national bird, was reported as saying that it was a pity that the dove had not been on the list of nominees, as “The dove is equipped with a homing system, which can lead it home from anywhere it may be – and despite limitations and long distances it is a true Zionist”.<sup>269</sup>

The term for a young bird, (see 3.4.3.2) is used in Genesis 15:9 specifically for the young of a dove. A number of the instances of the word יִנְיָה, which are not included in the count, are the name of the prophet Jonah. It is possible that symbolism is involved in his naming – certainly he goes out and returns again, though not quite home and not of his own volition, and he is presented as a somewhat foolish character, while the dove is described as silly in Hosea 7:11.

### 3.4.1.3. Birds of prey

עֵיט	birds of prey coll.	8	Gen 15:11; Job 28:7; Isa 18:6(x2); 46:11; Jer 12:9 (x2); Ezek 39:4 <sup>270</sup>
נֶשֶׁר	eagle; vulture	26	Ex 19:4; Lev 11:13; Deut 14:12; 28:49; 32:11; 2 Sam 1:23; Job 9:26; 39:27; Ps 103:5; Prov 23:5; 30:17; 30:19; Isa 40:31; Jer 4:13; 48:40; 49:16; 49:22; Lam 4:19; Ezek 1:10; 10:14; 17:3; 17:7; Hos 8:1; Obad 1:4; Micah 1:16; Hab 1:8
נֶשֶׁר	eagle; vulture, Aram.	2	Dan 4:30; 7:4
פֶּרֶס	lammergeier	2	Lev 11:13; Deut 14:12.

<sup>268</sup> Cansdale 1970:23.

<sup>269</sup> Erlichman 2008.

<sup>270</sup> This count does not include verbs, but the verb root is very interesting as the noun appears to derive from one sense of the verb, and the other sense of the verb to derive from the noun (see below).



			If related to the verb פָּרַס <i>break</i> , then <i>lammergeier</i> is a likely interpretation due to that bird's habit of breaking open bones by dropping them from a great height onto rocks. <sup>271</sup> They have also been seen to do the same thing with tortoises, as noted by Wood who agrees with this identification. <sup>272</sup> However, the Egyptian Vulture <i>Neophron percnopterus</i> has been recorded using stones as tools to break open ostrich eggs, <sup>273</sup> so this could also be a good candidate.
רָחָם	vulture	1	Lev 11:18
רָחֻמָּה	vulture f.	1	Deut 14:17
עֲזַנְיָה	osprey	2	Lev 11:13; Deut 14:12

**Table 9: Birds of prey**

עֵיט is a collective noun for birds of prey in general; deriving from the verb root עֵיט *to shriek*, but is probably itself the source of the other meaning of the verb עֵיט, *to dart greedily* (upon prey or spoil).<sup>274</sup> Forti cites its use in the construct state with צִפּוֹר in Ezekiel 39:4 as evidence that it is a subcategory of the category צִפּוֹר.<sup>275</sup>

נֶשֶׁר is the most common term used for birds of prey and, with 28 mentions between its Hebrew and Aramaic forms, the most commonly referenced unclean bird in total, with only the sparrow/prototypical bird and the dove exceeding it. In most English versions it tends to be

<sup>271</sup> McLachlan & Liversidge 1978:108.

<sup>272</sup> Wood 1881:396-397.

<sup>273</sup> Yosef, Kabesa & Yosef 2011:444.

<sup>274</sup> Brown-Driver-Briggs 2000:743.

<sup>275</sup> Forti 2008:41.

translated as *eagle*, even sometimes when it should probably not be.<sup>276</sup> Forti goes to the other extreme when she argues that it should always be translated as *vulture* (*Gyps fulvus* in particular) and never as *eagle*, for the following reasons: one, the texts such as Micah 1:16 and Job 39:27-30 where the bald head and carrion-feeding habits of the vulture are unambiguously referenced; two, it is mentioned first in the lists of unclean birds in Leviticus and Deuteronomy, and she says that the most important and widespread item is the first to be listed in any category; thus נֶשֶׁר should be a vulture, one of the most common birds of prey in the region; and three, vultures nest on cliffs, as described in Job 39:28, while eagles nest in trees.<sup>277</sup> However, this is not a universal law; for example Cansdale records the rare sighting of a pair of Verraux's (Black) Eagles in Upper Galilee;<sup>278</sup> these eagles are cliff nesters.<sup>279</sup>

While the vulture is certainly intended in many of the texts, particularly those referring to them as eating dead bodies as well as Micah 1:16 where it is described as being bald, the term should not be read as excluding eagles. Forti mentions two passages related to folkloric beliefs involving the נֶשֶׁר: first she says “The way it soars easily and freely symbolizes the renewal of youthful strength”,<sup>280</sup> referring to Psalm 103:5, and later “The image of the *nešer* carrying its young on its wings, instead of holding them in its claws (cf. Exod. xix 4), however, should be regarded as folklore and without foundation in reality.”<sup>281</sup> She does not connect these two beliefs to eagles, considering the נֶשֶׁר to mean only *vulture*. However, both of these beliefs are connected with eagles in particular. Isaacs quotes Rashi (the 11<sup>th</sup>-century French rabbi) as saying that “all other birds clutch their young between their legs underneath because they are afraid of another bird over-flying them. The eagle, however, is afraid only of the hunter's arrow,

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<sup>276</sup> The most obvious examples being Prov 30:17 in the KJV and the ASV, Job 39:27 in nearly all the major translations, and Mic 1:16 in the KJV, ESV, RSV, ASV and others.

<sup>277</sup> Forti 2008:30-31.

<sup>278</sup> Cansdale 1970:28.

<sup>279</sup> McLachlan & Liversidge 1978:95.

<sup>280</sup> Forti 2008:31.

<sup>281</sup> Forti 2008:31.

since no other bird can fly higher than it. It therefore places its young on top of its wings, saying ‘Let the arrow rather pierce me than my young.’”<sup>282</sup> The second passage, Psalm 103:5, seems to refer to a myth similar to that of the phoenix, which was described by Herodotus as being almost exactly the same as an eagle in size and shape.<sup>283</sup> St Augustine, in his commentary on this psalm, relates a story about how the eagle supposedly, in old age, breaks off part of its upper beak which has become overgrown, and is restored to renewed youth.<sup>284</sup> This extratextual evidence shows that the meaning *eagle* should not be excluded from the definition of נֶשֶׁר, but rather included alongside *vulture*.

In other words, נֶשֶׁר is the basic-level term for eagles and vultures, עֵיט is the higher-level category into which they fall, along with several other birds of prey, and below נֶשֶׁר there are a number of lower-level, more technical terms for various kinds of נֶשֶׁר, which tend to be difficult to identify. Then there are a number of lower-level terms that fall under עֵיט but not נֶשֶׁר, as well as many that fall under צִפּוֹר but are not birds of prey. The identification of these lower-level terms is difficult and sometimes impossible; an approximation or guess is sometimes all that can be achieved.

<p>וְאֵת־אֵלֶּה תִּשְׂקֹצוּ מִן־הָעוֹף          לֹא יֵאָכְלוּ שֶׁקֶץ הֵם          אֶת־הַנֶּשֶׁר וְאֶת־הַפֶּרֶס          וְאֵת הָעֹזְנִיָּה:</p>	<p>Lev          11:13</p>	<p>And these you are to detest among the winged creatures; they are not to be eaten; they are taboo; the eagle, the lammergeier and the osprey</p>
<p>וְאֶת־הַדָּאָה וְאֶת־הָאֵיָּה לְמִינָהּ:</p>	<p>Lev          11:14</p>	<p>and the hawk and the kite according to its species,</p>
<p>אֵת כָּל־עֵרֵב לְמִינוֹ:</p>	<p>Lev          11:15</p>	<p>every raven according to its species</p>

<sup>282</sup> Isaacs 2000:26.

<sup>283</sup> Herodotus, *The Histories*, Book II.

<sup>284</sup> Augustine, *Exposition on the Psalms: Exposition on Psalm 103*, 8.



<p>וְאֵת בֵּית הַיַּעֲנָה וְאֵת־הַתְּחֻמִּים וְאֵת־הַשְּׁחָף וְאֵת־הַנֶּץ לְמִינֵהוּ:</p>	<p>Lev 11:16</p>	<p>and the female ostrich and the male ostrich and the seagull and the falcon according to its species</p>
<p>וְאֵת־הַכּוֹס וְאֵת־הַשְּׁלֵף וְאֵת־הַיַּנְשׁוּף:</p>	<p>Lev 11:17</p>	<p>and the little owl and the cormorant and the eagle owl.</p>
<p>וְאֵת־הַתְּנַשְׂמוֹת וְאֵת־הַקָּאֵת וְאֵת־הַרְחָם:</p>	<p>Lev 11:18</p>	<p>and the barn owl and the sandgrouse and the vulture</p>
<p>וְאֵת הַחֲסִידָה הָאֲנָפָה לְמִינָהּ וְאֵת־הַדּוֹכִיפֵת וְאֵת־הַעֲטָלָף:</p>	<p>Lev 11:19</p>	<p>and the stork and the flamingo according to its species and the hoopoe and the bat.</p>

**Table 10: Leviticus 11:13-19**

<p>כָּל־צִפּוֹר טָהוֹר תֹּאכְלוּ:</p>	<p>Deut 14:11</p>	<p>You may eat all clean birds,</p>
<p>וְזֵה אֲשֶׁר לֹא־תֹאכְלוּ מֵהֶם הַנֶּשֶׁר וְהַפֶּרֶס וְהָעֲזָנִיָּה:</p>	<p>Deut 14:12</p>	<p>and these are the ones from which you may not eat: The eagle, the lammergeier and the osprey</p>
<p>וְהַרְאָה וְאֵת־הָאֵיָה וְהַרְיָה לְמִינָהּ:</p>	<p>Deut 14:13</p>	<p>and the hawk and the kite and the hawk according to its species<sup>285</sup></p>
<p>וְאֵת כָּל־עֹרֵב לְמִינֵהוּ:</p>	<p>Deut 14:14</p>	<p>and every raven according to its species</p>
<p>וְאֵת בֵּית הַיַּעֲנָה וְאֵת־הַתְּחֻמִּים וְאֵת־הַשְּׁחָף וְאֵת־הַנֶּץ לְמִינֵהוּ:</p>	<p>Deut 14:15</p>	<p>and the female ostrich and the male ostrich and the seagull and the falcon according to its species</p>
<p>אֶת־הַכּוֹס וְאֵת־הַיַּנְשׁוּף וְהַתְּנַשְׂמוֹת:</p>	<p>Deut 14:16</p>	<p>and the little owl and the eagle owl and the barn owl</p>
<p>וְהַקָּאֵת וְאֵת־הַרְחָמָה וְאֵת־הַשְּׁלֵף:</p>	<p>Deut 14:17</p>	<p>and the sandgrouse and the vulture and the cormorant</p>

<sup>285</sup> Brown-Driver-Briggs considers רָאָה to be a textual error (Brown-Driver-Briggs 2000:906).



וְהַחֲסִידָה וְהָאֲנָפָה לְמִינָהּ וְהַדּוֹכִיפֹת וְהָעֵטְלָף:	<i>Deut</i> 14:18	and the stork and the flamingo according to its species and the hoopoe and the bat
וְכָל שָׂרֵץ הָעוֹף טָמֵא הוּא לָכֶם לֹא יֵאָכְלוּ:	<i>Deut</i> 14:19	and all flying swarmers are unclean to you – not to be eaten.
כָּל־עוֹף טָהוֹר תֹּאכְלוּ:	<i>Deut</i> 14:20	You may eat all clean winged creatures.

**Table 11: Deuteronomy 14:11-20**

Comparing these two parallel passages is in some cases the only clue to the identification of certain obscure birds. The following are usually translated as *kite*, *falcon* and similar terms; thus falling into the category עֵיט but separate from, and smaller than, נֶשֶׁר:

נֶיֶץ	falcon	3	Lev 11:16; Deut 14:15; Job 39:26 <sup>286</sup>
אֵיָה	kite	3	Lev 11:14; Deut 14:13; Job 28:7 <sup>287</sup>
הַיָּה	hawk	2	Deut 14:13; Isa 34:15 <sup>288</sup>
הַאָּה	hawk	1	Lev 11:14 <sup>289</sup>
רְאָה	hawk	1	Deut 14:13 <sup>290</sup>

**Table 12: Falcons, kites and hawks**

The terms *hawk*, *kestrel*, *falcon* and *kite* all have set biological definitions today, definitions that tend to overlap and to be confusing, but those definitions have nothing to do with these words, which all mean *small raptor* and could all be satisfactorily translated as *hawk* (or any of the other terms) if it were not for the need to avoid repetitiveness. Of the five terms, three appear

<sup>286</sup> Excluding homonym meaning *flower*. Probably from the verb root נָצַח *to fly*.

<sup>287</sup> Excluding use as personal name. Possibly related to the verb root נָאָה *to cry*, and thus closely related to the word נָאָה *jackal*. Isaacs translates it as *buzzard* (Isaacs 2000:47).

<sup>288</sup> *Diy* means *hawk* in Ugaritic (Forti 2008:30).

<sup>289</sup> From the verb רָאָה *to fly*.

<sup>290</sup> Probably a miscopying of רְאָה.

to be essentially the same word with slight variations. Brown-Driver-Briggs considers  $\text{הַנֶּשֶׁף}$  and  $\text{הַנֶּשֶׁף}$  to be forms of the same word,<sup>291</sup> and  $\text{הַנֶּשֶׁף}$  to be a textual error.<sup>292</sup> Together they have the largest number of instances of any of these terms, so they are translated as *hawk*, possibly the most generic English term for small raptors at the moment.  $\text{הַנֶּשֶׁף}$  is *kite* and  $\text{הַנֶּשֶׁף}$  is *falcon*. All these terms are interchangeable in this context and the translations preferred here should not be accorded too much weight.

#### 3.4.1.4. Owls and non-owls

A very large number of troublesome bird terms, interpreted as a wide range of different birds in the Septuagint and the Vulgate, have been reinterpreted by more contemporary scholars to refer to various types of owl.<sup>293</sup> Is this reinterpretation genuinely realistic? It is true that there are a good number of species of owls in the region: at least 10,<sup>294</sup> but how many words for different types of owls would the ancient Hebrews really have needed? *Owl* is a basic-level term, and it is doubtful that the various kinds would have been differentiated to a very great extent. They are normally encountered as nearly-silent wings in the dark, or as their call. Houston says the following:

It will be seen that the Vulgate is normally aligned with the LXX, whether because it was following it or because they were both reliant on similar Hebrew traditions. Neither the RSV nor Dillmann diverges very far from this tradition; Driver however does so, chiefly in substituting various species of owls for the water-birds in the middle of the list. He is (naturally) followed by the NEB and REB, and the NRSV has adopted one or two of his identifications. Partly, like Dillmann, he is able to argue that the water-birds are not appropriate identifications for birds that are elsewhere said to inhabit ruins and deserts (this is true of nos. 13 and 15); but largely it is because of three very sweeping a priori assumptions that he introduces in the course of his argument: firstly, that ‘unclean’ birds will in general be raptors; secondly that the birds will be arranged in a logical order, with similar birds next to one another; and thirdly that the birds are arranged in order of size up to no. 15; these are then followed by three water birds. The first assumption has some

<sup>291</sup> Brown-Driver-Briggs 2000:178.

<sup>292</sup> Brown-Driver-Briggs 2000:906.

<sup>293</sup> Houston 1993:44-45.

<sup>294</sup> Horine 2011:1.

basis in the Mishnaic characterisation of the unclean birds; but it is hard to see how the others could be justified as initial assumptions. The chief objection to his result is that the identifications are too narrow, distinguishing between birds that could well have been known by a general term, and letting some similar birds through the net.<sup>295</sup>

In other words, there is no justification for thinking that owls in particular will be this finely divided on a subordinate level. They are neither useful nor dangerous to humans, and do not have any major symbolic value in the Hebrew tradition (otherwise tradition would have preserved the identifications). Category theory predicts that they will not have many terms for different kinds. Three or four, maybe, following the number of terms for various diurnal raptors and in the unusual context of the negative lists of Leviticus and Deuteronomy. But the eight different owl terms proposed by Driver just do not fit.<sup>296</sup>

According to linguistic principles it is highly unlikely that this many subordinate categories will occur for various species that are relatively hard to differentiate from each other, that are similar enough to form a single unmistakable category, that are not economically useful or dangerous to humans, that are not highly important in symbol or ritual, that are active mainly at night when it is difficult to see the differences between them, and that all have very similar habits and eating patterns. OWL is a basic-level category. Among people who live close to nature, EAGLE OWL, BARN OWL and LITTLE OWL could be basic-level categories. Any more than three or four categories is a characteristic of an animal that is vitally important either economically or symbolically, something for which there is no evidence in the Biblical texts.

The following are the bird words that have been proposed, by various sources, to refer to various species of owl:

יְנִישׁוּף	eagle owl	3	Lev 11:17; Deut 14:16; Isa 34:11
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<sup>295</sup> Houston 1993:45-46.

<sup>296</sup> Houston 1993:44-45.



			Isaacs considers this word to denote an owl, relating it to נִשֵּׁף meaning <i>twilight</i> . <sup>297</sup> Forti also calls it an owl, <i>Asio otus</i> , and considers the name to be derived either from נִשֵּׁף <i>darkness</i> , or נִשֵּׁף <i>blow out/hiss</i> . <sup>298</sup>
כּוֹס	little owl	3	Lev 11:17; Deut 14:16; Ps 102:7 (in parallel with קִצָּת) <sup>299</sup>  Isaacs says it has generally been understood to mean the Little owl. <sup>300</sup>
תְּנִשְׁמֹת	barn owl; chameleon	3	Lev 11:18; 11:30; Deut 14:16  In Lev 11:18 and Deut 14:16 it is explicitly grouped under birds, while in Lev 11:30 it is explicitly grouped under creeping things. There are two possibilities here: either it is a creature that manages to be a member of the category <i>birds</i> and the category <i>creeping things</i> at the same time, or else the word refers to two different animals. Isaacs calls it an owl and relates it to the root נִשַּׁם meaning <i>to pant</i> . <sup>301</sup> Forti considers the bird version to be the barn owl, <i>Tyto alba</i> , from נִשְׁמָה <i>breath</i> , and the creeping one to be the chameleon. <sup>302</sup>
תְּחִמִּים	male ostrich	2	Lev 11:16; Deut 14:15

<sup>297</sup> Isaacs 2000:28

<sup>298</sup> Forti 2008:6.

<sup>299</sup> Excluding instances where the word means *cup*.

<sup>300</sup> Isaacs 2000:28

<sup>301</sup> Isaacs 2000:28

<sup>302</sup> Forti 2008:6.





			Isaacs says it is a kestrel; <sup>303</sup> a number of translations have <i>owl</i> or <i>night-hawk</i> . <sup>304</sup> In each case it comes straight after בַּת יַעֲנָה, a female ostrich, so in the absence of any better evidence <i>male ostrich</i> is a good translation.
יַעֲנָה	female ostrich	8	Lev 11:16; Deut 14:15; Job 30:29; Isa 13:21; 34:13; 43:20; Jer 50:39; Mic 1:8.  More properly בַּת יַעֲנָה. Always used with בַּת – daughter of the יַעֲנָה, not alone. Isaacs considers it to be an owl. <sup>305</sup> However he calls יַעֲנָן an ostrich, <sup>306</sup> and the two certainly seem to be the same word with different genders.
קֶאֱת	sandgrouse	5	Lev 11:18; Deut 14:17; Ps 102:7 (in parallel with כּוֹס); Isa 34:11; Zeph 2:14
שָׁלָךְ	cormorant	2	Lev 11:17; Deut 14:17
קִפְד	bittern; hedgehog	3	Isa 14:23; 34:11; Zeph 2:14
קִפּוֹז	bittern; hedgehog	1	Isa 34:15
לִילִית	Lilith; night bird	1	Isa 34:14
אֵח	howling creature	1	Isa 13:21.  Also an animal of waste places. Isaacs says it is an owl. <sup>307</sup>

**Table 13: Various species of owl**

<sup>303</sup> Isaacs 2000:49.

<sup>304</sup> For examples, see Lev 11:16 in the KJV, NIV, ESV, NLT etc.

<sup>305</sup> Isaacs 2000:28.

<sup>306</sup> Isaacs 2000:50.

<sup>307</sup> Isaacs 2000:50.

The cognitive-linguistic principles that inform this study’s approach imply that it is unrealistic to propose that all these are types of owl. Therefore the three terms that have the best arguments to support their referring to owls – יְנִישׁוּף, כּוֹס and הַנְּשֻׁמָּת – are proposed to cover respectively large owls, small owls, and the ghostly white barn owl. A division of this nature makes sense from a cognitive perspective, while a system comprising eleven different words for elusive and inedible night birds emphatically does not. This leaves eight obscure and difficult bird words to puzzle out, starting from the assumption that they are probably not owls. This is best done by viewing them in conjunction with the rest of the bird words that have not yet been assigned.

#### 3.4.1.5. Other birds

- Bitterns

קָפַד	bittern; hedgehog	3	Isa 14:23; 34:11; Zeph 2:14
קָפוּז	bittern; hedgehog	1	Isa 34:15

Table 14: קָפַד and קָפוּז bittern or hedgehog?

קָפַד: This animal is rendered in some translations as *hedgehog*, for two good reasons: one reason is that there are cognates in other Semitic languages (and also Modern Hebrew) that are definitely used to mean *hedgehog*, and the other is the fact that it comes from the verb root קָפַד *to roll up*. However, in the three verses in which it appears, and the one in which קָפוּז (almost certainly the same word, and probably a miscopying) is found, *hedgehog* simply does not make sense.<sup>308</sup> Hedgehogs are highly unlikely to build nests on top of a pillar (Zeph 2:14), much less lay and hatch eggs (Isa 34:15). In this verse, the קָפוּז makes a nest, lays eggs, hatches them and gathers her young under her shadow, which is an action often attributed to birds along with

<sup>308</sup> *Porcupine*, as seen in, for example, the ASV translation of Isa 14:23, may be dismissed as a variation on *hedgehog* by translators who did not realise that porcupines do not roll up.

gathering the young under the mother’s wings. Thus קַפֵּר, as well as referring to a hedgehog, has to have a separate meaning that denotes a type of bird. *Bittern* is found in many translations,<sup>309</sup> and is appropriate as it is found in swampy areas, which fits with Isa 14:23, it makes a pillar-like nest and broods its young, and most importantly, it shares with the hedgehog the ability to change its shape from long and thin to round and fat at will.

- Sandgrouse

קִנְיָה	sandgrouse	5	Lev 11:18; Deut 14:17; Ps 102:7 (in parallel with כֹּיֹט); Isa 34:11; Zeph 2:14
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**Table 15: קִנְיָה sandgrouse**

קִנְיָה: Some translations, including the LXX and the Vulgate, translate this word as *pelican*. Houston notes that the Arabic *qaṭā* refers to “the large pin-tailed sandgrouse”; he links this with *qadû* from Mesopotamia. He states that a grouse would probably be clean in Israel, and that many sources consider the word to refer to an owl.<sup>310</sup> However, the sandgrouse is not a grouse; it is a rather interesting pigeon-like bird. One would still assume that this would fall into the edible category in Israel, but it must not be ignored that this bird is on a list of birds considered to be of ill omen in Mesopotamia.<sup>311</sup>

A final factor argues strongly that the sandgrouse may be the unclean קִנְיָה, and that is the fact that sandgrouse are by all accounts particularly tough and unpleasant to eat, requiring stewing to make them in any way palatable. Henry Bryden, writing in 1889 on hunting in South Africa, says of the Namaqua sandgrouse: “This sand grouse seems likely to be abundant in the Colony for all time. It is not much shot for food, as its flesh is the driest of all South African game birds. It is, however, if included in a game stew, by no means bad eating, and as it affords very good

<sup>309</sup> E.g. Isa 14:23 in the KJV; JPS; DBY.

<sup>310</sup> Houston 1993:198.

<sup>311</sup> Houston 1993:198.

shooting, new comers to the Colony will not, I am convinced, feel inclined to despise it.”<sup>312</sup> Wang Zengqi writes in his essay *Foods in my Hometown*, “The sand grouse has a short, red beak and short legs. In my hometown, however, jacana was a water bird. It has a long beak and long legs. The meats of the two taste very different. The former is mealy and slightly sour, while the latter has a fine texture and a marvelous taste; I have never had anything more savory.”<sup>313</sup>

The unpalatability of the sandgrouse, especially in areas where water is at a premium and stewing is not a preferred method of cooking, is something which could very easily have been overlooked by authors who focused on their gamebird-like appearance and did not personally attempt to eat them. If certain animals such as locusts could be considered clean, despite their appearance, because they were just so useful as food, it is quite possible that the sandgrouse may have been considered unclean because, despite appearances, it is so undesirable as food.

- Ravens

עֹרֵב	raven; corvid	10	Gen 8:7; Lev 11:15; Deut 14:14; 1 Kgs 17:4; 17:6; Job 38:41; Ps 147:9; Prov 30:17; Song 5:11; Isa 34:11 <sup>314</sup>
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**Table 16: עֹרֵב raven; corvid**

The עֹרֵב (generally translated as *raven*) obviously refers to all corvids as is made clear by “according to its species”. There are at least 8 different members of the genus *Corvus* in the Levant region.<sup>315</sup> They are closely associated with the habitat word נַחַל, *wadi* or *stream*. They are also associated with desolate places (see chapter 4.2.1.) Forti says “Ravens appear along with other predatory birds, with their negative connotations, in several prophetic scenes of desolation; for example, ‘Jackdaws and owls shall possess it; Great owls and ravens shall dwell

<sup>312</sup> Bryden 2013:315-316.

<sup>313</sup> Wang 2005:188.

<sup>314</sup> Excluding personal name Oreb (but see in discussion association with Zeeb *wolf*).

<sup>315</sup> Forti 2008:79.

there. He shall measure it with a line of chaos and with weights of emptiness’ (Isa. xxxiv 11). Among the ancients, the raven as scavenger produced flourishing myth and folklore. Its aggressive behaviour helped give it the erroneous image of a cruel parent,”<sup>316</sup> and “Apparently the raven’s habit of plucking out the eyes of its victims is triggered by its attraction to glittering objects – a tropism that has contributed to the common negative perception of the raven as a thief.”<sup>317</sup> Forti also says that *raven* should be read instead of *devastation* in Zephaniah 2:14.<sup>318</sup> On the other hand, the raven is seen in a positive light as a helper of humans and even a courier sent by God in Genesis 8:7 and 1 Kings 17.

- The stork and the crane

<p>גַּם־הַסִּידָה בַּשָּׁמַיִם יָדְעָה מוֹעֲדֶיהָ וְתֵר (וְסוּס) [וְסוּסִים] וְעֹגוּר שָׁמְרוּ אֶת־עֵת בֵּאתָנָה וְעַמִּי לֹא יָדְעוּ אֶת מִשְׁפַּט יְהוָה:</p>	<p>Jer 8:7</p>	<p>Even the stork of the heavens knows her appointed time and the turtledove, the swift and the crane observe the time of their coming but my people do not know the judgement of the Lord.</p>
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**Table 17: Jeremiah 8:7**

Forti translates the birds mentioned in Jeremiah 8:7 as, respectively, stork, turtledove, swift and crane. She sees in this verse an admiration for the unconscious intelligence of animals, the way they seem to share with God a mysterious or esoteric knowledge inaccessible to humans. In this verse it is the ability to orientate themselves in their habitat that is seen as admirable.<sup>319</sup> She considers the following verses mentioning birds as being references to migration: the former verse, Jer 8:7; the turtledove in Song 2:11-12; the hawk in Job 39:26.<sup>320</sup>

<sup>316</sup> Forti 2008:80.

<sup>317</sup> Forti 2008:80.

<sup>318</sup> Forti 2008:80.

<sup>319</sup> Forti 2008:1-2.

<sup>320</sup> Forti 2008:54.

תְּסִידָה	stork	6	<p>Lev 11:19; Deut 14:18; Job 39:13; Ps 104:17; Jer 8:7; Zech 5:9</p> <p>From the contexts in which it is found this bird is migratory, and from its verb root (<i>righteousness/love</i>) it must have been seen as exemplary in some way, probably as a mother. Symbolically it is the opposite of the ostrich which is seen as a bad mother.<sup>321</sup></p>
עָגוּר	crane	2	<p>Isa 38:14 (making noises like a טִיס); Jer 8:7 (migratory)</p> <p>Isaacs has <i>crane</i>.<sup>322</sup> Houston notes that <i>igiru</i> means <i>heron</i> in old Mesopotamian texts.<sup>323</sup> The only real objection to <i>crane</i> (and thus support for <i>thrush</i>) comes from the description of its call. However, while most herons and cranes have harsh, grating calls, the Demoiselle crane, <i>Grus virgo</i>, which is found in Israel and is migratory,<sup>324</sup> has a chirruping, twittering call that works perfectly well in the Isaiah verse.<sup>325</sup></p>

Table 18: תְּסִידָה stork and עָגוּר crane

- Ostriches

רְנָנִים	ostriches	1	<p>Job 39:13</p> <p>Only occurs in the plural form.</p>
תְּחִמָּס	male ostrich	2	<p>Lev 11:16; Deut 14:15</p>

<sup>321</sup> Lam 4:3.

<sup>322</sup> Isaacs 2000:48.

<sup>323</sup> Houston 1993:198.

<sup>324</sup> BirdLife International 2012.

<sup>325</sup> Patil 2012.

			Isaacs says it is a kestrel. <sup>326</sup> In each case it comes straight after <b>בֵּת יַעֲנָה</b> , a female ostrich, so in the absence of any better evidence this is the best option.
<b>יַעֲנָן</b>	ostrich	1	Lam 4:3(x2) (K/Qr) (as a bad mother) <sup>327</sup>
<b>יַעֲנָה</b>	ostrich	8	Lev 11:16; Deut 14:15; Job 30:29; Isa 13:21; 34:13; 43:20; Jer 50:39; Mic 1:8.  More properly <b>בֵּת יַעֲנָה</b> . Always used with <b>בֵּת</b> – daughter of the <b>יַעֲנָה</b> - not on its own. Isaacs considers it to be an owl. <sup>328</sup> However he calls <b>יַעֲנָן</b> an ostrich, <sup>329</sup> and the two certainly seem to be the same word with different genders.

**Table 19: Ostriches**

- Bird species in Leviticus 11:13-19 and Deuteronomy 14:11-20

Since so many of the remaining birds occur primarily or only in the parallel Leviticus and Deuteronomy passages, they are repeated here for clarity:

<b>וְאֵת־אֵלֶּה תִּשְׂקֹצוּ מִן־הָעוֹף לֹא יֵאָכְלוּ שֶׁקֶץ הֵם אֶת־הַנְּשָׁר וְאֶת־הַפֶּרֶס וְאֵת הָעֹזְנִיָּה:</b>	<i>Lev</i> <i>11:13</i>	And these you are to detest among the winged creatures; they are not to be eaten; they are taboo; the eagle, the lammergeier and the osprey
<b>וְאֵת־הַדָּאָה וְאֵת־הָאֵיָּה לְמִינָהּ:</b>	<i>Lev</i> <i>11:14</i>	and the hawk and the kite according to its species,

<sup>326</sup> Isaacs 2000:49.

<sup>327</sup> Excluding the much more common homonym meaning *because*.

<sup>328</sup> Isaacs 2000:28.

<sup>329</sup> Isaacs 2000:50.



את כל־עֶרֶב לְמִינֹו:	<i>Lev</i> 11:15	every raven according to its species
וְאֵת בֵּת הַיַּעֲנָה וְאֵת־הַתְּחֹמָס וְאֵת־הַשְּׁחָף וְאֵת־הַנֶּץ לְמִינֵהוּ:	<i>Lev</i> 11:16	and the female ostrich and the male ostrich and the seagull and the falcon according to its species
וְאֵת־הַכּוֹס וְאֵת־הַשְּׁלֶךְ וְאֵת־הַיַּנְשׁוּף:	<i>Lev</i> 11:17	and the little owl and the cormorant and the eagle owl.
וְאֵת־הַתְּנַשְׂמֹת וְאֵת־הַקָּאָת וְאֵת־הַרְחָם:	<i>Lev</i> 11:18	and the barn owl and the sandgrouse and the vulture
וְאֵת הַחֲסִידָה הָאֲנָפָה לְמִינָהּ וְאֵת־הַדּוֹכִיפֹת וְאֵת־הָעֵטְלָף:	<i>Lev</i> 11:19	and the stork and the flamingo according to its species and the hoopoe and the bat.

**Table 20: Another look at Leviticus 11:13-19**

כָּל־צִפּוֹר טָהוֹר תֹּאכְלוּ:	<i>Deut</i> 14:11	You may eat all clean birds,
וְזֵה אֲשֶׁר לֹא־תֹאכְלוּ מֵהֶם הַנֶּשֶׁר וְהַפֶּרֶס וְהָעֹזְנִיָּה:	<i>Deut</i> 14:12	and these are the ones from which you may not eat: The eagle, the lammergeier and the osprey
וְהַרְאָה וְאֵת־הָאֵיָה וְהַדִּיָּה לְמִינָהּ:	<i>Deut</i> 14:13	and the hawk and the kite and the hawk according to its species <sup>330</sup>
וְאֵת כָּל־עֶרֶב לְמִינֹו:	<i>Deut</i> 14:14	and every raven according to its species
וְאֵת בֵּת הַיַּעֲנָה וְאֵת־הַתְּחֹמָס וְאֵת־הַשְּׁחָף וְאֵת־הַנֶּץ לְמִינֵהוּ:	<i>Deut</i> 14:15	and the female ostrich and the male ostrich and the seagull and the falcon according to its species
אֵת־הַכּוֹס וְאֵת־הַיַּנְשׁוּף וְהַתְּנַשְׂמֹת:	<i>Deut</i> 14:16	and the little owl and the eagle owl and the barn owl

<sup>330</sup> Brown-Driver-Briggs considers רָאָה to be a textual error (Brown-Driver-Briggs 2000:906).





וְהַקָּאָת וְאֶת־הַרְחֻמָּה וְאֶת־הַשָּׂלָךְ:	<i>Deut</i> 14:17	and the sandgrouse and the vulture and the cormorant
וְהַחֲסִידָה וְהָאֲנָפָה לְמִינָהּ וְהַדּוֹכִיפֹת וְהָעֹטְלָף:	<i>Deut</i> 14:18	and the stork and the flamingo according to its species and the hoopoe and the bat
וְכָל שָׂרִיץ הָעוֹף טָמֵא הוּא לָכֶם לֹא יֵאָכְלוּ:	<i>Deut</i> 14:19	and all flying swarmers are unclean to you – not to be eaten.
כָּל־עוֹף טָהוֹר תֹּאכְלוּ:	<i>Deut</i> 14:20	You may eat all clean winged creatures.

**Table 21: Another look at Deuteronomy 14:11-20**

שָׂחָף	seagull	2	Lev 11:16; Deut 14:15  Isaacs has <i>gull</i> . <sup>331</sup>
שָׂלָךְ	cormorant	2	Lev 11:17; Deut 14:17  The verb שָׂלַךְ means <i>throw down</i> , which suggests the diving action of a fishing bird. Wood agrees with this interpretation. <sup>332</sup> Isaacs translates it as <i>owl</i> , <sup>333</sup> and Holladay <sup>334</sup> says that some suggest a fishing owl, but these options are excluded for the reasons set out in 3.4.1.4. Nearly all translations prefer <i>cormorant</i> , and considering the verb root this is the best option.
אֲנָפָה	flamingo	2	Lev 11:19; Deut 14:18.

<sup>331</sup> Isaacs 2000:49.

<sup>332</sup> Wood 1881:565.

<sup>333</sup> Isaacs 2000:50.

<sup>334</sup> Holladay 2000:373.

			<p>“According to its kind” may mean there are several varieties. Houston gives the cognate <i>anpatu</i> from Mesopotamian sources;<sup>335</sup> this is as good a guess as any and better than most, because not only is there a parallel in a related language, but the flamingo has two easily differentiated species in the region of Asia and Africa; while the Greater flamingo <i>Phoenicopterus roseus</i> is definitely a resident of the Levant region,<sup>336</sup> the Lesser flamingo <i>Phoeniconaias minor</i> is not, but it has an oddly fragmented range and is migratory,<sup>337</sup> so may have existed in the region in the past or have been seen there as a vagrant. Naturally it must be noted that the translation of the cognate itself is not completely certain.</p>
הוֹכִיפֹת	hoopoe	2	<p>Lev 11:19; Deut 14:18</p> <p>There is plenty of tradition confirming this translation, and it has the same meaning in Modern Hebrew.</p>
עֵטְלָה	bat	3	<p>Lev 11:19; Deut 14:18; Isa 2:20</p> <p>The context makes it clear that this animal is classified as a <b>עוֹף</b> as well as an <b>צִפּוֹר</b>.</p>

**Table 22: Bird species in Leviticus 11:13-19 and Deuteronomy 14:11-20**

- Words for the young of birds (see 3.4.3.2.)

גֹּזֵל	young bird	2	Gen 15:9 (of dove); Deut 32:11 (of eagle)
אֶפְרָח	young bird	4	Deut 22:6 (x2); Job 39:30; Ps 84:4

<sup>335</sup> Houston 1993:198.

<sup>336</sup> BirdLife International 2015(b).

<sup>337</sup> BirdLife International 2015(a).

			In Deuteronomy this refers to the young of birds in general; in Job to the eagle/vulture and in Psalm 84 to the swallow.
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**Table 23: Young birds**

- Some edible or possibly edible birds

שָׁלוּ	quail	4	Exod 16:13; Num 11:31; 11:32; Ps 105:40 <sup>338</sup>
קָרָא	partridge	2	1 Sam 26:20; Jer 17:11
בְּרֶבֶר	chicken	1	1 Kgs 5:3
זְרִיר (מִתְנִים)	corvid; saluki	1	Prov 30:31
שָׁכוּי	rooster	1	Job 38:36.  Very dubious. More likely <i>mind</i> or <i>soul</i> . Only DRA and some rabbinical sources.
גִּבֹּר	rooster, dub.	1	Isa 22:17.  Also very dubious; also only DRA. Much more likely just means <i>man</i> or <i>strong man</i> .

**Table 24: Some edible or possibly edible birds**

Isaacs cites a rabbinical source, Gen. Rabbah 65, as stating that the זְרִיר מִתְנִים mentioned in Proverbs 30:31 is a corvid (and thus unclean) as it flocked together with crows.<sup>339</sup> Forti mentions a corvid, the rooster and a sighthound as the main possibilities but does not consider the evidence sufficient to make a definite identification, but cites Delitzsch as having a

<sup>338</sup> Flocks in great numbers.

<sup>339</sup> Isaacs 2000:133

comprehensive discussion of the subject.<sup>340</sup> Delitzsch, in turn, translates **זְרִיר מְתַנִּים** as “the swift-loined”.<sup>341</sup> He mentions the same story from Gen Rabbah and also cites Arabic cognates to state that the **זְרִיר** was a corvid bird. However, he sees the **זְרִיר מְתַנִּים** as something completely different from **זְרִיר** on its own, and after considering the usual options as well as a number of unlikely suggestions from other sources – from rooster to zebra to tiger<sup>342</sup> – he concludes that the best interpretation is a sighthound, more particularly what is now called a Saluki; an animal which, in contrast to all other dogs, was viewed positively by the Arabs. He considers that the term was considered more euphonious in this context than **כֶּלֶב**.<sup>343</sup>

Chickens were domesticated in southeast Asia about 8000 years ago,<sup>344</sup> but conventional wisdom says it was only introduced to the Near East at a much later date. However, a seal with the image of a rooster on it has been found and dated to the time of the Israelite kingdom.<sup>345</sup> Houston says “there is sufficient evidence to make it clear that one widely canvassed idea is false – the idea, I mean, that the domestic fowl was not introduced to the near East until comparatively late times.”<sup>346</sup> Chicken remains have been found at Tell Sweyhat dating from before 2000 BC, at Lachish from the Late Bronze Age, and at Jerusalem from the monarchical period. Duck and goose remains have also been found at these sites.<sup>347</sup> Isaacs translates **בְּרִבֵּר** as *goose*,<sup>348</sup> however, given that chickens were definitely kept and eaten at the time, and that none of the other words sometimes translated as “rooster” or similar really have sufficient evidence that they even refer to birds at all, **בְּרִבֵּר** is here translated as *chicken*. Most translations use *fowl* or *fatted fowl*; *fowl* being a very slightly archaic term with the central or

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<sup>340</sup> Forti 2008:119.

<sup>341</sup> Delitzsch 1874:305.

<sup>342</sup> Delitzsch 1874:306-308.

<sup>343</sup> Delitzsch 1874:309.

<sup>344</sup> Reitz & Wing 2008:292

<sup>345</sup> Isaacs 2000:6

<sup>346</sup> Houston 1993:143.

<sup>347</sup> Houston 1993:143.

<sup>348</sup> Isaacs 2000:49.

prototypical meaning of *chicken*, a slightly broader meaning of *poultry*, an even broader one of *game bird*, and a peripheral sense that covers exactly the same lexical territory as *bird*. Hence it is a very safe translation, but it is a word that is not used very much any more. For this reason *chicken* is used instead. **בְּרִבֵּר** may be derived either from **ברא** *to be fat* or from **ברר** *to purify or select*,<sup>349</sup> but it is also possible, if it does in fact refer to chickens, that the word does not come from either verb root but instead is onomatopoeic.

- A last few bird words:

תְּכִי	peacock	2	1 Kgs 10:22; 2 Chr 9:21  Isaacs considers this word to denote a peacock, <sup>350</sup> as does Shulman who links it to a Tamil cognate <i>tokai</i> , meaning <i>peacock's tail</i> . He believes <b>קוף</b> and <b>שְׁנֵה־בַּיִם</b> in the same verse to be Dravidian loanwords as well. <sup>351</sup> Most translations agree with this, even though in NH the word has been taken to mean <i>parrot</i> . <sup>352</sup> The NIV translates it as “baboon”, but it is highly unlikely according to the principles established in this study that <i>baboon</i> would be denoted by a word separate from <b>קוף</b> .
לִילִית	Lilith; night bird	1	Isa 34:14
אֵחָ	howling creature	1	Isa 13:21.

<sup>349</sup> Brown-Driver-Briggs 2000:135; 141.

<sup>350</sup> Isaacs 2000:29

<sup>351</sup> Shulman 2016:20.

<sup>352</sup> Shulman 2016:20.

			Also an animal of waste places. Isaacs says it is an owl. <sup>353</sup> There is no particular reason to believe it is in fact a bird, but it may be one.
צָבוּעַ	speckled; hyaena	1	Jer 12:9  This word used on its own as a noun means <i>hyaena</i> , <sup>354</sup> but this does not actually occur in Biblical texts. Its only appearance is here, as an adjective describing a bird of prey, where it is better translated as <i>speckled</i> .
חֹל	phoenix (dubious)	1	Job 29:18.  Only a few translations have <i>phoenix</i> ; others have <i>palm-tree</i> or usually <i>sand</i> ; the most likely interpretation is <i>sand</i> , a meaning of חֹל which occurs often.

**Table 25: A last few bird words**

The large number of names for unclean birds presents a problem in terms of the rule stating that people have large numbers of words for animals that are economically, practically or symbolically significant to them. Unclean birds do not appear to fall into any of these categories, so why do we find so very many individual names for obscure birds of sorts that cannot be eaten? They can have no practical value; they are not dangerous in any way. So are they ideologically significant somehow? The answer is that they are named simply in order to define them as being inedible. Unlike land mammals and fish, flying things do not have a positively defined group of edible members. The implication is that any flying thing that is not also a creeping thing, and that is not on these lists, is by default edible.<sup>355</sup> This naturally requires

<sup>353</sup> Isaacs 2000:50.

<sup>354</sup> Holladay 2000:302.

<sup>355</sup> Houston 1993:43.

that all birds that are to be considered unclean be carefully named in order to exclude them, a necessity that does not occur in the cases of animals and fish because they have definite, classical rules circumscribing the edible category members.

3.4.1.6. *Creeping things (רִמָּשׁ / שָׂרִיץ) that are also עוֹף*

שָׂרִיץ	swarming things (only counting substantive use)	20	Gen 1:20; 7:21(x2); Lev 5:2; 11:10; 11:20 (subcategory of עוֹף); 11:21 (subcategory of עוֹף, locusts are subcategory of this); 11:23(noun, subcategory of עוֹף); 11:29(x2); 11:31; 11:41(x2); 11:42(x2); 11:43(x2); 11:44; Lev 22:5; Deut 14:19 (subcategory of עוֹף) <sup>356</sup>
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**Table 26: שָׂרִיץ swarming things**

In four of the 20 substantive occurrences of the word שָׂרִיץ, it is used to describe a subcategory of עוֹף: swarming עוֹף or teeming עוֹף. The construct state is used to express this, with the phrasing used being שָׂרִיץ הָעוֹף.

רִמָּשׁ, on the other hand, is never explicitly named as a subcategory of עוֹף. For this reason along with others (see 3.4.3.1 and 3.4.4), שָׂרִיץ is translated and defined here as *teemers*; *swarmers* and רִמָּשׁ as *creepers*; *crawlers*. The two are used near-synonymously in most contexts, however.

The following creepers and swarmers also fly and are thus equally members of the category עוֹף. They had to be placed in one section or the other, and this one was chosen for two reasons: first, to place the discussion on locusts closer to the useful texts already discussed under עוֹף, and second, to deny the impulse to place insects with insects thus conforming to biological categories rather than linguistic ones. For the rest of רִמָּשׁ / שָׂרִיץ, see chapter 3.4.4.

<sup>356</sup> Counting only the noun and participles, excluding finite verbs.



דְּבוּרָה	bee	4	Deut 1:44; Judg 14:8; Ps 118:12; Isa 7:18 <sup>357</sup>
צְרָעָה	wasps/hornets (coll.)	3	Exod 23:28; Deut 7:20; Josh 24:12 <sup>358</sup>  Holladay <sup>359</sup> says this word means <i>depression</i> or <i>discouragement</i> , but its use as a personal name argues against this somewhat.
זְבוּב	flies (coll.)	3	2 Kgs 1:2 (part of name Baal-Zebub); Eccl 10:1; Isa 7:18  Onomatopoeic; refers to the buzzing sound they make in flight. <sup>360</sup>
עָרָב	swarm (of flies)	9	Ex 8:17 (2x); 8:18; 8:20 (x2); 8:25; 8:27; Ps 78:45; 105:31  Both Psalm occurrences are references to the Egyptian plague. This word occurs only in the singular. The exact identity of the insects involved is uncertain. Isaacs considers them to be gnats. <sup>361</sup> <i>Gnats</i> , however, is an English term denoting a poorly defined subcategory of flies, and as flies are neither useful, culturally significant nor (as far as was known at the time) dangerous, it is highly unlikely according to the principles established here that they would be divided into subcategories. For

<sup>357</sup> Excluding personal name.

<sup>358</sup> Excluding personal and place name.

<sup>359</sup> Holladay 2000:310.

<sup>360</sup> Forti 2008:143.

<sup>361</sup> Isaacs 2000:49.



			the same reason כַּן and כְּנָם are interpreted as <i>lice</i> rather than gnats as some translations render them.
עָשׂ	clothesmoth	7	Job 4:19; 13:28; 27:18; Ps 39:12; Isa 50:9; 51:8; Hos 5:12 <sup>362</sup>
סָס	clothesmoth	1	Isa 51:8

**Table 27: Flying creepers and swarmers**

### 3.4.1.6.1. Locusts

Locusts are a special case among the שָׂרִיץ הָעוֹף, because they are, uniquely among שָׂרִיץ and רִמָּשׁ, declared acceptable as food. They fulfil all three criteria for animals that are likely to have a large number of names: they are economically important (both useful as food and also extremely important in a negative sense, as a cause of famine), dangerous (for the same reason) and symbolically significant (as a sign of divine wrath, and a symbol of famine, destruction and of invading armies). True to this prediction, they have far more mentions and many more different terms to name them than any other שָׂרִיץ הָעוֹף. A little information about the life cycle of grasshoppers and locusts is useful in providing a framework for possible translations of the many different terms.

אַרְבֵּה	locust, adult, sociable phase (locust)	24	Exod 10:4; 10:12; 10:13; 10:14(x2); 10:19(x2); Lev 11:22; Deut 28:38; Judg 6:5; 7:12; 1 Kgs 8:37; 2 Chron 6:28; Job 39:20; Ps 78:46; 105:34; 109:23; Prov 30:27; Jer 46:23; Joel 1:4(x2); 2:25; Nah 3:15; 3:17 <sup>363</sup>
יִלֵּק	locust, final subadult stage, sociable phase (hopper)	9	Ps 105:34; Jer 51:14; 51:27; Joel 1:4(x2); 2:25; Nah 3:15(x2); 3:16

<sup>362</sup> Excluding use as the name of a constellation in Job 9:9.

<sup>363</sup> Excluding homonyms meaning *lattice* and *skill*.



חַסִּיל	locust, immature, sociable phase <sup>364</sup> (destroyer)	6	1 Kgs 8:37; 2 Chr 6:28; Ps 78:46; Isa 33:4; Joel 1:4; 2:25
חַגָּב	locust, adult, solitary phase (grasshopper)	5	Lev 11:22(edible); Num 13:33(as small); 2 Chr 7:13(as devouring); Eccl 12:5 (possibly metaphorical); Isa 40:22(as small/insignificant) (probably also winged) <sup>365</sup>
גָּזֵם	locust (cutter)	3	Joel 1:4; 2:25; Amos 4:9 <sup>366</sup>
צִלְצַל	locust (whirrer)	2	Deut 28:42; Isa 18:1(dubious, may here refer to any winged creatures); also fishing spear in Job 40:31.
גָּבִי	locust (flying)	2	Amos 7:1; Nah 3:17 <sup>367</sup>
גֹּב	swarm (of locusts)	1	Nah 3:17 <sup>368</sup>  Probably means <i>a swarm</i> , but only in terms of גָּבִי.
גְּבָהּ	swarm of locusts	1	Isa 33:4
סִלְעָם	cricket (winged adult)	1	Lev 11:22
חַרְגֵּל	katydid (winged adult)	1	Lev 11:22

**Table 28: Locusts**

Locusts have a number of distinct phases in their development. They undergo incomplete metamorphosis (also called a hemimetabolic life cycle, going through several moults during

<sup>364</sup> Some say caterpillar, e.g. 1 Kgs 8:37 in the KJV and ESV.

<sup>365</sup> Excluding personal name.

<sup>366</sup> Excluding personal name.

<sup>367</sup> Excluding personal name.

<sup>368</sup> Excluding place name.

which wings are gradually developed, but lacking a pupal stage)<sup>369</sup> and even in their adult form can change their appearance according to the phase of their life cycle. The entomologist Erik Holm says: “These insects are referred to as grasshoppers in the solitary phase, and locusts in the swarm phase. Locusts and grasshoppers often have different colour forms, for instance brown and green specimens can occur within the same species. In swarm locusts, sparse populations initially behave and appear like normal grasshoppers. When densities increase, they become very active and their appearance changes drastically, hoppers becoming brightly coloured and the adults becoming smaller and long-winged.”<sup>370</sup> The young, called hoppers or nymphs, moult about 6 times between hatching and adulthood.<sup>371</sup> In other words, locusts have up to seven metamorphic stages, each one having two very different forms depending on whether they are solitary or social. So in theory, one species of locust could have fourteen or more distinct forms. In reality, it is likely that several of the juvenile stages are covered by the same name. There are also many different species of locust – in South Africa, for example, there are about 650 species, of which four form large swarms.<sup>372</sup>

With this in mind, let us examine the various locust terms used in the Hebrew Bible. אֶרְבֵּבָה is quite obviously the most important term for locusts, as at 24 mentions it is used more than twice as often as its nearest rival, יִלְקֹ. It is also the first in the list of edible locusts in Leviticus 11:22. For this reason it can be considered the prototype term for *locust*, a word that refers to a particular type or life-stage but also stands in for all the other kinds at times. As the prototype, what life-stage will it refer to? Without doubt, the prototypical one, the most important and dangerous: the adult in sociable, swarming mode. The contexts in which it occurs back up this hypothesis: in Exodus 10:13 they are brought in on the wind, and in 10:14 they go up over the land and then settle on it. Both show that this is a flying phase. Also the fact that they are listed

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<sup>369</sup> Holm 1988:51.

<sup>370</sup> Holm 1988:15.

<sup>371</sup> Holm 1988:15; 61.

<sup>372</sup> Holm 1988:15.

as edible in Leviticus 11:22 argues for a flying phase, according to the stated rule that the forms listed there are both שָׂרִיץ and עוֹף. Finally, the homonym *window/lattice* brings to mind the lattice structure of veins in the wings of the flying phase. In Proverbs 30:27 they march in ranks, and this, along with Exodus 10 and all the other uses of the word in reference to disastrous plagues, shows that the swarming mode is intended.

The next most common term, יִלֵּק, occurs 9 times. Significantly, it is absent from the list in Leviticus 11:22. This word has been the subject of more translation difficulties than the previous one: the KJV routinely translates it as “caterpillar”<sup>373</sup> and “cankerworm”,<sup>374</sup> while the other translations vary between *grasshopper*,<sup>375</sup> *young locust*,<sup>376</sup> *canker-worm*,<sup>377</sup> *bruchus*<sup>378</sup> (a seed-eating beetle),<sup>379</sup> *locust*,<sup>380</sup> *hopping locust*,<sup>381</sup> *plant-worm*,<sup>382</sup> *hopper*,<sup>383</sup> and *worm*.<sup>384</sup> *Grasshopper* is not a good translation, as this is a term for these insects in their solitary state whereas the יִלֵּק is certainly social, as every single mention of the word refers to either great numbers or swarming devastation. In Nahum 3:16 it is mentioned as shedding its skin and then flying away. This is a good indication that the יִלֵּק is what happens when immature, non-flying locusts get together, enter their sociable mode, and form a swarm that moves along the ground. At some point when they have eaten enough, they will then shed their skins and emerge as a

<sup>373</sup> Ps 105:34; Jer 51:14; 51:27.

<sup>374</sup> Joel 1:4; 2:25; Nah 3:15; 3:16.

<sup>375</sup> Ps 105:34 in the NIV; ASV; CJB; Jer 51:14; 51:27; Joel 1:4; 2:25 in the CJB; Nah 3:15 in the NIV; CJB.

<sup>376</sup> Ps 105:34 in the ESV; RSV; NLT; BBE; Joel 1:4 in the NIV and CSB; Joel 2:25 in the NIV and CSB; Nah 3:15 and 3:16 in the CSB.

<sup>377</sup> Ps 105:34 in the DBY and ERV; Jer 51:14 and 51:27 in the JPS; ASV; ERV; Joel 1:4 and 2:25 in the KJV; JPS; ASV; DBY; Nah 3:15 and 3:16 in the KJV; JPS; ASV; DBY; ERV.

<sup>378</sup> The DRA, for all texts except Jeremiah.

<sup>379</sup> Kergoat, Delobel & Silvain 2004:855.

<sup>380</sup> Jer 51:14 and 51:27 in the NIV; ESV; RSV; NLT; Nah 3:15 in the ESV; RSV; NLT; GNV; 3:16 in the NIV; ESV; RSV and more.

<sup>381</sup> Joel 1:4 in the ESV; RSV; NLT; 2:25 in the NLT.

<sup>382</sup> Joel 1:4 BBE.

<sup>383</sup> Joel 2:25 in the ESV; RSV.

<sup>384</sup> Nah 3:15 in the BBE.

flying swarm. The fact that they themselves do not fly also explains why they are absent from the list of edible locusts in Leviticus 11:22.

<p>שֵׁם תֹאכְלֶיךָ אֵשׁ תִּכְרִיתֶךָ חֶרֶב תֹאכְלֶיךָ כַּיֵּלֶק הַתְּכַבֵּד כַּיֵּלֶק הַתְּכַבְּדֵי כְּאַרְבֵּה:</p>	<p>Nah 3:15</p>	<p>There fire will devour you, a sword will devour you, it will devour you as hoppers would; increase yourselves as hoppers do, multiply like locusts.</p>
<p>הֲרַבִּית רִכְלֶיךָ מִכּוֹכְבֵי הַשָּׁמַיִם יֵלֶק פֶּשֶׁט וַיֵּעָף:</p>	<p>Nah 3:16</p>	<p>You multiplied your merchants like the stars of the sky; the hopper sheds its skin and flies away.</p>
<p>מִנְזַרְיֶיךָ כְּאַרְבֵּה וּמִפְּסָרְיֶיךָ כְּגֹב גְּבִי הַחוּנִים בְּגִדְרוֹת בְּיוֹם קָרָה שָׁמֶשׁ זָרְחָה וַיִּנְוֹדוּ וְלֹא־נֹדַע מִקֹּמוֹ אֵימ:</p>	<p>Nah 3:17</p>	<p>Your courtiers are like locusts, and your officials like locust swarms that camp by the wall on a cold day. When the sun comes out they flee and it is not known where they are.</p>

**Table 29: Nahum 3:15-17**

This passage from Nahum is a veritable treasure-trove of imaginative imagery using locusts in every possible way, switching from one metaphor to another with virtuoso skill while holding on to the central thread of the concept LOCUST that nevertheless changes its meaning with each verse; sometimes with each line. The author of these verses understands locusts very well. In verse 15, LOCUST flips dizzyingly from being a metaphor (or rather, a simile if כִּי is taken as performing the same function as the English *like* or *as*) of the enemy that is to devour Nineveh, to being an image of the people of Nineveh herself who are being adjured to multiply like locusts in the hopes that a few will survive. The word יֵלֶק is used twice in quick succession, with only one word separating the instances from each other; however the two similes are utterly different in terms of their targets as well as the attributes being compared.

The next verse is somewhat mysterious in its meaning, but evokes a feeling of melancholy and desolation. The verse seems to have given translators some trouble with various translations

rendering the verb פָּשַׁט to *strip (undress)* as *spoileth*,<sup>385</sup> *strip the land*,<sup>386</sup> *spreads its wings*,<sup>387</sup> *spreadeth itself*<sup>388</sup> and *ravageth*.<sup>389</sup> It seems in context that all of this difficulty is unnecessary; the locust is literally undressing, shedding its skin in its metamorphosis from the hopper form to the adult, at which point it flies away.

The third verse takes yet another aspect of the locust to play with: its poikilothermic nature that means it depends on the sun to warm up enough to function. On a cold day the swarms will not be able to do anything, but will huddle en masse in warm spots such as stone walls (meaning that the translations that render גִּרְרָה as *hedges*,<sup>390</sup> *fences*<sup>391</sup> and the like are less accurate than the ones that have *walls*:<sup>392</sup> stone walls trap and radiate the sun's heat and are thus favoured places for animals to shelter on a cold day). When the sun comes out the locusts warm up enough to move on. The officers are compared unflatteringly to these insects: huddling under cover and then fleeing is behaviour that represents cowardice.

In three verses this breathtakingly poetic passage has woven prophecies against Nineveh around four separate behaviours of locusts: first, their habit of devouring everything in their path; second, their multiplying and massing in enormous numbers; third, their metamorphosis from hopping to flying forms; and fourth, their habit of hiding under shelter on cold days and flying away when the weather warms up.

The insights gained into this text by viewing it from a locust-focused perspective demonstrate the usefulness of this approach. The nuances and literary excellence of the passage would quite

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<sup>385</sup> KJV.

<sup>386</sup> NIV.

<sup>387</sup> ESV; RSV.

<sup>388</sup> JPS.

<sup>389</sup> ASV.

<sup>390</sup> KJV; NLT.

<sup>391</sup> ESV; RSV.

<sup>392</sup> NIV; JPS.

easily go unnoticed by a reader who was not quite so focused on the minutiae of entomological terminology.

In these verses where they are mentioned together with אַרְבֵּה and other words for locust, I have translated יִלֵּק as *hopper* in order to avoid too much repetition. *Young locust* is also a good translation, and in places where no other locust terms are used nearby, simply *locust* is probably best.

The third most common locust term is חֲסִיל. It occurs six times, each time in a list of other locust terms, and sometimes alongside other disaster terms as well. It does not appear in Leviticus 11:22, and none of the texts in which it appears suggests it is able to fly. A number of texts translate it as other insects, for example *worm*, *shearer-worm*, and particularly *caterpillar*.<sup>393</sup> Rashi, however, considers it a locust and says that it, along with אַרְבֵּה, יִלֵּק, and גְּזֵם fall under the higher-level term גְּבִי.<sup>394</sup>

Forti associates חֲסִיל with the root חסל *eliminate*, and גְּזֵם with the verb גזם *prune*,<sup>395</sup> but the identification of individual terms is always problematic.<sup>396</sup> Joel 1:4 contains both of these terms along with the more common אַרְבֵּה and יִלֵּק:

יִתֵּר הַגְּזֵם אָכַל הָאֲרֵבָה	Joel	The locust has eaten the cutter's leftovers, and the hopper has eaten the locust's leftovers, and the destroyer has eaten the hopper's leftovers.
וַיִּתֵּר הָאֲרֵבָה אָכַל הַיִּלֵּק	1:4	
וַיִּתֵּר הַיִּלֵּק אָכַל הַחֲסִיל:		

**Table 30: Joel 1:4**

<sup>393</sup> I do not translate any of these terms as “caterpillar”. I consider caterpillars to fall under the category of WORMS, תּוֹלְעָה: see 3.4.4.1 and Deuteronomy 28:39.

<sup>394</sup> Forti 2008:111.

<sup>395</sup> Or *cut off* (Brown-Driver-Briggs 2000:160).

<sup>396</sup> Forti 2008:111-112.

It seems highly likely that these two terms simply mean *cutter* and *destroyer*. It is possible that these different terms refer to unknown distinctions between types, but it is more probable that they are used purely poetically, in a similar way to the use of varied terms for lions (see 3.4.3.9).

The following passage does not have a parallel equivalent in Deuteronomy as Leviticus 13-20 does. It is an unrepeated passage that deals with the exception to the rule against eating creeping things:

<p>כל שרץ העוף ההלך על-ארבע שקץ הוא לכם:</p>	<p>Lev 11:20</p>	<p>All winged swarmers that go on all fours<sup>397</sup> they are taboo to you.</p>
<p>אך את־זה תאכלו מכל שרץ העוף ההלך על-ארבע אשר-נלון כרעים ממעל לרגליו לנחר בהן על-הארץ:</p>	<p>Lev 11:21</p>	<p>But these you can eat of all the winged swarmers that go on all fours that have legs (sticking up) above their feet for hopping on the ground –</p>
<p>את־אלה מהם תאכלו את־הארבה למינהו ואת־הסלעם למינהו ואת־החרגל למינהו ואת־החגב למינהו:</p>	<p>Lev 11:22</p>	<p>you may eat of these: the locust according to its species and the cricket according to its species and the katydid according to its species and the grasshopper according to its species.</p>

**Table 31: Leviticus 11:20-22**

In Leviticus 11:22 two more terms are introduced: סלעם and חרגל. Both of these words occur only in this single verse, and what can be known about them is the following: they have sticking-up knees, they hop and they also fly, according to the criteria set out in the previous verse. The

<sup>397</sup> I consider this to be an idiom for a crawling mode of locomotion, irrespective of the actual number of legs of the animal involved.



two phases of the adult locust, sociable (אַרְבֵּה) and solitary (חֲגֹב)<sup>398</sup> are already accounted for. The animals referred to as סְלֵעַם and חֲרָגֵל cannot be different developmental stages of the locust, because non-adult locusts cannot fly and thus do not fit the criteria in 11:21. The only two remaining options are that they refer to different species or colour forms of locust, or that they refer to more obviously variant relatives of locusts: crickets and katydids.<sup>399</sup> When the two possibilities are placed side by side in this way, the better option is immediately discernible: it is much more likely according to the theory that different terms will be applied to distinctively different forms rather than to more similar forms. The only decision left is which word refers to a cricket and which refers to a katydid; this makes no difference in any textual interpretation and can be no better than a slightly informed guess, but as סְלֵעַם can be translated using cognates as *swallower/destroyer*,<sup>400</sup> it is reasonable to identify this term with the cricket, which can be a considerable agricultural pest,<sup>401</sup> rather than the katydid whose more solitary nature means that it rarely has a significant economic impact.<sup>402</sup>

The reason for the exception made for the locust in terms of edibility is almost certainly pragmatic. Houston cites several sources, particularly Milgrom and Firmage, as subscribing to the theory that this is a practical exemption due to the fact that these insects were commonly eaten.<sup>403</sup> He also says “The reason [for allowing the eating of locusts] is likely to be simply, as I have suggested, that they were a popular food, and indeed a necessary one when they were themselves devouring all the crops”.<sup>404</sup> At another point he says “We have to attribute once again to the impulse for comprehensiveness the inclusion of a prohibition of flying insects. In this case the impulse overreached itself, and the original form of the prohibition as found in

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<sup>398</sup> This is the form that is called a *grasshopper*.

<sup>399</sup> These are the two most common and easily distinguished groups of locust relatives that have functional wings. (Holm 1988:14) Katydids are also known as *bush crickets*.

<sup>400</sup> Brown-Driver-Briggs 2000:701.

<sup>401</sup> Walker and Masaki in Huber, Moore and Loher 1989:41.

<sup>402</sup> Gwynne and Morris 2002.

<sup>403</sup> Houston 1993:48-49; Milgrom 1990:189.

<sup>404</sup> Houston 1993:117.

Deuteronomy 14:19 excluded a very popular supplement to the country diet. The concession of locusts was inevitable, and clearly illustrates the limits to priestly systematizing.”<sup>405</sup> He cites Douglas, however, as saying that the inclusion of locusts as clean animals is “a particularly good example of classificatory logic.”<sup>406</sup> Looking at her own writing, what Douglas says here is that “The case of the locusts is interesting and consistent. The test of whether it is a clean and therefore edible kind is how it moves on the earth. If it crawls it is unclean. If it hops it is clean.”<sup>407</sup> This statement does not, as seen in this chapter, cover all of the evidence. In fact, hopping locusts can also be unclean if they do not fly as well. It seems much more likely, in this case, that the exemption came first for practical reasons and the classification was written to accommodate it. This is a very unusual example and the opposite of the way classification is normally done, and in most other cases I agree with Douglas’s theories (see chapter 4.4.4).

Forti says that the most important characteristic of the locust is its destructive nature, but that the mention of them in Proverbs 30:27, “The locust have no king, yet all of them go out in ranks”, “gives no hint of their baneful effect.”<sup>408</sup> I would take issue with this statement: in my opinion the swarming nature of the locust is as important as its destructiveness, and at the same time the most important factor in that destructiveness; they are allowed as food against all category expectations particularly because their swarming nature makes them such a useful protein source – particularly, one may imagine, after they have managed to destroy all other sources of food in the area. The image in Proverbs 30, far from giving no hint of the locusts’ destructiveness, characterises them as an invading army, an image which occurs a number of times in the Hebrew Bible.<sup>409</sup> Invading armies at their worst do the same as the locusts do, stripping the land bare of any sources of food. Locusts are associated with horses in several places (including a direct simile in Jeremiah 51:27 and an explicit comparison in Joel 2:4); this

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<sup>405</sup> Houston 1993:236.

<sup>406</sup> Houston 1993:48-49.

<sup>407</sup> Douglas 1984:57.

<sup>408</sup> Forti 2008:7.

<sup>409</sup> E.g. Joel 1:6; 2:25.

comparison is based on a combination of similarity about the face, their strong hind legs that they can use for jumping, and the association of both with destructive military invaders. Both locust swarms and invading armies are also considered to be examples of divine punishment.<sup>410</sup>

### 3.4.2. Fish of the sea

שָׂרָץ	swarming things (only counting substantive use)	20	Gen 1:20*; 7:21(x2)*; Lev 5:2; 11:10*; 11:20; 11:21; 11:23; 11:29(x2); 11:31; 11:41(x2); 11:42(x2); 11:43(x2); 11:44; 22:5; Deut 14:19  Occurrences marked with an asterisk refer specifically to water creatures. All the other instances are creatures of the air, ground surface, or both.
דָּג	fish, m	19	Gen 9:2; Num 11:22; 1 Kgs 5:13*; 2 Chron 33:14*(Fish Gate); Neh 3:3* (Fish Gate); 12:39*(Fish Gate); 13:16*; Job 12:8; 40:31*(fishing spear); Ps 8:9; Ecc 9:12*; Ezek 38:20; Hos 4:3; Jon 2:1 (x2)*(Jonah); 2:11*; Hab 1:14; Zeph 1:3; 1:10*(Fish Gate)  Occurrences marked with an asterisk are exceptions to the general rule of דָּגֵי הַיָּם
דָּגָה	fish, f	15	Gen 1:26; 1:28; Ex 7:18*; 7:21*(which is in the Nile, both Ex); Num 11:5*; Deut 4:18*(which is in the water under the earth); Ps 105:29*(   with rivers turned to blood); Isa 50:2*(dying from lack of water); Ezek 29:4 (x2)* (דָּגַת־יְאֹרֵיךָ, <i>fish of your rivers</i> , instead);

<sup>410</sup> Forti 2008:113.



			<p>29:5*(same); 47:9*(but water prominent in verse); 47:10 (x2); Jon 2:2*(Jonah).<sup>411</sup></p> <p>Occurrences marked with an asterisk are exceptions to the general rule of דְּגַי הַיָּם</p>
תָּחַשׁ	dolphin	14	<p>Exod 25:5; 26:14; 35:7; 35:23; 36:19; 39:34; Num 4:6; 4:8; 4:10; 4:11; 4:12; 4:14; 4:25; Ezek 16:10 (for shoes)<sup>412</sup></p> <p>According to Talmud Shabbat 28b, this was a unique one-horned creature brought into existence specifically for the purpose of its skin being used for the tabernacle.<sup>413</sup></p>
רָהַב	Rahab; sea monster	6	<p>Job 9:13; 26:12; Ps 87:4; 89:11; Isa 30:7; 51:9<sup>414</sup></p>
תַּנִּינַן	serpent; dragon; chaos monster	14	<p>Gen 1:21 (sea monsters); Ex 7:9 (snake; Aaron’s rod); 7:10; 7:12; Deut 32:33 (snake); Job 7:12 (sea monster); Ps 74:13 (sea monster); 91:13 (snake); 148:7 (sea monster); Isa 27:1 (sea monster, specified as Leviathan); 51:9 (sea monster, specified as Rahab); Jer 51:34 (sea monster); Ezek 29:3 (sea monster, metaphor for Pharaoh, living in Nile); 32:2 (Pharaoh as sea monster).</p>

<sup>411</sup> Not counting the single use of a homonym which is a verb “to multiply”.

<sup>412</sup> Excluding personal name in Gen 22:24.

<sup>413</sup> Isaacs 2000:184

<sup>414</sup> Excluding many homonyms.

לִיָּתָן	Leviathan	6	Job 3:8; 40:25; Ps 74:14; 104:26; Isa 27:1(x2)
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**Table 32: Fish of the sea**

Far fewer aquatic animals have names in ancient Hebrew than do the inhabitants of earth or sky. The obvious implication of this is that the inhabitants of this sphere were relatively unimportant to the ancient Hebrews, whether economically, socially or (with the major exception of the chaos/sea monster) symbolically.

Houston hypothesises that the learned authors of the food laws knew relatively little about marine zoology.<sup>415</sup> The economic unimportance of the sea is underlined very heavily by the taboo on shellfish (molluscs). Many human societies, especially early ones, relied very heavily on shellfish as a food source, and they are an indispensable diet item for any society that relies to any extent on the sea for food.<sup>416</sup> For example, Reitz and Wing say “The normal diet will be based on low-risk resources that have moderate yields: foods such as plants and molluscs that are normally reliable and can routinely be acquired by women, children and older members of the community.”<sup>417</sup> Molluscs are usually the most abundant invertebrates found in archaeological sites.<sup>418</sup> If the ancient Hebrews had had any sort of economic reliance on the sea, shellfish, despite their lack of taxonomic prototypicality, would surely have been granted the kind of exemption given to locusts and honey. The fact that they are not underscores very heavily the general alienation of the Hebrews from the sea. Instead, honey and locusts, those essential sources of, respectively, energy and protein in the desert, are given this pragmatic exemption.

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<sup>415</sup> Houston 1993:234-235.

<sup>416</sup> Reitz & Wing 2008:347

<sup>417</sup> Reitz & Wing 2008:254

<sup>418</sup> Reitz & Wing 2008:44

More than either of the other “big three” habitat divisions, all marine animals are generally seen as the same sort of thing. This lack of distinction is not limited to the culture of the ancient Hebrews, though: almost all pre-modern societies, up until very recently, have lumped aquatic animals (generally under the classification *fish*) rather than splitting them. An early chronicler in the Caribbean used the words “so excellent a fishe” to refer to sea turtles (which are really not in the least fish-like).<sup>419</sup> English terms such as *starfish* and *shellfish* also demonstrate this usage.

No distinction is made in the Hebrew Bible between animals living in fresh water and animals living in salt water. When in this study the “sea” sphere is mentioned, this is a translation of either יָם (the sea proper, but even this word may include other water) or מַיִם (waters in general, including rivers, lakes and underground water.) This lack of a distinction can be seen in depictions of the chaos monster: תַּנִּינִי, usually considered a “sea monster” metaphorically stands in for the land of Egypt and its king in Ezekiel 29:3, and is placed specifically in the Nile river.

Psalm 8:9 contains an evocative reference to marine animals, עֲבַר אַרְחוֹת יַמִּים “that which passes along the paths of the sea”. It is not included here as it is a phrase rather than a word. It is unknown whether a particular marine animal is implied or whether it refers to marine animals in general. Whitekettle considers it to be a classification referring to large marine animals.<sup>420</sup>

#### 3.4.2.1. *Products of unclean marine animals that are dissociated from their origins*

There are a few Hebrew words that refer to the products of marine invertebrates, but which do not seem ever to be categorised as animals and which therefore I have not included in the table. They are פְּנִינִים and רְאֵמוֹת, both often translated as *coral*, which is categorised simply as a red gemstone and often translated as *rubies* instead; נְבִישׁ, sometimes translated as *pearl*,

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<sup>419</sup> Reitz & Wing 2008:32-33.

<sup>420</sup> Whitekettle 2006:751-752.

although at other times as *rock crystal*; and אֶרְגָּמָן, *purple*, a product of the murex snail,<sup>421</sup> but which is used in the texts only to refer to the colour, the dye, or to yarns or textiles dyed with the substance. It is never connected, as *scarlet* is, to the animal from which it is derived. None of these are treated as animal terms and for this reason they are not included here.<sup>422</sup> The same goes for שְׁחָלִית *onycha* if indeed it is an animal product, such as the operculum of a sea snail as Wood<sup>423</sup> and Holladay suggest,<sup>424</sup> rather than a plant product. This dissociation of substances from their animal origins may have value in explaining why they were considered acceptable to use; however cochineal and honey, though not as dissociated from their origins as these other substances are, are also subject to this unspoken exemption.

### 3.4.2.2. The mysterious שֶׁחַשׁ

The obvious acceptance and use of substances originating from unclean animals has implications for translations that interpret these words differently in the belief that such products would never have been used. One of the more controversial words of this sort is שֶׁחַשׁ. It is found only in the context of its leather, in the following verses:

שֶׁחַשׁ	dolphin	14	Exod 25:5; 26:14; 35:7; 35:23; 36:19; 39:34; Num 4:6; 4:8; 4:10; 4:11; 4:12; 4:14; 4:25; Ezek 16:10 (for shoes) <sup>425</sup>
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**Table 33: שֶׁחַשׁ dolphin**

All these verses apart from the one in Ezekiel describe the use of this animal's skin as one of the coverings of the Tabernacle, while the Ezekiel verse refers to its use as shoe leather. שֶׁחַשׁ

<sup>421</sup> Isaacs 2000:157-161.

<sup>422</sup> Neither is שֵׁנִיבַיִם, *ivory*, for the same reason.

<sup>423</sup> Wood 1881:666-667.

<sup>424</sup> Holladay 2000:366.

<sup>425</sup> Excluding personal name in Gen 22:24.

has been translated as, variously, “badger,”<sup>426</sup> “goat,”<sup>427</sup> “porpoise,”<sup>428</sup> “seal”<sup>429</sup> and “sea cow”<sup>430</sup> while some translations have opted not to consider it a type of animal at all, rendering it as “violet”<sup>431</sup> or “fine”<sup>432</sup> leather. Rabbi Natan Slifkin comes to a similar conclusion when he identifies it as a certain type of beadwork.<sup>433</sup> However, most sources still translate it as a type of animal, and the use of the construction “שׁוֹרֵי שׁוֹרֵי” skin” in all the Tabernacle verses supports this, as does the use of the word as a person’s name in Genesis 22:24. According to Talmud Shabbat 28b, the שׁוֹרֵי שׁוֹרֵי was a unique one-horned creature brought into existence specifically for the purpose of its skin being used for the tabernacle.<sup>434</sup> Why all this wrangling over a word that has a perfectly good Arabic cognate, نُحَس, <sup>435</sup> meaning *dolphin*?

One reason is that dolphins, living in the water but having no fins or scales, would have been considered unclean. Leaving aside the fact that ancient peoples seem not always to have noticed that they did not have fins and scales – note the many ancient depictions of the animals where they have fin-rays<sup>436</sup> and their skins are scaled<sup>437</sup> – the use of purple dye, from unclean murex snails, and red dye, from unclean cochineal insects, for the very same tabernacle coverings, makes the objection a little pointless.

“Goat”, as in the ESV, as well as the Talmudic unicorn interpretation, appears to be based only on the desire to not have the skin of an unclean animal be used. “Badger”, on the other hand,

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<sup>426</sup>KJV.

<sup>427</sup>ESV.

<sup>428</sup> NASB.

<sup>429</sup>ASV.

<sup>430</sup>NIV.

<sup>431</sup>DRB.

<sup>432</sup>GW.

<sup>433</sup> Slifkin 2007:78.

<sup>434</sup> Isaacs 2000:184

<sup>435</sup> Pronounced “*duchas*”.

<sup>436</sup> E.g. Akrotiri dolphins 2006.

<sup>437</sup> E.g. Etruscan ceramic black figure lekythos with dolphins nd.



seems to be the result of a false cognate, *Dachs*, in the Germanic languages<sup>438</sup> (and is also an unclean animal).

The dugong (sometimes called “sea cow”), an unrelated marine mammal also found in the region, has also been put forward as a possibility. This could be because it would have been easier to catch for land-based hunters. Also, a number of nineteenth-century naturalists, Biblical scholars and explorers seem to have made a connection between the two. Free and Vos<sup>439</sup> cite H.B. Tristram as saying that this animal was also covered by the Arabic دُخَس, and Gesenius and others as having reported that the Arabs of Sinai wear sandals made of dugong skin. Tristram does indeed say that the word is “a general word for the various species of seals, dugongs, and dolphins, found in the Red Sea”<sup>440</sup> and also cites several sources saying that dugong skin in particular was used for shoes by the Arabs of Sinai. In the end, though, he takes it as settled only that a marine mammal is intended.<sup>441</sup> It seems that there was a trend at that time for identifying שָׂרָף as a dugong, with one variety even having been described by the German naturalist Eduard Rüppell, who lived between 1794 and 1884,<sup>442</sup> as *Halicore tabernaculi*.<sup>443</sup> Slifkin cites the same sources as saying the same things, but also mentions Brown, Driver and Briggs as having been the first to make the connection between שָׂרָף and دُخَس, which he translates as *porpoise*.<sup>444</sup>

In English, *porpoise* and *dolphin* are often used interchangeably; however, *porpoise* properly refers to six species of small, short-beaked cetaceans, only two of which occur anywhere near

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<sup>438</sup> Free&Vos 1992:94.

<sup>439</sup> Free&Vos 1992:94.

<sup>440</sup> Tristram 1883:44.

<sup>441</sup> Tristram 1883:45.

<sup>442</sup> Slifkin 2007:77.

<sup>443</sup> Tristram 1883:44. Today there is considered to be only one species, *Dugong dugon*. Its closest living relatives are the manatees.

<sup>444</sup> Slifkin 2007:76.

the relevant area.<sup>445</sup> *Dolphin* can be a much wider designation, covering approximately 50 species of long-beaked small cetaceans, a number of which inhabit the seas around the Near East.<sup>446</sup> For this reason *dolphin* is a better translation than *porpoise*. In any case, these animals are the primary meaning of **דָּוָח**, with seals or dugongs also possibly falling into the category. For this reason *dolphin* is the preferred translation in this study, which does not however deny the possibility that dugongs may have been intended or included.

### 3.4.3. Land animals

#### 3.4.3.1. Higher-level category words for land animals

Some of the terms below can sometimes denote living things other than land animals. Creatures from birds to insects to humans to heavenly beings to God himself are occasionally included in the categories named by these words. However, these higher-level categories are investigated here because as they become less general and more specific, they converge upon their prototypes: land animals, in particular livestock, and especially cattle. They are treated from the highest-level (most general) to the lowest-level terms (most specific). Studying these categories and what is included in each one provides insight into the way the ancient Hebrews saw not only the natural world, but also the heavenly realms. The results are surprising and at odds with the account that is usually given of the ancient Hebrew worldview.

<p>חַי כָּל-חַי</p>	<p>living, adj.<sup>447</sup></p>	<p>27</p>	<p>Gen 3:20 (כָּל-חַי; humans only); 6:19 (כָּל-חַי; non-humans); 8:21 (כָּל-חַי; both); 9:3 (animals only); Job 12:10 (כָּל-חַי; uncertain); 28:21 (כָּל-חַי; uncertain); 30:23 (כָּל-חַי; uncertain); Ps 145:16 (כָּל-חַי; both or uncertain); Eccl 7:2</p>
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<sup>445</sup> Hammond, Bearzi, Bjørge, Forney, Karczmarski, Kasuya, Perrin, Scott, Wang, Wells&Wilson 2008b; Wang&Reeves 2012.

<sup>446</sup> For example *Delphinus delphis* (Hammond, Bearzi, Bjørge, Forney, Karczmarski, Kasuya, Perrin, Scott, Wang, Wells&Wilson 2008a) and *Tursiops truncatus* (Hammond et al 2012).

<sup>447</sup> Only instances where this adjective is used substantively are counted here.

			<p>(humans); 9:4 (כָּל־חַיִּים); uncertain); Isa 8:19 (humans); 38:11 (probably humans); 38:19(x2) (human); 53:8 (probably humans); Jer 11:19; Ezek 26:20; 32:23; 32:24; 32:25; 32:26; 32:27; 32:32 (all of these as part of the idiom “land of the living”); Dan 2:30 (humans); 4:17 (humans); 4:31; 12:7 (God, the eternal living one)<sup>448</sup></p> <p>This adjective is occasionally<sup>449</sup> used substantively to refer to living things, but with not nearly the strong denotation of <i>beast</i> that חַיָּה has. It is used to mean humans only in Genesis 3:20, but later used with כָּל in Genesis 6:19 to refer specifically to animals, and then in Genesis 8:21 is used generically for living things including animals and humankind. The Aramaic equivalent is used in Daniel 2:30 to refer (by implication, according to the context) to human beings only. In one verse God is intended, so this is the highest-level term including absolutely everything that lives.<sup>450</sup></p>
כָּל־בָּשָׂר	all flesh	38	<p>Gen 6:12; 6:13; 6:17; 6:19; 7:16; 7:21; 8:17; 9:11; 9:15 (x2); 9:16; 9:17; Lev 7:14 (x3); Num 16:22; 18:15; 27:16; Deut 5:26; Job 12:10 (כָּל־בָּשָׂר־אִישׁ); 34:15; Ps 65:3; 136:25; 145:21; Isa 40:5; 49:26; 66:16; 66:23; 66:24; Jer 12:12; 25:31; 32:27; 45:5; Ezek 21:4; 21:9; 21:10; Joel 3:1; Zech 2:17</p>

<sup>448</sup> All occurrences in Daniel are Aramaic, but the form is identical to the Hebrew.

<sup>449</sup> Only 27 of its total of 393 occurrences.

<sup>450</sup> From the study of these terms, it does not seem that plants were considered to be living things in the same sense.

			In Genesis 7:21, this term is stated to include the following: עוף; בְּהֵמָה; חַיָּה; שָׂרֵץ and אָדָם. It is thus a high-level term encompassing both mankind and all other creatures.
נֶפֶשׁ חַיָּה נֶפֶשׁ הַחַיָּה	living thing <sup>451</sup>	13	Gen 1:20; 1:2; 1:24; 1:30; 2:7 (mankind in particular); 2:19; 9:10; 9:12; 9:15; 9:16; Lev 11:10; 11:46; Ezek 47:9 (with the verb שָׂרֵץ, classifying a type of נֶפֶשׁ חַיָּה as being נֶפֶשׁ חַיָּה that swarms.)
חַיָּה	animal; living thing	96	Gen 1:24; 1:25; 1:28; 1:30; 2:19; 2:20; 3:1; 3:14; 7:14; 7:21; 8:1; 8:17; 8:19; 9:2; 9:5; 9:10(x2); 37:20; 37:33; Exod 23:11; 23:29; Lev 5:2; 11:2 (seemingly synonymous with בְּהֵמָה); 11:27; 11:47(x2); 17:13 (placed in opposition to עוף); 25:7; 26:6; 26:22; Num 35:3 (domestic); Deut 7:22; 1 Sam 17:46; 2 Sam 21:10; 2 Kgs 14:9; 2 Chron 25:18; Job 5:22; 5:23; 37:8; 39:15; 40:20; Ps 50:10; 68:31; 74:19; 79:2; 104:11; 104:20 (of the forest); 104:25 (in the sea); 148:10; Isa 35:9; 40:16; 43:20; 46:1; 56:9(x2); Jer 12:9; 27:6; 28:14; Ezek 1:5 (cherubim); 1:13(x2) (cherubim); 1:14 (cherubim); 1:15(x2) (cherubim); 1:19(x2) (cherubim); 1:20 (cherubim); 1:21 (cherubim); 1:22 (cherubim); 3:13 (cherubim); 5:17; 10:15 (cherubim); 10:17 (cherubim); 10:20 (cherubim); 14:15(x2); 14:21; 29:5; 31:6; 31:13; 32:4; 33:27; 34:5; 34:8; 34:25; 34:28; 38:20; 39:4; 39:17; Dan 8:4; Hos 2:14; 2:20; 4:3; 13:8; Zeph 2:14; 2:15.  This word is used with אֲרֶץ as a habitat term in Gen 1:24 and many more texts. Used with שָׂדֵה in Gen 2:20; 3:1 etc. Where

<sup>451</sup> חַיָּה is an adjective in this construction.

			<p>it is used with שָׂדֵה, it is usually translated as <i>wild animals</i> and often used in opposition to בְּהֵמָה, which in these contexts gets translated as <i>domestic animals</i> or <i>livestock</i>. This word includes, in Ezekiel, heavenly beings, but is never used to include human beings (it is placed in opposition to man in Genesis 9:5). It is thus the first of these categories to be narrow enough to exclude humans completely.</p>
חַיָּוָה	<p>animal; living thing Aramaic</p>	20	<p>Dan 2:38; 4:9; 4:11; 4:12; 4:13; 4:18; 4:20; 4:22; 4:29; 5:21; 7:3; 7:5; 7:6; 7:7(x2); 7:11; 7:12; 7:17; 7:19; 7:23</p>
זִיז	<p>animals (coll)</p>	2	<p>Ps 50:11 (of the field, and parallel to birds of the mountains); 80:14 (again of the שָׂדֵה, in this case parallel to boars of the forest/thicket, as ravaging a vineyard).</p> <p>Isaacs says that in Gen Rabbah 19:4 the Ziz is an enormous bird, the equivalent in the sphere of the air of בְּהֵמָה on land and לַיָּם in the sea, and which like them in legend will be eaten at the future feast for the righteous. The description is very similar to the Roc and other legendary giant birds.<sup>452</sup> However the שָׂדֵה habitat argues against this, as in other places it is used solely as a habitat word for terrestrial animals. The occurrence in Psalm 50 provides a possible reason for identifying it as a bird, but the Psalm 80 text does not back it up. This demonstrates the difficulty in using parallelisms to determine categories.</p>

<sup>452</sup> Isaacs 2000:183



<p>בְּהֵמָה</p>	<p>animal; livestock</p>	<p>190</p>	<p>Gen 1:24 (part of חַיָּה נִפְשׁ חַיָּה along with רֶמֶשׂ and חַיָּה. All of earth domain); 1:25 (vs חַיָּה and רֶמֶשׂ); 1:26 (vs fish, עוֹף and רֶמֶשׂ); 2:20 (definitely <i>livestock</i>; vs עוֹף and wild animals); 3:14 (vs wild animals); 6:7 (vs man, רֶמֶשׂ and עוֹף); 6:20 (vs עוֹף and רֶמֶשׂ); 7:2(x2); 7:8(x2) (vs עוֹף and רֶמֶשׂ); 7:14 (vs חַיָּה, עוֹף and רֶמֶשׂ); 7:21 (vs עוֹף, חַיָּה, שָׂרִיץ and man, together making כָּל-בְּשָׂר.); 7:23 (vs man, רֶמֶשׂ and עוֹף); 8:1 (vs חַיָּה); 8:17 (vs עוֹף and רֶמֶשׂ); 8:20 (vs עוֹף); 9:10 (vs עוֹף and חַיָּה of the earth, together making up חַיָּה of the earth (again) and הַחַיָּה הַנֶּפֶשׁ); 34:23 (with מִקְנֵה and קִנְיָן<sup>453</sup> completing a list); 36:6 (with מִקְנֵה, completing); 47:18 (livestock); Exod 8:13 (vs man; <i>livestock</i> implied; the following up to 20:10 are the same); 8:14; 9:9; 9:10; 9:19; 9:22; 9:25; 11:5; 11:7; 12:12; 12:29; 13:2; 13:12; 13:15; 19:13; 20:10; 22:9 (livestock; including ox, ass and sheep); 22:18 (bestiality forbidden); Lev 1:2 (including בָּקָר and צִאָן); 5:2 (vs חַיָּה and שָׂרִיץ); 7:21 (vs humans and inanimate objects); 7:25 (animals suitable for offerings); 7:26 (vs עוֹף); 11:2 (here, unusually, the category חַיָּה is within בְּהֵמָה); 11:3 (ungulates are among the בְּהֵמָה); 11:26; 11:39 (clean); 11:46 (vs עוֹף and רֶמֶשׂ and שָׂרִיץ); 18:23(x2) (bestiality forbidden); 19:19 (livestock); 20:15(x2) (bestiality forbidden); 20:16(x2) (bestiality forbidden); 20:25(x2) (vs עוֹף and רֶמֶשׂ); 24:18 (livestock); 24:21 (livestock); 25:7 (vs חַיָּה); 26:22 (livestock); 27:9 (suitable for sacrifice); 27:10(x2) (suitable for sacrifice); 27:11(x2) (domestic but</p>
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<sup>453</sup> *Property*; see 3.4.3.3.1.

		<p>unclean); 27:26 (including ox, sheep); 27:27 (domestic but unclean); 27:28 (vs man and land); Num 3:13 (vs man); 3:41(x2) (livestock); 3:45(x2) (“); 8:17 (vs man); 18:15(x2) (vs man; clean and unclean); 31:9 (vs property and wealth); 31:11 (vs man); 31:26 (vs man); 31:30 (at the end of a list of animals to cover any not specifically mentioned); 31:47 (vs man); 32:26 (vs <b>בְּקִינָה</b>, seemingly to include cattle<sup>454</sup> and also all other livestock); 35:3 (livestock); Deut 2:35 (livestock); 3:7 (livestock); 4:17 (on the earth, vs <b>צִפּוֹר</b>); 5:14 (after ox and ass to include all); 7:14 (livestock); 11:15 (livestock, as grazing); 13:16 (livestock); 14:4 (explicitly including ox, sheep, goat, fallow deer, gazelle, roe deer, oryx, addax, bubal hartebeest and mouflon, listed in 4-5); 14:6 (x2; including ungulates); 20:14 (livestock); 27:21 (bestiality forbidden); 28:4 (livestock); 28:11 (livestock); 28:26 (of the earth, as opposed to <b>עוֹף</b> of the air); 28:51 (livestock); 30:9 (livestock); 32:24 (dangerous wild animals with teeth); Josh 8:2 (livestock); 8:27 (livestock); 11:14 (livestock); 21:2 (livestock, as grazing); Judg 20:48 (livestock); 1 Sam 17:44 (of the <b>שָׂדֶה</b>, vs <b>עוֹף</b>); 1 Kgs 5:13 (vs <b>עוֹף</b>, <b>רִמֹּשׁ</b> and fish); 18:5 (including horses and mules); 2 Kgs 3:9 (livestock); 3:17 (vs <b>בְּקִינָה</b>); 2 Chr 32:28(x2) (livestock); Ezra 1:4 (livestock); 1:6 (livestock); Neh 2:12(x2) (specifically a beast to ride on); 2:14 (also riding); 9:37 (livestock); 10:37 (livestock); Job 12:7 (vs <b>עוֹף</b>); 18:3 (dumb animals vs man); 35:11 (of the earth; vs <b>עוֹף</b> of the sky); Ps 8:8 (of the <b>שָׂדֶה</b>, vs <b>צִאן</b> and</p>
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<sup>454</sup> See 3.4.3.3.1.

		<p>אֱלֹפִים. So, wild); 36:7 (vs man); 49:13 (vs man); 49:21 (vs man); 50:10 (wild; equated to חֲזִיה in a parallelism); 73:22 (as ignorant); 104:14 (vs man in a parallelism); 107:38 (livestock); 135:8 (vs man); 147:9 (wild); 148:10 (vs חֲזִיה, רִמָּשׁ and צִפּוֹר); Prov 12:10 (livestock); 30:30 (lion); Eccl 3:18 (men are beasts); 3:19(x2) (vs men); 3:21 (vs men); Isa 18:6(x2) (of the earth; vs birds of prey); 30:6 (including lions, snakes, camels and donkeys); 46:1 (vs חֲזִיה); 63:14 (could be anything); Jer 7:20 (vs man); 7:33 (of the earth; vs עוֹף); 9:9 (vs עוֹף); 12:4 (vs עוֹף); 15:3 (of the earth; vs עוֹף); 16:4 (of the earth; vs עוֹף); 19:7 (of the earth; vs עוֹף; the last three are all about eating the dead, thus scavengers, not livestock); 21:6 (vs man); 27:5 (vs man); 31:27 (vs man); 32:43 (vs man); 33:10(x2) (vs man); 33:12 (vs man); 34:20 (of the earth; vs עוֹף); 36:29 (of the earth; vs עוֹף); 50:3 (of the earth; vs עוֹף); 51:62 (of the earth; vs עוֹף); Ezek 8:10 (vs רִמָּשׁ); 14:13 (vs man); 14:17 (vs man); 14:19 (vs man); 14:21 (vs man); 25:13 (vs man); 29:8 (vs man); 29:11 (vs man); 32:13(x2) (livestock; vs man); 36:11 (vs man); 44:31 (vs עוֹף); Joel 1:18 (including בִּקָּר and צִאֵן); 1:20 (of שְׂדֵה; wild); 2:22 (of שְׂדֵה; wild); Jonah 3:7 (vs man); 3:8 (vs man); 4:11 (vs man); Mic 5:7 (of the forest; wild); Hab 2:17 (probably wild); Zeph 1:3 (vs man, עוֹף, fish); Hag 1:11 (vs man); Zech 2:8 (vs man); 8:10 (vs man); 14:15 (livestock; completes a list including horses, mules, camels and donkeys).</p>
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			<p>This word specifically excludes humankind, as well as creatures of the air, the water and the surface of the earth. Only large terrestrial animals (down to the size of a rabbit or hyrax) are included in this category, and the most central members of the category are livestock: it is often used to contrast with wild animals but sometimes includes them. From the use of the word in the verses where it is found, it appears that to the ancient Hebrews, living things were divided into humankind, flying things, fish, <b>בְּהֵמָה</b>, and teeming/crawling things. These other divisions on the same category level as <b>בְּהֵמָה</b> are treated in 3.4.1, 3.4.2, and 3.4.4 respectively.</p>
<b>מִקְנֵה</b>	livestock /property	75	<p>Gen 4:20; 13:2; 13:7(x2); 17:12 (a purchase/acquisition, of a human slave); 17:13 (a purchase/acquisition, of a human slave); 17:23; 17:27; 23:18 (property: a field); 26:14(x2) (in the construct form – <b>מִקְנֵה</b> of <b>צֹאן</b> and <b>מִקְנֵה</b> of cattle); 29:7; 30:29; 31:9; 31:18(x2); 33:17 (booths for <b>מִקְנֵה</b>); 34:5 (in the field with his <b>מִקְנֵה</b>); 34:23; 36:6; 36:7; 46:6; 46:32; 46:34 (translated as <i>cattle</i>, but actually sheep in this context); 47:6; 47:16(x2); 47:17(x4) (of <b>צֹאן</b> and of <b>בְּקָר</b>); 47:18 (<b>מִקְנֵה</b> of <b>בְּהֵמָה</b>); 49:32 (a field); Exod 9:3 (covering horses, donkeys, camels, <b>צֹאן</b> and cattle); 9:4(x2); 9:6(x2); 9:7; 9:19; 9:20; 9:21; 10:26; 12:38; 12:44 (slave); 17:3; 34:19; Lev 25:16(x2) (meaning <i>price</i>); 25:51 (price/amount); 27:22 (of a field); Num 20:19; 31:9; 32:1(x2); 32:4(x2); 32:16; 32:26; Deut 3:19(x2); Josh 1:14; 14:4; 22:8; Judg 6:5; 18:21; 1 Sam 23:5; 30:20; 2 Kgs 3:17; 1 Chron 5:9; 5:21 (appears to include</p>

			<p>humans); 7:21; 28:1; 2 Chron 14:15; 26:10; 32:29; Job 1:3 (appears to include human servants); 1:10; 36:33; Ps 78:48; Eccl 2:7; Isa 30:23; Jer 9:9 (appears to denote cattle in particular, referring to their sound); 32:11 (purchase); 32:12(x2) (purchase); 32:14 (purchase); 32:16 (purchase); 49:32; Ezek 38:12; 38:13</p> <p>See 3.4.3.3.1 for further discussion of this term.</p>
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**Table 34: Higher-level category words for land animals**

When looking at category words for animals, it is clear that it is not always possible to make hard and fast rules about which categories are included in other categories. Sometimes a category word, like **בְּהֵמָה**,<sup>455</sup> appears to be a subcategory of another, such as **חַיָּה**. This occurs when **חַיָּה** is used at a high level denoting all living things and **בְּהֵמָה** at a lower level to mean large land animals. At other times the two are instead used as different categories on the same level. This occurs either when **חַיָּה** is used as a slightly lower-category word meaning large land animals that are not domesticated, and **בְּהֵמָה** is used to denote livestock. This can be confusing, but ignoring the variable roles of category words leads to misleading translations: for instance, the insistence against all evidence by some translators that **בְּהֵמָה** should always mean “cattle”.<sup>456</sup>

Another issue that can cause trouble when looking at what category terms include or exclude other categories is that the very common Hebrew technique of parallel constructions (either parallelism or chiasmus) can imply opposite things about the categories that are placed in parallel. In some cases the parallel construction shows that they are synonymous or nearly so, as in Psalm 50:10, where both **בְּהֵמָה** and **חַיָּה** mean *large wild land animals*.

<sup>455</sup> This word, though grammatically singular, is usually used collectively.

<sup>456</sup> e.g. Gen 3:14 in RSV, ASV, BBE, DBY etc; Gen 1:25 in RSV, KJV, LXE, NAB etc.

<p>כִּי־לִי כָּל־חַיְתוֹי־עֵר בְּהֵמוֹת בְּהַרְרֵי־אֶלֶף:</p>	<p>Ps 50:10</p>	<p>For mine are all the animals of the forest and the beasts of a thousand hills.</p>
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**Table 35: Psalm 50:10**

However, in other cases parallel constructions can be used to compare and contrast two terms that are opposites or mutually exclusive categories, often in the context of a hendiadys where the two categories together describe a whole, or a higher-level, encompassing category. For example, the chiasmus in Ezekiel 29:11:

<p>לֹא תַעְבְּרֶנָּה רֶגֶל אָדָם וְרֶגֶל בְּהֵמָה לֹא תַעְבְּרֶנָּה וְלֹא תֵשֵׁב אַרְבָּעִים שָׁנָה:</p>	<p>Ezek 29:11</p>	<p>Foot of man shall not pass through it and foot of beast shall not pass through it and no one shall live there for forty years.</p>
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**Table 36: Ezekiel 29:11**

In other words, parallel constructions need to be examined very carefully to see whether they are saying that two categories are synonymous or quite the opposite. Fortunately, it is usually possible in context to tell these two kinds of parallel constructions apart, and they, along with the simple juxtaposition of different terms, are very useful in determining the relationships between different categories. Occasionally in this work I will refer to these two kinds of parallel constructions as *contrasting parallelisms* and *synonymous parallelisms*.

According to Ronald Isaacs, both *בְּהֵמָה* and *חַיָּה* are words for mammals, with *בְּהֵמָה* being the more usual one, referring to either domestic or wild mammals,<sup>457</sup> and *חַיָּה* also referring to either category or else sometimes, as in Lev 17:13, to wild mammals in particular.<sup>458</sup> He then goes on to state that Talmudic literature on the other hand makes a clear distinction between

<sup>457</sup> Isaacs 2000:3.

<sup>458</sup> Because the ancient Hebrews did not use MAMMAL as a category, I avoid this term in favour of LAND ANIMALS or LARGE LAND ANIMALS which are more correct in terms of their spatiality-based classification system.

the two terms, with **בְּהֵמָה** denoting a domestic mammal and **חַיָּה** a wild one.<sup>459</sup> S.R. Hirsch, publishing in 1899 long before prototype theory was developed, makes use of the concepts of prototypicality in his explanation of why only eating certain animals can promote moral righteousness: “In explaining why it is just the food permitted by the Law that secures this, he takes advantage of the double sense of *b<sup>e</sup>hēmâ*: ‘beasts’ in general, or ‘domestic beasts’. A food animal that is suitable to secure holiness ‘must have the nature of a *b<sup>e</sup>hēmâ*’ (p. 268), i.e. it must be one that yields to man”.<sup>460</sup> In other words, clean animals are those that are closest to the prototypical sense of the word.

In some verses **בְּהֵמָה** is a subdivision of another word that in that context means *animal*, such as **חַיָּה**; in these cases it gets translated as *cattle* or something similar, and so, some feel, it always should be. This is not the case. In other contexts **בְּהֵמָה** means *animal*, a much more generic term. And in yet other contexts it properly refers to domestic animals as opposed to wild animals. The prototype, the most central category member, for **בְּהֵמָה** is indeed a cow or bull, but the breadth of the category varies wildly according to context, and most of the time “cattle” is not the correct translation at all. See Leviticus 11:2 for an example of a verse where the two are used as synonyms.

Another example is the term **רֶמֶשׂ**.<sup>461</sup> In most contexts it is a word that means small animals that crawl on the ground (and sometimes aquatic animals). In other words, a very specific term, included in the categories **חַיָּה** as well as **בְּהֵמָה**. But in a few cases it is used instead as a much broader term, including all animals and sometimes even humans as well.<sup>462</sup> Since the prototypical member of this category is a small swarming animal, the use of the term to signify all living things including humans produces a vivid picture of us all as insignificant insects crawling over the surface of the earth.

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<sup>459</sup> Isaacs 2000:4.

<sup>460</sup> Houston 1993:76.

<sup>461</sup> See 3.4.4.

<sup>462</sup> Gen 7:21.

בְּהֵמָה is a very important word, especially when viewed alongside and in contrast with its near synonym חַיָּה. בְּהֵמָה is often translated as *cattle*,<sup>463</sup> and I believe that this is in many cases a less than ideal translation. We need to look at it in terms of Lakoff’s categories instead of with classical category theory, and all will be made clear. We will find what is considered the “best” example, what are central examples (members), and what are peripheral members. Then we will have a proper idea of what this word means. First we must look at what the word בְּהֵמָה is used in opposition to. Often it is used in opposition to *man*; good examples of this usage may be found in Jeremiah and Ezekiel, in a hendiadys indicating “all living things”. It is also often set in contrast to עוֹף (birds, flying things). Often set against various types of domestic animals, including cattle, to denote the remainder of that group – all not specifically named. This indicates that four-footed domestic ungulates are the central members of the group. Also set against חַיָּה usually to denote domesticity vs. wildness, but in other texts denotes wildness when set against other words meaning domestic animals/cattle/herds.

חַיָּה is often used together with the domain / habitat word שָׂדֵה. In these cases the phrase is often translated as *wild animal* or something similar. In Genesis 3:1, for example, the RSV translates חַיַּת הַשָּׂדֵה (referring to the serpent, נָחַשׁ) as *wild creature*. In 3:14, the serpent is cursed “more than all הַבְּהֵמָה and more than all חַיַּת הַשָּׂדֵה”, again using חַיָּה to refer to wild animals and, by implication, בְּהֵמָה to refer to domesticated ones.

One highly significant finding when looking at these higher-category terms is the lack of a term that includes all animals but excludes humans. חַיָּה and בְּהֵמָה are the closest, but their core meanings are large land animals: they usually exclude flying creatures, fish and creeping things. כָּל-חַי and כָּל-בְּשָׂר, on the other hand, include these animals but also include humans. Cherubim, what we would generally assume to be a supernatural creature or a type of angel, are identified as חַיָּה in parallel passages in Ezekiel. Even God falls into one of these categories

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<sup>463</sup> e.g. Gen 3:14 in RSV, ASV, BBE, DBY etc; Gen 1:25 in RSV, KJV, LXE, NAB etc.

in one instance; being called a **חַי** in Daniel 12:7. Can it be said, in fact, that ancient Hebrew has a term meaning ANIMAL in the sense we usually use it: all natural living creatures but excluding humans? It cannot. The highest-level terms for living things are used in at least one text to include humans, and sometimes also mythological/supernatural creatures such as cherubim. Mythological or legendary creatures, even cherubim, seraphim and the chaos monster, are never really differentiated from natural animals. The slightly lower-level terms that never include humans seem always to exclude various classes of animals as well. Pinker says “The Judeo-Christian tradition, for example, offers explanations for much of the subject matter now studied by biology and psychology. Humans are made in the image of God and are unrelated to animals.”<sup>464</sup> From looking at the system of higher-level terms for living creatures in the Hebrew language, it becomes clear that this is not in fact the case.

### 3.4.3.2. Young of animals

The linguistic phenomenon of young animals being referred to by category-specific words is relatively rare within the corpus of the Hebrew Bible: the more usual terms for the offspring of animals are the same ones used for human children: *son* or *daughter*.<sup>465</sup> However, specific terms for the offspring of certain kinds of animal are occasionally used. These terms for offspring do not include all terms for young animals, only those specifically used for the young *of* animals, generally utilising the construct state.

שָׁגֵר	offspring, young (usually of cattle)	5	Exod 13:12 (בְּהֵמָה); Deut 7:13; 28:4; 28:18; 28:51 (all אֱלֵף).  An interesting word as it is a term for offspring used uniquely for אֱלֵף (and in one case the more general בְּהֵמָה).
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<sup>464</sup> Pinker 2002:1.

<sup>465</sup> See Genesis 32:15 and Zechariah 9:9 for examples.



עִשְׂתָּרַת	young; increase (of sheep/goats) <sup>466</sup>	4	Deut 7:13; 28:4; 28:18; 28:51 (all for offspring of זָאֵן, all in parallel to שָׁנָה / אֶלְיָהּ.) <sup>467</sup>  The same word is used for the deity Ashtaroth.
גִּדִּי	kid	16	Gen 27:9; 27:16; 38:17; 38:20; 38:23*; Exod 23:19*; 34:26*; Deut 14:21*; Judg 6:19; 13:15; 13:19; 14:6*; 15:1; 1 Sam 10:3*; 16:20; Isa 11:6 <sup>468</sup>  (always in a construct state with עֲזִים unless marked with an asterisk) According to Cansdale, this word when used in the place name En Gedi refers to the young of the Nubian ibex. <sup>469</sup>
גִּדִּיָּה	kid (f)	1	Song 1:8
עֵפָר	fawn (of fallow deer and gazelle at least)	5	Song 2:9; 2:17; 4:5(of a צִבְיָה); 7:4; 8:14(of the אֵילִים)
גֹּר	cub (of lion)	2	Jer 51:38; Nah 2:13
גֹּר	cub (of lion or jackal)	7	Gen 49:9; Deut 33:22; Lam 4:3(of jackal); Ezek 19:2; 19:3; 19:5; Nah 2:12
גֹּזֵל	young bird	2	Gen 15:9 (of dove); Deut 32:11 (of eagle)
אֶפְרָח	young bird	4	Deut 22:6(x2); Job 39:30; Ps 84:4.

<sup>466</sup> Some (e.g. Deut 7:13 in the GNV) say *ewes* but there is no good reason for this interpretation.

<sup>467</sup> Excluding the use of the word for the deity Ashtaroth.

<sup>468</sup> Excluding personal name Gadi and ethnonym meaning Gadites. One more possible occurrence, in Isa 5:17, is suggested by some sources (e.g. the RSV).

<sup>469</sup> Cansdale 1970:47.

			In Deuteronomy this refers to the young of birds in general; in Job to the eagle/vulture and in Psalm 84 to the swallow.
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**Table 37: Young of animals**

### 3.4.3.3. Cattle

The problem involved in looking at words for cattle is the opposite one to the problem faced with wild animals. Having dealt with a number of cases where a single Hebrew word covers a number of biological categories, one may be tempted to think of the ancient Hebrew system as a “primitive” classification system that is less precise than our own. One look at the classifications of cattle should disabuse anyone of this notion. In ordinary English today we are in the awkward position of not having a singular equivalent for *cattle*, which demonstrates the language’s deficiencies in this semantic field. Thus instead of simply giving translations (because we just do not have the necessary terms to provide proper translations) I will attempt to compile a systematic summary of the particular category of cattle denoted by each Hebrew term.

בָּקָר	cattle	183	Gen 12:16; 13:5; 18:7(x2); 18:8; 20:14; 21:27; 24:35; 26:14; 32:8; 33:13; 34:28; 45:10; 46:32; 47:1; 47:17; 50:8; Exod 9:3; 10:9; 10:24; 12:32; 12:38; 20:24; 21:37; 29:1; 34:3; Lev 1:2; 1:3; 1:5; 3:1; 4:3; 4:14; 9:2; 16:3; 22:19; 22:21; 23:18; 27:32; Num 7:3(as plural of שׁוֹר); 7:6; 7:7; 7:8; 7:15; 7:17; 7:21; 7:23; 7:27; 7:29; 7:33; 7:35; 7:39; 7:41; 7:45; 7:47; 7:51; 7:53; 7:57; 7:59; 7:63; 7:65; 7:69; 7:71; 7:75; 7:77; 7:81; 7:83; 7:87; 7:88; 8:8(x2); 11:22; 15:3; 15:8; 15:9; 15:24; 22:40; 28:11; 28:19; 28:27; 29:2; 29:8; 29:13; 29:17; 31:28; 31:30;
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			<p>31:33; 31:38; 31:44; Deut 8:13; 12:6; 12:17; 12:21; 14:23; 14:26; 15:19; 16:2; 21:3; 32:14(female by implication); Judg 3:31; 1 Sam 11:5; 11:7(x2); 14:32(x2); 15:9; 15:14; 15:15; 15:21; 16:2; 27:9; 30:20; 2 Sam 6:6; 12:2; 12:4; 17:29(female by implication); 24:22(x2); 24:24; 1 Kgs 1:9; 5:3(x2); 7:25; 7:29(x2); 7:44; 8:5; 8:63; 19:20; 19:21(x2); 2 Kgs 5:26; 16:17; 1 Chr 12:41(x2); 13:9; 21:23; 27:29(x2); 2 Chr 4:3(x2); 4:4; 4:15; 5:6; 7:5; 13:9; 15:11; 18:2; 29:22; 29:32; 29:33; 31:6; 32:29; 35:7; 35:8; 35:9; 35:12; Neh 10:37; Job 1:3; 1:14; 40:15; 42:12; Ps 66:15; Eccl 2:7; Isa 7:21; 11:7; 22:13; 65:10; 65:25; Jer 3:24; 5:17; 31:12; 52:20; Ezek 4:15; 43:19; 43:23; 43:25; 45:18; 46:6; Hos 5:6; Joel 1:18; Amos 6:12; Jonah 3:7; Hab 3:17.</p> <p>This is the general collective term for cattle, of both sexes. Often incorrectly (but understandably) translated as <i>herd</i> or <i>herds</i> and contrasted/listed with צֹאן which is then likewise wrongly translated as <i>flock</i> or <i>flocks</i>. A singular male is בֶּן־בָּקָר. A heifer is עֵגְלַת בָּקָר. In Num 7:87; 7:88, this word appears to be used as a generic term including cattle, sheep and (probably) goats. However it is also possible that it only refers to the cattle at the beginning of the list.</p>
בָּר	masculine, young, not castrated. Translated as bull,	133	<p>Gen 32:16*; Exod 24:5; 29:1; 29:3; 29:10(x2); 29:11; 29:12; 29:14; 29:36; Lev 4:3; 4:4(x3); 4:5; 4:7; 4:8; 4:11; 4:12; 4:14; 4:15(x2); 4:16; 4:20(x2); 4:21(x2); 8:2;</p>



	<p>young bull, bullock.</p>		<p>8:14(x2); 8:17; 16:3; 16:6; 16:11(x2); 16:14; 16:15; 16:18; 16:27; 23:18; Num 7:15; 7:21; 7:27; 7:33; 7:39; 7:45; 7:51; 7:57; 7:63; 7:69; 7:75; 7:81; 7:87; 7:88; 8:8(x2); 8:12; 15:24; 23:1; 23:2; 23:4; 23:14; 23:29; 23:30; 28:11; 28:12; 28:14; 28:19; 28:20; 28:27; 28:28; 29:2; 29:3; 29:8; 29:9; 29:13; 29:14(x2); 29:17; 29:18; 29:20; 29:21; 29:23; 29:24; 29:26; 29:27; 29:29; 29:30; 29:32; 29:33; 29:36; 29:37; Judg 6:25(x2); 6:26; 6:28; 1 Sam 1:24; 1:25; 1 Kgs 18:23(x3); 18:25; 18:26; 18:33; 1 Chr 15:26; 29:21; 2 Chr 13:9; 29:21; 30:24(x2); Ezra 8:35; Job 42:8; Ps 22:13*; 50:9; 51:21; 69:32; Isa 1:11; 34:7; Jer 50:27†; Ezek 39:18†; 43:19; 43:21; 43:22; 43:23; 43:25; 45:18; 45:22; 45:23; 45:24; 46:6; 46:7; 46:11; Hos 14:3(dubious)</p> <p>This term is used almost exclusively in terms of sacrifice. The only exceptions are the occurrences marked with an asterisk or a dagger; * means that the occurrence is in a context other than sacrifice, while † means it is in a context other than sacrifice but is still being killed. Because of the rules about sacrifice<sup>470</sup> it may be deduced that פֶּרֶךְ does not refer to a castrated animal.</p>
<p>שׁוֹר</p>	<p>singular of cattle. Usually mature.<sup>471</sup></p>	<p>79</p>	<p>Gen 32:6; 49:6; Exod 20:17; 21:28(x3); 21:29(x2); 21:32(x2); 21:33; 21:35(x3); 21:36(x3); 21:37(x2); 22:3; 22:8; 22:9; 22:29; 23:4; 23:12; 34:19; Lev 4:10; 7:23;</p>

<sup>470</sup> See Leviticus 22:24.

<sup>471</sup> With two exceptions.



	<p>Translated as bull, bullock, ox.</p>	<p>9:4; 9:18; 9:19; 17:3; 22:23; 22:27(newborn); 22:28(definitely female); 27:26; Num 7:3; 15:11; 18:17; 22:4; Deut 5:14; 5:21; 14:4; 15:19; 17:1; 18:3; 22:1; 22:4; 22:10; 25:4; 28:31; 33:17; Josh 6:21; 7:24; Judg 6:4; 6:25; 1 Sam 12:3; 14:34(x2); 15:3; 22:19; 2 Sam 6:13; 1 Kgs 1:19; 1:25; Neh 5:18; Job 6:5; 21:10; 24:3; Ps 69:32; 106:20; Prov 7:22; 14:4; 15:7; Isa 1:3; 7:25; 32:20; 66:3; Ezek 1:10; Hos 12:12</p> <p>This word is often translated as <i>bull</i>, but does not have the same connotation of being necessarily male and entire. It is uncertain (see discussion below) whether castration of livestock was practiced in ancient Israel at all. In two cases in Leviticus, the expected meaning of this word as <i>mature male</i> does not apply and it is used for a female and a newborn calf. The word is still grammatically masculine in these instances, but the meaning is simply “singular of בָּקָר.” In a number of cases male cattle are similarly implied, but in the vast majority of the instances of this word it functions as a simple singular for CATTLE. Goodfriend considers שׂוֹר to be a gender-neutral term.<sup>472</sup> Meshel agrees, saying “it is well known that the term שׂוֹר, though grammatically masculine, denotes <b>B</b> [any member of CATTLE] and not</p>
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<sup>472</sup> Goodfriend 2015:69.



			B♂ [mature male of CATTLE] in Biblical Hebrew – in contrast to later Hebrew sources”. <sup>473</sup>
תור	Aramaic for שור	7	Ezra 6:9; 6:17; 7:17; Dan 4:22; 4:29; 4:30; 5:21
עגל	calf	36	<p>Exod 32:4; 32:8; 32:19; 32:20; 32:24; 32:35; Lev 9:2; Lev 9:3(1 year specified); 9:8; Deut 9:16; 9:21; 1 Sam 28:24; 1 Kgs 10:19; 12:28; 12:32; 2 Kgs 10:29; 17:16; 2 Chr 11:15; 13:8; Neh 9:18; Ps 29:6; 68:30; 106:19; Isa 11:6; 27:10; Jer 31:18(untrained); 34:18; 34:19; 46:21; Ezek 1:7; Hos 8:5; 8:6; 13:2; Amos 6:4; Mic 6:6(1 year specified); Mal 4:2</p> <p>Half the time – in 18 of these 36 instances – the word is used to refer to a statue rather than a live animal. It is likely from archaeological evidence that these statues depicted a full-grown bull rather than a baby calf, and that the use of the word עגל for these images is a customary idiom.</p>
פרה	cow	25	<p>Gen 32:16; 41:2; 41:3(x2); 41:4(x2); 41:18; 41:19; 41:20(x2); 41:26; 41:27; Num 19:2; 19:5; 19:6; 19:9; 19:10; 1 Sam 6:7; 6:10; 6:12; 6:14; Job 21:10; Isa 11:7; Hos 4:16; Amos 4:1</p> <p>Despite its grammatical status as the feminine equivalent of פרה, this does not necessarily refer to a young animal (it is specified to be the mother of a calf in 1 Sam 6:7), so <i>heifer</i> is not an appropriate translation.</p>

<sup>473</sup> Meshel 2015:28-29.



עִגְלָה	feminine, young, translated as heifer	12	Gen 15:9 (specified as 3 years old); Deut 21:3; 21:4 (x2); 21:6; Judg 14:18 (metaphorical reference to Delilah); 1 Sam 16:2; Isa 7:21; Jer 46:20; 50:11; Hos 10:5; 10:11 <sup>474</sup>
רָאִים	aurochs	9	Num 23:22; 24:8; Deut 33:17; Job 39:9; 39:10; Ps 22:22; 29:6; 92:11; Isa 34:7.
אַבִּיר	strong (bull or horse)	9	Judg 5:22(horses); Ps 22:12(bulls); 50:13(bulls); 68:31(bulls); Isa 34:7(bulls); Jer 8:16(horses); (46:15, RSV interprets as a bull; all others translate it as referring to men); 47:3(horses); 50:11(bulls/horses) <sup>475</sup>
מְרִיא	fatted calf/ fatling	8	2 Sam 6:13; 1 Kgs 1:9; 1:19; 1:25; Isa 1:11; 11:6; Ezek 39:18(metaphorical, but suggesting that the word could possibly apply to sheep and goats as well); Amos 5:22  Isaacs calls the מְרִיא a buffalo, <sup>476</sup> but all the occurrences of this word strongly imply that it refers to a domestic animal. Many of the texts are in the context of sacrifice, and in 4.4.3 an argument is presented for domestication and economic ownership of animals being a prerequisite for their suitability for sacrifice. There is no evidence that buffaloes were domesticated in the Ancient Near East.
אֶלֶף	cattle	7	Deut 7:13 (in a contrasting parallelism with צֵאן); 28:4(in a contrasting parallelism with צֵאן); 28:18 (in a contrasting parallelism with צֵאן); 28:51 (in a contrasting

<sup>474</sup> Excluding personal name and a homonym meaning *cart* or *wagon*.

<sup>475</sup> Only use as a term for an animal is counted. Otherwise used, usually substantively, to refer to strong men (warriors), God, or in one case (Ps 78:25) most likely angels.

<sup>476</sup> Isaacs 2000:47.



			<p>parallelism with צֵאן); Ps 8:8; Prov 14:4(in a synonymous parallelism with שׂוֹר); Isa 30:24</p> <p>Synonymous with בָּקָר and used in similar contexts. Also <i>a thousand</i>. This word only exists as a plural in Hebrew, but the singular exists in cognates in Ugaritic, Phoenician and Akkadian. It probably does not derive from the verb <i>to be tame</i>, because cognates of the noun meaning cattle are much more widely found than the verb.<sup>477</sup></p>
בְּעִיר	cattle/livestock	6	<p>Gen 45:17(loaded with goods); Exod 22:4(K/Q); Num 20:4; 20:8; 20:11; Ps 78:48. Sometimes translated as <i>cattle</i>; sometimes as <i>beasts</i> or <i>livestock</i>.</p>
שִׁנִּיר	offspring, young (of cattle/beasts)	5	<p>Exod 13:12(בְּהֵמָה); Deut 7:13(אֵלֶּיךָ, and ff. all the same); 28:4; 28:18; 28:51</p> <p>A term for OFFSPRING used uniquely for אֵלֶּיךָ (and in only one case בְּהֵמָה). The more usual terms for the offspring of animals are the same ones used for human children (see Gen 32:15 and Zech 9:9 for examples. Also see בֶּן־הַבָּקָר as “calf” in Gen 18:8)</p>
מִשְׁנֶה	fatling	1	<p>1 Sam 15:9</p>

<sup>477</sup> Forti 2008:55.

			Means <i>second</i> or <i>double</i> , but translated as <i>fatlings</i> <sup>478</sup> or <i>fat calves</i> <sup>479</sup> in this single verse. JPS has “young of the second birth”.
אַלֵּף	adj. sometimes meaning companion	tame, 1	(Jer 11:19, dubious) – KJV has <i>or an ox</i> ; more likely <i>tame</i> . Ps 144:14  Most sources have <i>oxen</i> . It could also possibly mean domestic animals in general. It is possible that this term in Psalm 144 is derived from the same root as אֵלֶּף rather than coming from the verb *אַלֵּף. <sup>480</sup>

**Table 38: Cattle**

The naming of animals in this category is problematic at the best of times. Reitz and Wing (2008) say:

By following a standard systematic scheme, most zooarchaeologists understand what their colleagues mean in their choice of scientific and common names. Domesticated members of the family Bovidae, however, are an exception to this because common English terms are not directly related to taxonomy. Strictly speaking, only female members of the species *Bos indicus* and *Bos taurus* should be called cows, but the term is often used in reference to male bulls and castrated steers as well. However, the term “cattle” may be used to encompass all domestic members of this family, including neat cattle, such as goats (*Capra hircus*) and sheep (*Ovis aries*).<sup>481</sup>

This is consistent with the term אֵלֶּף sometimes being translated as “small cattle”; however the use of the term “neat cattle” to describe sheep and goats is extremely odd, as *neat* is a term that definitely refers to cattle, bovine animals, and not to sheep or goats.

<sup>478</sup> KJV; RSV.

<sup>479</sup> ESV; NIV.

<sup>480</sup> Forti 2008:55.

<sup>481</sup> Reitz & Wing 2008:9-10.

צֵאֵן will not be discussed in this section, which focuses on large bovids, what we call *cattle*, only. This category alone is confusing enough in English. The following, from Cansdale, to some extent describes its intricacies:

The words ox and oxen appear more often than cattle, kine or bull, and are widely retained in RV and RSV, yet in England ox is now obsolete or archaic for the animal itself and is found mostly in combinations such as ox-tail, ox-cart, etc. This is a strange development, for in effect it leaves bull and cow as the male and female of an animal with no common name, the term cattle being a vague collective plural. Bull is largely confined to the adult male kept for breeding; bullock is widely used in the Bible for both bull and young bull, which was its original meaning, but today it is correctly applied only to castrated bulls being fattened for beef. Steer, which is an equally old word, has always had this latter meaning. Cow, found only six times in AV, is not usually given until after the first calf. Heifer is a cow before calving, and calf remains the young of the first year, often specified as bull-calf or heifer-calf.<sup>482</sup>

The Hebrew terminology is much less elaborate, partly because distinctions are made only on the grounds of age and not of reproductive status as in the English system.<sup>483</sup> There is no distinction made in the Hebrew between an entire bull and a castrated male animal; this makes it difficult to know whether castration was actually practiced in ancient Israel. Leviticus 22:24 forbids the offering of a castrated animal as a sacrifice, but the verse in question ends as follows: וּבְאֶרְצְכֶם לֹא תַעֲשׂוּ: – “and you shall not do it in your land”. What “it” is, is the question: does this line forbid the practice of castration, or does it simply reiterate the prohibition in the first part of the verse against sacrificing castrated animals?

Elaine Goodfriend (2015) says the following: “While most modern commentaries and many translations understand that the forbidden act is the sacrifice of gelded animals (so that v. 24b emphatically repeats v. 24a), traditional Jewish commentaries and some moderns see the verse as a blanket prohibition of the castration of animals.”<sup>484</sup> This does not, of course, mean that

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<sup>482</sup> Cansdale 1970:56.

<sup>483</sup> The English terminology also includes a number of disparate systems from different areas (for example, England, Scotland and the United States) and from such a long period of time that many terms are now considered archaic or obsolete, sometimes without having newer terms to replace them.

<sup>484</sup> Goodfriend 2015:67-68.



castrated animals would have been unknown to the ancient Israelites: mules are mentioned 17 times in the Biblical texts despite their breeding being forbidden.<sup>485</sup> If animal castration was genuinely not practiced in ancient Israel, it would have been very unusual and extremely inconvenient. Goodfriend notes: “The gelding of large cattle was of great utility in the premodern world, and therefore it was a very common practice.”<sup>486</sup> She argues, against Milgrom’s interpretation of the verse as prohibiting only the sacrifice of castrated animals,<sup>487</sup> that animal castration was indeed prohibited in ancient Israel, but that ways would have been found to circumvent the prohibition, for example by importing castrated oxen,<sup>488</sup> judicious buying and selling and even sanctioned “theft” of the animals,<sup>489</sup> or simply by not always adhering to the law.<sup>490</sup> The lack of separate words for castrated and entire males, in this case, would be a reflection of the semi-clandestine nature of the enterprise. This is completely speculative, however, and a point against it is the existence of words for mules even though they would fall into the same legal grey area as castrated male animals.

בְּקָרָהּ is the collective noun that comes closest to paralleling the English term *cattle*. It is often translated as such, but also often as *herds*, usually as contrasted with צֹאֵן as *flocks*. This translation is less correct, as בְּקָרָהּ is the name of a particular animal, CATTLE, rather than a term for a group of animals as *herd* implies.

שׁוֹר is usually translated as *bull*, but in fact it functions as the generic singular of CATTLE that is so lacking in the English language. Most of the time it functions in this way as a singular of בְּקָרָהּ, with a few exceptions: in Gen 32:6 it is used as a collective noun, in exactly the same

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<sup>485</sup> Lev 19:19.

<sup>486</sup> Goodfriend 2015:71.

<sup>487</sup> Goodfriend 2015:82-85.

<sup>488</sup> Goodfriend 2015:92.

<sup>489</sup> Goodfriend 2015:87.

<sup>490</sup> Goodfriend 2015:85.

way as one would expect בָּקָר to be used; and in Hosea 12:12 a plural form, שְׁוֹרִים, is found, which Forti says is probably due to textual corruption.<sup>491</sup>

The large number of different terms for cattle is indicative of their cultural importance, and the fact that most of them are lower-level terms identifying subcategories of בָּקָר shows that this importance was practical and economic. That cattle were also symbolically important in addition to their economic usefulness is indicated by contextual rather than linguistic factors: the periodic appearance of עֵיִל idols despite the best efforts of the prophets; the bovine heads forming part of cherubim, and the repeated use of cattle as symbols of strength.

The אֲוֹךְ is an important case, significant in that it is less unusual than might be assumed. In chapter 2.7.3 I quoted Anna Pavord as stating that people in the ancient world did not really think of domestic animals as being descended from wild counterparts,<sup>492</sup> and said that it would be interesting to find out what the ancient Hebrews thought of the אֲוֹךְ. Also, the division between domestic and wild is an important one in Hebrew, with, for instance, wild animals often attached closely to a habitat term while domestic animals are not. In short, it was to be expected that no connection would have been made between the אֲוֹךְ and domesticated cattle. However, from the texts in which אֲוֹךְ is found, it seems clear that a connection was indeed made. The parallelisms with domestic cattle in Deuteronomy 33:17, Psalm 29:6 and Isaiah 34:7, and the rhetorical questions in Job 39:9 and 39:10, make it very clear that the ancient Hebrews saw the aurochs as being the same sort of thing as domestic cattle, only stronger. As Forti says, “Šôr appears in the Bible three times parallel to r<sup>e</sup>’ēm ‘aurochs’ (*Bos primigenius*), a frequent symbol of divine power and strength.”<sup>493</sup>

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<sup>491</sup> Forti 2008:44-45.

<sup>492</sup> Pavord 2005:22.

<sup>493</sup> Forti 2008:45.

The same evidence of a knowledge of a connection is there as well in the case of wild and domestic donkeys,<sup>494</sup> and no distinction at all was made between wild and domesticated pigs.<sup>495</sup> In other words, the proposition that the ancient Hebrews were unaware of the relationship between wild animals and their domestic counterparts is proven false. However, the fact remains that the habitat-based distinction between these two categories was a fundamental one.

Later translations had great trouble with this word despite the clarity of the actual texts; the KJV and several other versions<sup>496</sup> follow the LXX in calling it a “unicorn” despite the dual form of *horns* being used in two different verses describing it.<sup>497</sup> In later Jewish folklore the **אֶרְנַיִם** becomes a legendary beast:<sup>498</sup> a giant animal of which only one male and one female are alive at once, and they live on opposite sides of the world except when they find each other every 70 years to mate and die, producing a new pair.<sup>499</sup>

#### 3.4.3.3.1. Cattle, livestock and property

There are a number of Hebrew terms that are translated in some contexts as *goods* or *property*, and at other times as *livestock* or *cattle*. These terms, and the relationship between the concepts PROPERTY, LIVESTOCK and CATTLE, are examined below. This time they are not in numeric order of occurrences but rather are arranged according to meaning, from the CATTLE side of the spectrum at the top to the PROPERTY side at the bottom.

בָּקָר	cattle	183	Gen 12:16; 13:5; 18:7(x2); 18:8; 20:14; 21:27; 24:35; 26:14; 32:8; 33:13; 34:28; 45:10; 46:32; 47:1; 47:17; 50:8; Exod 9:3; 10:9; 10:24; 12:32; 12:38; 20:24; 21:37; 29:1; 34:3; Lev 1:2;
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<sup>494</sup> See 3.4.3.7.

<sup>495</sup> See 3.4.3.11.

<sup>496</sup> E.g. DRA; GNV.

<sup>497</sup> Deut 33:17 and Ps 22:22.

<sup>498</sup> See 4.3.

<sup>499</sup> Isaacs 2000:181-182.

			<p>1:3; 1:5; 3:1; 4:3; 4:14; 9:2; 16:3; 22:19; 22:21; 23:18; 27:32; Num 7:3; 7:6; 7:7; 7:8; 7:15; 7:17; 7:21; 7:23; 7:27; 7:29; 7:33; 7:35; 7:39; 7:41; 7:45; 7:47; 7:51; 7:53; 7:57; 7:59; 7:63; 7:65; 7:69; 7:71; 7:75; 7:77; 7:81; 7:83; 7:87; 7:88; 8:8(x2); 11:22; 15:3; 15:8; 15:9; 15:24; 22:40; 28:11; 28:19; 28:27; 29:2; 29:8; 29:13; 29:17; 31:28; 31:30; 31:33; 31:38; 31:44; Deut 8:13; 12:6; 12:17; 12:21; 14:23; 14:26; 15:19; 16:2; 21:3; 32:14; Judg 3:31; 1 Sam 11:5; 11:7(x2); 14:32(x2); 15:9; 15:14; 15:15; 15:21; 16:2; 27:9; 30:20; 2 Sam 6:6; 12:2; 12:4; 17:29; 24:22(x2); 24:24; 1 Kgs 1:9; 5:3(x2); 7:25; 7:29(x2); 7:44; 8:5; 8:63; 19:20; 19:21(x2); 2 Kgs 5:26; 16:17; 1 Chr 12:41(x2); 13:9; 21:23; 27:29(x2); 2 Chr 4:3(x2); 4:4; 4:15; 5:6; 7:5; 13:9; 15:11; 18:2; 29:22; 29:32; 29:33; 31:6; 32:29; 35:7; 35:8; 35:9; 35:12; Neh 10:37; Job 1:3; 1:14; 40:15; 42:12; Ps 66:15; Eccl 2:7; Isa 7:21; 11:7; 22:13; 65:10; 65:25; Jer 3:24; 5:17; 31:12; 52:20; Ezek 4:15; 43:19; 43:23; 43:25; 45:18; 46:6; Hos 5:6; Joel 1:18; Amos 6:12; Jonah 3:7; Hab 3:17.</p> <p>In Num 7:87; 7:88, this word appears to be used as a generic term including cattle, sheep and (probably) goats. However it is also possible that it only refers to the cattle at the beginning of the list. Apart from this the word is a collective noun for domesticated <i>Bos taurus</i> and has no other meaning. The translation <i>herds</i> is misleading, suggesting a bovine equivalent of עֵדֶר (see 3.4.3.4) which it is not.</p>
אֵלֶּךְ	cattle	7	Deut 7:13; 28:4; 28:18; 28:51; Ps 8:8; Prov 14:4; Isa 30:24

			Apart from the homonym meaning <i>a thousand</i> , this word is an exact synonym of בָּקָר and is used in the same contexts.
בְּעִיר	livestock/ cattle	6	Gen 45:17; Exod 22:4(K/Q); Num 20:4; 20:8; 20:11; Ps 78:48.  Sometimes translated as <i>cattle</i> , sometimes as <i>beasts</i> or <i>livestock</i> . In all these texts it actually refers to livestock in general; the persistence of the translation <i>cattle</i> <sup>500</sup> points to the prototypicality of cattle in the LIVESTOCK category, in English as well as Hebrew. <sup>501</sup>
בְּהֵמָה	animal; livestock	190	Gen 1:24 (part of חַיָּה נֶפֶשׁ חַיָּה along with רֶמֶשׂ and חַיָּה. All of earth domain); 1:25 (vs חַיָּה and רֶמֶשׂ); 1:26 (vs fish, עוֹף and רֶמֶשׂ); 2:20 (definitely <i>livestock</i> ; vs עוֹף and wild animals); 3:14 (vs wild animals); 6:7 (vs man, רֶמֶשׂ and עוֹף); 6:20 (vs עוֹף and רֶמֶשׂ); 7:2(x2); 7:8(x2) (vs עוֹף and רֶמֶשׂ); 7:14 (vs חַיָּה, עוֹף and רֶמֶשׂ); 7:21 (vs עוֹף, חַיָּה, שָׂרֵץ and man, together making כָּל־בְּשָׂר׃); 7:23 (vs man, רֶמֶשׂ and עוֹף); 8:1 (vs חַיָּה); 8:17 (vs עוֹף and רֶמֶשׂ); 8:20 (vs עוֹף); 9:10 (vs עוֹף and חַיָּה of the earth, together making up חַיָּה of the earth (again) and כָּל־נֶפֶשׁ הַחַיָּה); 34:23 (with מִקְנֵה and קִנְיָן, <sup>502</sup> completing a list); 36:6 (with מִקְנֵה, completing); 47:18 (livestock); Exod 8:13 (vs man; <i>livestock</i> implied; the following up to 20:10 are the same); 8:14; 9:9; 9:10; 9:19; 9:22; 9:25; 11:5; 11:7; 12:12; 12:29; 13:2; 13:12; 13:15; 19:13; 20:10; 22:9 (livestock; including ox, ass and sheep); 22:18 (bestiality forbidden); Lev 1:2 (including בָּקָר and צִאֵן); 5:2

<sup>500</sup> E.g. Num 20:4 in the KJV; ESV; RSV; Ps 78:48 in the KJV; NIV; ESV.

<sup>501</sup> Cansdale 1970:56.

<sup>502</sup> *Property*; see 3.4.3.3.1.

		<p>(vs חַיָּה and שְׂרָץ); 7:21 (vs humans and inanimate objects); 7:25 (animals suitable for offerings); 7:26 (vs עוֹף); 11:2 (here, unusually, the category חַיָּה is within בְּהֵמָה); 11:3 (ungulates are among the בְּהֵמָה); 11:26; 11:39 (clean); 11:46 (vs עוֹף and רְמוֹשׁ and שְׂרָץ); 18:23(x2) (bestiality forbidden); 19:19 (livestock); 20:15(x2) (bestiality forbidden); 20:16(x2) (bestiality forbidden); 20:25(x2) (vs עוֹף and רְמוֹשׁ); 24:18 (livestock); 24:21 (livestock); 25:7 (vs חַיָּה); 26:22 (livestock); 27:9 (suitable for sacrifice); 27:10(x2) (suitable for sacrifice); 27:11(x2) (domestic but unclean); 27:26 (including ox, sheep); 27:27 (domestic but unclean); 27:28 (vs man and land); Num 3:13 (vs man); 3:41(x2) (livestock); 3:45(x2) (“); 8:17 (vs man); 18:15(x2) (vs man; clean and unclean); 31:9 (vs property and wealth); 31:11 (vs man); 31:26 (vs man); 31:30 (at the end of a list of animals to cover any not specifically mentioned); 31:47 (vs man); 32:26 (vs מִקְנֵיהָ, seemingly to include cattle<sup>503</sup> and also all other livestock); 35:3 (livestock); Deut 2:35 (livestock); 3:7 (livestock); 4:17 (on the earth, vs עֲפוֹר); 5:14 (after ox and ass to include all); 7:14 (livestock); 11:15 (livestock, as grazing); 13:16 (livestock); 14:4 (explicitly including ox, sheep, goat, fallow deer, gazelle, roe deer, oryx, addax, bubal hartebeest and mouflon, listed in 4-5); 14:6 (x2; including ungulates); 20:14 (livestock); 27:21 (bestiality forbidden); 28:4 (livestock); 28:11 (livestock); 28:26 (of the earth, as opposed to עוֹף of the air); 28:51 (livestock); 30:9 (livestock); 32:24 (dangerous wild animals with teeth); Josh 8:2</p>
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<sup>503</sup> See 3.4.3.3.1.

		<p>(livestock); 8:27 (livestock); 11:14 (livestock); 21:2 (livestock, as grazing); Judg 20:48 (livestock); 1 Sam 17:44 (of the שָׂדֵה, vs עֹרֵף); 1 Kgs 5:13 (vs עֹרֵף, רֶמֶשׂ and fish); 18:5 (including horses and mules); 2 Kgs 3:9 (livestock); 3:17 (vs מִקְנֵה); 2 Chr 32:28(x2) (livestock); Ezra 1:4 (livestock); 1:6 (livestock); Neh 2:12(x2) (specifically a beast to ride on); 2:14 (also riding); 9:37 (livestock); 10:37 (livestock); Job 12:7 (vs עֹרֵף); 18:3 (dumb animals vs man); 35:11 (of the earth; vs עֹרֵף of the sky); Ps 8:8 (of the שָׂדֵה, vs צֶאֱן and אֲלֵפִים. So, wild); 36:7 (vs man); 49:13 (vs man); 49:21 (vs man); 50:10 (wild; equated to חֵיהָ in a parallelism); 73:22 (as ignorant); 104:14 (vs man in a parallelism); 107:38 (livestock); 135:8 (vs man); 147:9 (wild); 148:10 (vs חֵיהָ, רֶמֶשׂ and צִפּוֹר); Prov 12:10 (livestock); 30:30 (lion); Eccl 3:18 (men are beasts); 3:19(x2) (vs men); 3:21 (vs men); Isa 18:6(x2) (of the earth; vs birds of prey); 30:6 (including lions, snakes, camels and donkeys); 46:1 (vs חֵיהָ); 63:14 (could be anything); Jer 7:20 (vs man); 7:33 (of the earth; vs עֹרֵף); 9:9 (vs עֹרֵף); 12:4 (vs עֹרֵף); 15:3 (of the earth; vs עֹרֵף); 16:4 (of the earth; vs עֹרֵף); 19:7 (of the earth; vs עֹרֵף; the last three are all about eating the dead, thus scavengers, not livestock); 21:6 (vs man); 27:5 (vs man); 31:27 (vs man); 32:43 (vs man); 33:10(x2) (vs man); 33:12 (vs man); 34:20 (of the earth; vs עֹרֵף); 36:29 (of the earth; vs עֹרֵף); 50:3 (of the earth; vs עֹרֵף); 51:62 (of the earth; vs עֹרֵף); Ezek 8:10 (vs רֶמֶשׂ); 14:13 (vs man); 14:17 (vs man); 14:19 (vs man); 14:21 (vs man); 25:13 (vs man); 29:8 (vs man); 29:11 (vs man); 32:13(x2) (livestock; vs man); 36:11 (vs man); 44:31 (vs עֹרֵף);</p>
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			<p>Joel 1:18 (including בְּקָרָה and צִאֵן); 1:20 (of שְׂדֵה; wild); 2:22 (of שְׂדֵה; wild); Jonah 3:7 (vs man); 3:8 (vs man); 4:11 (vs man); Mic 5:7 (of the forest; wild); Hab 2:17 (probably wild); Zeph 1:3 (vs man, עוֹף, fish); Hag 1:11 (vs man); Zech 2:8 (vs man); 8:10 (vs man); 14:15 (livestock; completes a list including horses, mules, camels and donkeys).</p> <p>This word specifically excludes humankind, as well as creatures of the air, the water and the surface of the earth. Only large terrestrial animals (down to the size of a rabbit or hyrax) are included in this category, and the most central members of the category are livestock: it is often used to contrast with wild animals but sometimes includes them. This means that LIVESTOCK is the prototype of ANIMAL quite separately from its function as the prototype of PROPERTY.</p>
מִקְנֵה	livestock/ property/ purchase	75	<p>Gen 4:20; 13:2; 13:7(x2); 17:12 (a purchase/acquisition, of a human slave); 17:13(a purchase/acquisition, of a human slave); 17:23; 17:27; 23:18 (property: a field); 26:14(x2) (in the construct form – מִקְנֵה of צִאֵן and מִקְנֵה of cattle); 29:7; 30:29; 31:9; 31:18(x2); 33:17 (booths for מִקְנֵה); 34:5 (in the field with his מִקְנֵה); 34:23; 36:6; 36:7; 46:6; 46:32; 46:34 (translated as <i>cattle</i>, but actually sheep in this context); 47:6; 47:16(x2); 47:17(x4) (of צִאֵן and of בְּקָרָה); 47:18 (מִקְנֵה of בְּהֵמָה); 49:32 (a field); Exod 9:3 (covering horses, donkeys, camels, צִאֵן and cattle); 9:4(x2); 9:6(x2); 9:7; 9:19; 9:20; 9:21; 10:26; 12:38; 12:44 (slave); 17:3; 34:19; Lev 25:16(x2) (meaning <i>price</i>); 25:51 (price/amount); 27:22 (of a field); Num</p>



		<p>20:19; 31:9; 32:1(x2); 32:4(x2); 32:16; 32:26; Deut 3:19(x2); Josh 1:14; 14:4; 22:8; Judg 6:5; 18:21; 1 Sam 23:5; 30:20; 2 Kgs 3:17; 1 Chron 5:9; 5:21 (appears to include humans); 7:21; 28:1; 2 Chron 14:15; 26:10; 32:29; Job 1:3 (appears to include human servants); 1:10; 36:33; Ps 78:48; Eccl 2:7; Isa 30:23; Jer 9:9 (appears to denote cattle in particular, referring to their sound); 32:11 (purchase); 32:12(x2) (purchase); 32:14 (purchase); 32:16 (purchase); 49:32; Ezek 38:12; 38:13.</p> <p>This word most often means <i>livestock</i> (when it is used in this sense it sometimes, unsettlingly to contemporary sensibilities, includes human servants – this recalls the fact that there is no category that includes all animals but excludes humans). It also has a secondary meaning of <i>a purchase</i>, either the thing that is bought or the price. This meaning of <i>purchase</i> explicitly includes slaves in some cases as well as land. Land is also intended in the sense of property in Gen 23:18, but it is still in the context of buying.</p> <p>Occurrences that are greyed out have not been included in the count because they do not refer to animals at all, but they are included here to show the full range of meanings of this word. As <i>livestock</i>, מִקְנֵה is enough of an animal word that the 75 occurrences that are not greyed out are included in Appendix A. This is not the case for any of the terms included from this point on.</p>
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קנין	property/ acquisition	<p>Gen 31:18*; 34:23*; 36:6*; Lev 22:11 (human); Josh 14:4*; Ps 104:24 (probably animals); 105:21 (simply property); Prov 4:7 (wisdom); Ezek 38:12*; 38:13*.</p> <p>Not included in the main table, this term is often used in parallel with, or contrasted against, מִקְנֵה. These occurrences are marked with an asterisk.</p>
רכוש	property/ goods	<p>Gen 12:5; 13:6*; 14:11; 14:12; 14:16(x2); 14:21; 15:14; 31:18†; 36:7*; 46:6†; Num 16:32; 35:3*; 1 Chr 27:31; 28:1; 2 Chr 20:25; 21:14*; 21:17; 31:3*; 32:29; 35:7*; Ezra 1:4†; 1:6†; 8:21*; 10:8; Dan 11:13; 11:24; 11:28.</p> <p>This word means <i>property</i> or <i>possessions</i>. It is not a word for animals except sometimes by implication, for example in Gen 36:7, 2 Chr 31:3 and Ezra 8:21. It is often contrasted with מִקְנֵה. In some cases this may imply that the word refers to animals, but in other cases it may refer to inanimate goods in contrast to מִקְנֵה. *=definitely animals. †=definitely not animals, in other words specifies wealth other than animals. nothing=unclear or refers to both animals and inanimate property. Not in main table.</p>

**Table 39: Cattle, livestock and property**

מִקְנֵה, then, definitely denotes LIVESTOCK, with a large number of instances with this meaning and only a few exceptions. קנין is the point at which, since a line must be drawn somewhere, I have drawn the line and said “this is no longer a word that names a category of animals”. Instead, it names a category of things defined as PROPERTY, of which animals, and cattle in particular, are indeed the prototype, but the borders of the category extend far enough into the

non-animal world that to include it in the master list of animal terms would be reaching too far. The property named does include livestock as well as human slaves, general possessions, and even metaphorical possessions such as wisdom in Proverbs 4:7. However the deciding factor for קנין is its constant use together with מְקִנָּה in lists that are practical in nature rather than poetic, a usage that suggests that the two words name two different categories of property that must both be listed in order for the inventory to be complete. Etymology does not help here, as both words are derived from קנה to *acquire*.<sup>504</sup>

רְכוּשׁ is simply goods or possessions; this often implies the inclusion of animals, but sometimes it is used to denote inanimate goods as contrasted to animals.

It can be safely asserted that livestock is the prototype of PROPERTY. Cansdale says that the idea of cattle as wealth, as is seen in Africa as well as the Middle East today, was already developing at an early stage in the region. He gives as evidence for this the large numbers of male animals mentioned in various texts such as 2 Chron 17:11: in a culture, such as the West today, where livestock is only valued for practical purposes and not as a measure of wealth, the ratios of males to females are a lot smaller as large numbers of males are slaughtered at an early age.<sup>505</sup> Exactly the same set of meanings is present in English. “Cattle itself comes from an Old English word *catel*, meaning property; because livestock were the most important possession of the ordinary person they were equated with property and thus acquired the name cattle. A variant, ‘chattels’, continued to mean material property but is now only a legal term. Heb. *miqneh* will be seen to have a similar meaning.”<sup>506</sup>

It is not at all certain, however, that cattle and cattle alone should be viewed in this way. The argument based on male/female ratios is valid for all livestock, not just for cattle. The above table shows that many of the Hebrew terms rendered as “cattle” in various English translations

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<sup>504</sup> Brown-Driver-Briggs 2000:888-889.

<sup>505</sup> Cansdale 1970:50-51.

<sup>506</sup> Cansdale 1970:56.

should more correctly be *livestock*. Is it possible that the placement of CATTLE at the centre of the category of LIVESTOCK owes more to its prototypicality in English than to any reality of the Hebrew language? צֹאן occurs 274 times in the Biblical texts, and בְּקָרָה only 183 times. This could argue for sheep and goats being more ideologically important to the ancient Hebrews than cattle were. On the other hand, though, sheep and goats were much more numerous than cattle – in a ratio of about 9 sheep and/or goats to one cow.<sup>507</sup> That means that the term צֹאן should really occur nine times as often as בְּקָרָה, and the fact that it does not may imply that the symbolic significance of cattle was indeed greater than that of sheep and goats. There is no real proof that would justify overturning the usual understanding of CATTLE being the prototype of LIVESTOCK as LIVESTOCK is indubitably the prototype of PROPERTY, but merely a note of caution: it is not as certain as the English translations would make it appear.

#### 3.4.3.4. Sheep and goats

עֵדָר	flock/herd	38	Gen 29:2 (x2); 29:3; 29:8; 30:40; 32:17 (x4); 32:20; Judg 5:16; 1 Sam 17:34; 2 Chron 32:28; Job 24:2; Ps 78:52; Prov 27:23 (in parallel with צֹאן); Song 1:7; 4:1 (of goats); 4:2; 6:5 (of goats); 6:6 (of ewes); Isa 17:2 (badlands); 32:14 (badlands); 40:11; Jer 6:3; 13:17; 13:20 (with צֹאן); 31:10; 31:24; 51:23; Ezek 34:12; Joel 1:18 (x2) (of cattle; of צֹאן); Mic 2:12 (parallel with צֹאן); 5:7 (of צֹאן); Zeph 2:14 (badlands); Zech 10:3; Mal 1:14 <sup>508</sup>  For more information about the instances marked “badlands”, see 4.2.1.
צֹאן	sheep / goats coll.	274	Gen 4:2; 4:4; 12:16; 13:5; 20:14; 21:27; 21:28; 24:35; 26:14; 27:9; 29:2; 29:3; 29:6; 29:7; 29:8; 29:9; 29:10 (x2); 30:31; 30:32; 30:36; 30:38(x2); 30:39(x2); 30:40(x3); 30:41(x2); 30:42; 30:43; 31:4;

<sup>507</sup> Houston 1993:134.

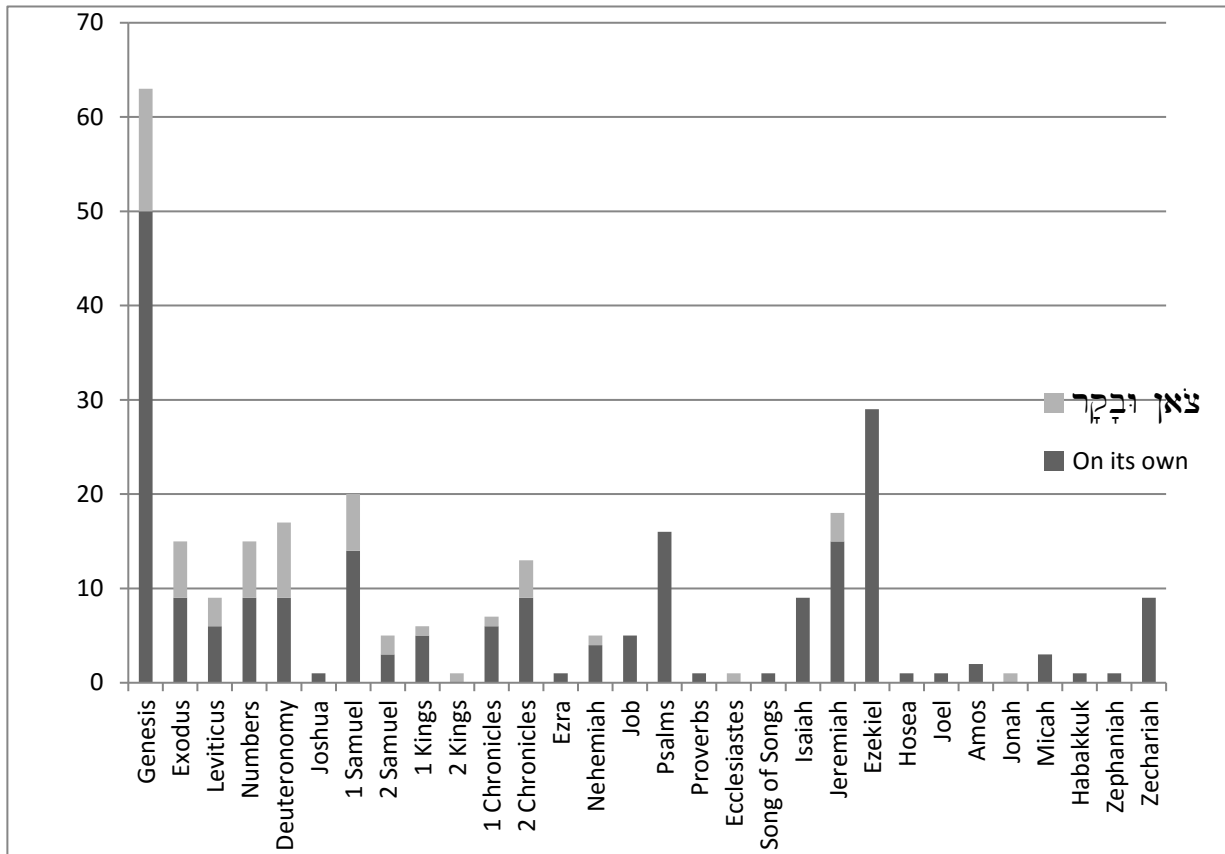
<sup>508</sup> Excluding a number of homonyms.

		<p>31:8(x2); 31:10(x2); 31:12; 31:19; 31:38; 31:41; 31:43(x2); 32:6; 32:8; 33:13(x2); 34:28; 37:2; 37:12; 37:14; 38:12; 38:13; 38:17; 45:10; 46:32(x2); 46:34; 47:1; 47:3; 47:4; 47:17; 50:8; Exod 2:16; 2:17; 2:19; 3:1(x2); 9:3; 10:9; 10:24; 12:21; 12:32; 12:38; 20:24; 21:37; 22:29; 34:3; Lev 1:2; 1:10; 3:6; 5:6; 5:15; 5:18; 5:25; 22:21; 27:32; Num 11:22; 15:3; 22:40; 27:17; 31:28; 31:30; 31:32; 31:36; 31:37; 31:43; 32:16; 32:36; Deut 7:13; 8:13; 12:6; 12:17; 12:21; 14:23; 14:26; 15:14; 15:19(x2); 16:2; 18:4; 28:4; 28:18; 28:31; 28:51; 32:14; Josh 7:24; 1 Sam 8:17; 14:32; 15:9; 15:14; 15:15; 15:21; 16:11; 16:19; 17:15; 17:20; 17:28; 17:34; 24:4; 25:2(x2); 25:4; 25:16; 25:18; 27:9; 30:20; 2 Sam 7:8; 12:2; 12:4; 17:29; 24:17; 1 Kgs 1:9; 1:19; 1:25; 5:3; 8:63; 22:17; 2 Kgs 5:26; 1 Chr 4:39; 4:41; 5:21; 12:41; 17:7; 21:17; 27:31; 2 Chr 5:6; 7:5; 14:14; 15:11; 17:11; 18:2; 18:16; 29:33; 30:24(x2); 31:6; 32:29; 35:7; Ezra 10:19; Neh 3:1; 3:32; 5:18; 10:37; 12:39; Job 1:3; 1:16; 21:11; 30:1; 42:12; Ps 44:12; 44:23; 49:15; 65:14; 74:1; 77:21; 78:52; 78:70; 79:13; 80:2; 95:7; 100:3; 107:41; 114:4; 114:6; 144:13; Prov 27:23; Eccl 2:7; Song 1:8; Isa 7:21; 13:14; 22:13; 53:6; 60:7; 61:5; 63:11; 65:10; Jer 3:24; 5:17; 12:3; 13:20; 23:1; 23:2; 23:3; 25:34; 25:35; 25:36; 31:12; 33:12; 33:13; 49:20; 49:29; 50:6; 50:8; 50:45; Ezek 24:5; 25:5; 34:2; 34:3; 34:6(x2); 34:8(x4); 34:10(x3); 34:11; 34:12(x2); 34:15; 34:17; 34:19; 34:22; 34:31(x2); 36:37; 36:38(x3); 43:23; 43:25; 45:15; Hos 5:6; Joel 1:18; Amos 6:4; 7:15; Jonah 3:7; Mic 2:12; 5:7; 7:14; Hab 3:17; Zeph 2:6; Zech 9:16; 10:2; 11:4; 11:7(x3); 11:11; 11:17; 13:7</p>
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**Table 40: Sheep and goats**

צֹאן is the name of a category of animal, with sheep as its prototype, almost always including goats. Leviticus 1:10 and 5:6 are examples that show that goats as well as sheep are included in the term. 1 Sam 25:2, however, oddly appears to exclude goats from צֹאן. עֵדֶר, on the other hand, is the term for a group of animals, usually a group of צֹאן. Sometimes the עֵדֶר stands metaphorically for the צֹאן and is used in the same contexts צֹאן would be or in parallel with it; other times it is used in the construct state with צֹאן, the whole construction meaning “a flock of sheep/goats.” For example, in Micah 5:7 and Genesis 29:2 the construction עֵדֶר־צֹאן is used, with the word עֵדֶר meaning *flock*, and צֹאן its members: sheep or goats. The common translation of צֹאן as “flocks” is misleading, as this term is not a collective noun for a group of animals, but rather the designation of a type of animal. In Ezekiel 36:38 the metaphorical construction “צֹאן of men” is used, which makes sense when this word is incorrectly translated as “flocks”, but it is only a little more difficult when it is correctly interpreted as *sheep/goats*, as people are compared to these animals commonly in various texts (for example Psalm 23).

There is a common idiom where צֹאן is often used together with בָּקָר. Usually this construction is translated into English as *flocks and herds*. This is probably the most convenient translation even though as we have seen it is not really accurate: it should be *sheep/goats and cattle*, but the lack of a euphonious English word for *sheep/goats* makes this unrealistic. The table below shows how many of the instances of צֹאן show this construction. Most often צֹאן is written first in the construction but בָּקָר comes first in a significant minority of cases. These, along with instances where other words such as הָ and אֶת separate the terms, are still counted here.



**Figure 3: Texts where צאן ובקר is used in close association with בקר**

The skeletal remains of sheep and goats are often, and notoriously, indistinguishable from each other. “Goats and sheep are members of the family Bovidae in the subfamily Caprinae. They are sometimes called small bovids or caprines or combined into that interesting zooarchaeological creation: the ‘sheep/goat.’”<sup>509</sup> Zooarchaeologists would probably have an easier time if they added the word צאן to their vocabulary, and in the meantime *sheep/goat* is a good enough translation for the term.

אֵיל	ram	156	Gen 15:9; 22:13 (x2); 31:38; 32:15; Exod 25:5; 26:14; 29:1; 29:3; 29:15 (x2); 29:16; 29:17; 29:18; 29:19 (x2); 29:20; 29:22 (x2); 29:26; 29:27; 29:31; 29:32; 35:7; 35:23; 36:19; 39:34; Lev 5:15; 5:16; 5:18; 5:25; 8:2; 8:18 (x2); 8:20; 8:21; 8:22 (x3); 8:29; 9:2; 9:4; 9:18; 9:19; 16:3; 16:5; 19:21; 19:22;
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<sup>509</sup> Reitz & Wing 2008:166

			23:18; Num 5:8; 6:14; 6:17; 6:19; 7:15; 7:17; 7:21; 7:23; 7:27; 7:29; 7:33; 7:35; 7:39; 7:41; 7:45; 7:47; 7:51; 7:53; 7:57; 7:59; 7:63; 7:65; 7:69; 7:71; 7:75; 7:77; 7:81; 7:83; 7:87; 7:88; 15:6; 15:11; 23:1; 23:2; 23:4; 23:14; 23:29; 23:30; 28:11; 28:12; 28:14; 28:19; 28:20; 28:27; 28:28; 29:2; 29:3; 29:8; 29:9; 29:13; 29:14 (x2); 29:17; 29:18; 29:20; 29:21; 29:23; 29:24; 29:26; 29:27; 29:29; 29:30; 29:32; 29:33; 29:36; 29:37; Deut 32:14; 1 Sam 15:22; 2 Kgs 3:4; 1 Chr 15:26; 29:21; 2 Chr 13:9; 17:11; 29:21; 29:22; 29:32; Ezra 8:35; 10:19; Job 42:8; Ps 66:15; 114:4; 114:6; Isa 1:11; 34:6; 60:7; Jer 51:40; Ezek 17:21; 34:17; 39:18; 43:23; 43:25; 45:23; 45:24; 46:4; 46:5; 46:6; 46:7; 46:11; Dan 8:3; 8:4; 8:6; 8:7 (x4); 8:20; Mic 6:7 510
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**Table 41: אֵיל ram**

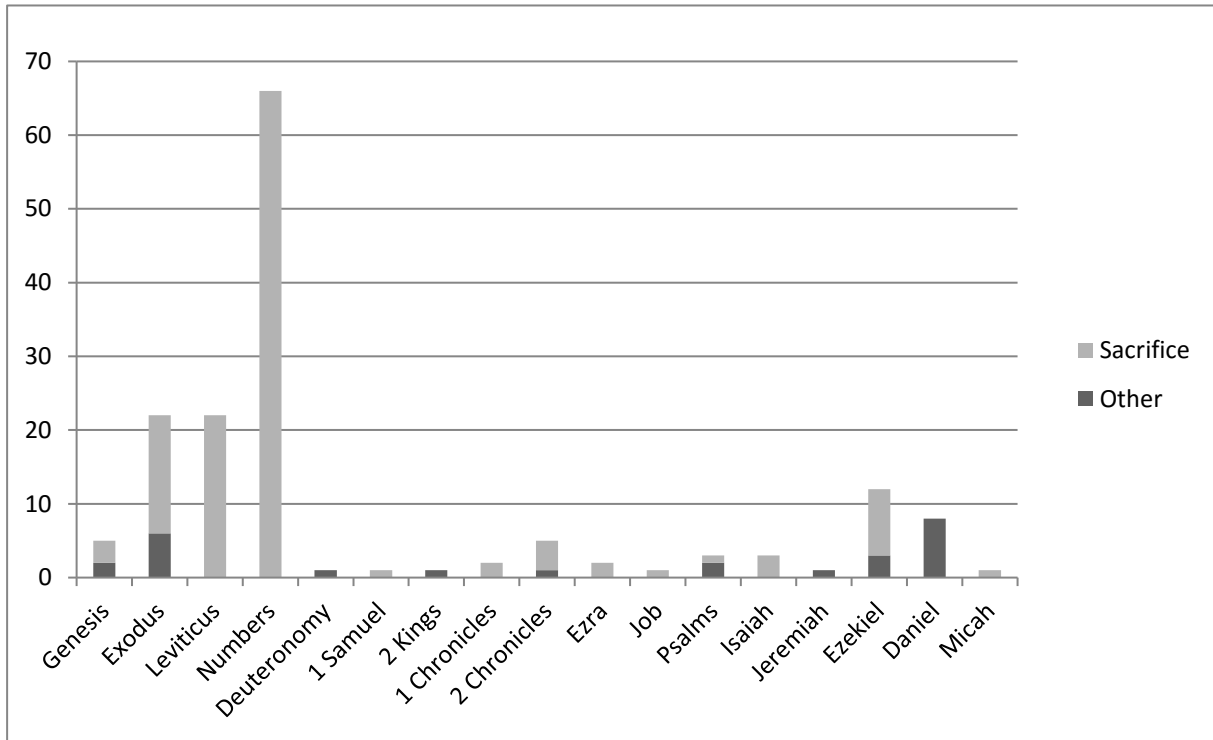
אֵיל refers to the adult male of the domestic sheep. There is a metaphorical (or prototypical, if we consider אֵיל to be derived from the verb אָוַל *to lead*)<sup>510</sup> use of the word in five instances where it has the meaning of *a leader or a strong or great man*. These are excluded from the word count and verse list along with the other homonyms.

The overwhelming majority of instances of אֵיל are in the context of sacrifice. The graph below illustrates the instances of the word in the context of sacrifice versus all other contexts:

<sup>510</sup> Excluding all uses of the word where trees or architectural features are intended.

<sup>511</sup> Brown-Driver-Briggs 2000:17.





**Figure 4: The contexts in which איל is found**

אֵיל	sheep / goat	/ 47	Gen 22:7; 22:8; 30:32 (x2); Exod 12:3 (x2); 12:4 (x2); 12:5; 13:13; 21:37 (x2); 22:3; 22:8; 22:9; 34:19; 34:20; Lev 5:7; 12:8; 22:23; 22:28; 27:26; Num 15:11; Deut 14:4(x2); 17:1; 18:3; 22:1; Josh 6:21; Judg 6:4; 1 Sam 14:34; 15:3; 17:34; 22:19; Ps 119:176; Isa 7:25; 43:23; 53:7; 66:3; Jer 50:17; Ezek 34:17 (x2); 34:20 (x2); 34:22 (x2); 45:15
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**Table 42: אֵיל sheep / goat**

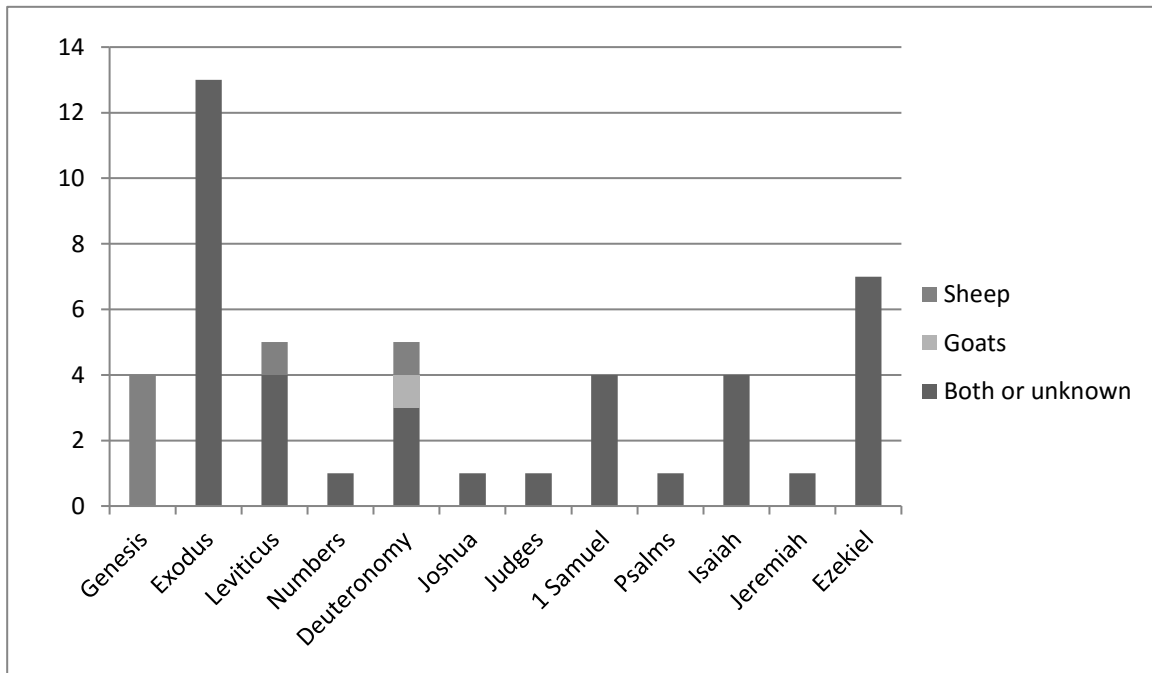
אֵיל is almost always translated *sheep*, and sometimes as *lamb*.<sup>512</sup> However, neither of these translations is really ideal for two reasons: one, the word does not refer only to young or baby animals, and two, it does not refer only to sheep. The texts in which it occurs do not support the interpretation that a אֵיל has to be particularly young in age: in Exodus 12:5 a אֵיל of one year is specified; in Leviticus 22:28 the אֵיל has offspring of its own, and the following verse does not imply young animals at all:

<sup>512</sup> E.g. Gen 22:7 in the KJV.

זאת הבהמה אשר תאכלו שור שה כשבים ושה עזים:	<i>Deut</i>  14:4	These are the animals that you shall eat:  Cattle, sheep, and goats
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**Table 43: Deuteronomy 14:4**

Apart from this, there is no reason to think that the word refers specifically to sheep rather than goats. There are a number of verses where *שֶׁה* explicitly includes both sheep and goats. In Deuteronomy 14:4, *שֶׁה* of the *כְּשָׁבִים* (sheep) are contrasted with *שֶׁה* of the *עֲזִים* (goats). *עֵז* is a common term for goats in general, used in this way with a number of terms in the construct state to specify them as being goats rather than sheep. The main difference from *צֹאן* appears to be that *צֹאן* is always collective and cannot refer to an individual, while *שֶׁה* can be either a plural collective or a singular with the same form. In Exodus 21:37 *בְּקָר* is used as the plural of *שֹׂר*, and *צֹאן* as the plural of *שֶׁה*. There are several other verses, Exodus 22:3, 8 and 9, and 34:19, that show that *שֶׁה* may be considered the ovine/caprine equivalent of *שֹׂר*. The texts in which this word is explicitly used to denote either sheep or goats versus the texts in which it is unspecified are represented in the table below:



**Figure 5: Where *שֶׁה* refers to sheep, goats or both**

It is quite difficult to determine in which column certain instances should be recorded. The following guidelines have been used in this table: if another, more specific word is used nearby to classify the same animal (such as the אֵיל in Genesis 8), that instance of שֶׁה is considered to refer to that animal. If no cues are given in the surrounding verses (or of course it is specified as referring to either), it gets marked in the *both / unknown* column. However if the word is used specifically for one and then repeated specifically for the other, that goes under *sheep* and *goats* rather than *both*. Deuteronomy 14:4, for instance, gets one entry under *sheep* and one under *goats*. A large number of the instances that have been found here to be unspecified are translated as *sheep* or *lamb* in nearly all versions. NLT is the only exception: in Exodus 34:20 this translation carefully specifies “lamb or young goat”, but in the rest of the relevant passages all the consulted translations use *lamb* or *sheep*. None of these translations is supported: שֶׁה should really mean *sheep/goat* without any further narrowing of meaning. Meshel is adamant on this point: “it is clear by now that the term שֶׁה denotes any ovine or caprine... regardless of age or sex, despite the ancient tradition of translation in which שֶׁה denotes an immature sheep or goat”.<sup>513</sup>

טֶלֶה	lamb	3	1 Sam 7:9; Isa 40:11; 65:25
כֶּרִי	young ram	10	Deut 32:14; 1 Sam 15:9; 2 Kgs 3:4; Ps 37:20 (disputed: lambs or pastures); Isa 16:1; 34:6; Jer 51:40; Ezek 27:21; 39:18; Amos 6:4 <sup>514</sup>  Sometimes translated as <i>lamb</i> , <sup>515</sup> but there is no real indication that it refers to a particularly young animal. The only certainty is that it is distinguished from an אֵיל. It is possible that the word refers to a castrated male sheep; however it is unknown whether castration of male animals

<sup>513</sup> Meshel 2015:28.

<sup>514</sup> Excluding where it means *pasture*, *camel's saddlebag*, or *battering-ram*.

<sup>515</sup> E.g. Deut 32:14 in the KJV; NIV; ESV etc.



			was practiced at all in ancient Israel (see 3.4.3.3.) Where this word is used for sheep, עֵתוּד rather than another of the words for <i>goat</i> is usually used alongside it.
דָּכַר	ram, Aram.	3	Ezra 6:9; 6:17; 7:17
גִּזְחַ	fatling	2	Ps 66:15; Isa 5:17 (disputed: fat lambs or rich people)
כֶּבֶשׂ	male lamb / young ram	107	Exod 12:5 (particularly a sheep as opposed to a goat, both fall under category of שֶׂה); 29:38; 29:39(x2); 29:40; 29:41; Lev 4:32; 9:3; 12:6; 14:10; 14:12; 14:13; 14:21; 14:24; 14:25; 23:12; 23:18; 23:19; 23:20; Num 6:12; 6:14; 7:15; 7:17; 7:21; 7:23; 7:27; 7:29; 7:33; 7:35; 7:39; 7:41; 7:45; 7:47; 7:51; 7:53; 7:57; 7:59; 7:63; 7:65; 7:69; 7:71; 7:75; 7:77; 7:81; 7:83; 7:87; 7:88; 15:5; 15:11; 28:3; 28:4(x2); 28:7; 28:8; 28:9; 28:11; 28:13; 28:14; 28:19; 28:21(x2); 28:27; 28:29(x2); 29:2; 29:4(x2); 29:8; 29:10(x2); 29:13; 29:15; 29:17; 29:18; 29:20; 29:21; 29:23; 29:24; 29:26; 29:27; 29:29; 29:30; 29:32; 29:33; 29:36; 29:37; 1 Chr 29:21; 2 Chr 29:21; 29:22; 29:32; 35:7; Ezra 8:35; Job 31:20 (providing fleece); Prov 27:26 (providing clothing); Isa 1:11; 5:17 (desolation); 11:6; Jer 11:19; Ezek 46:4; 46:5; 46:6; 46:7; 46:11; 46:13; 46:15; Hos 4:16  Nearly all these specify the animal as being a year old, and in the context of a sacrifice.
כֶּבֶשֶׂה	female lamb	8	Gen 21:28; 21:29; 21:30; Lev 14:10 (1 year old); Num 6:14; 2 Sam 12:3; 12:4; 12:6



כֶּשֶׁב	sheep, generic	13	Gen 30:32; 30:33; 30:35; 30:40; Lev 1:10; 3:7; 4:35; 7:23; 17:3; 22:19; 22:27 (newborn); Num 18:17; Deut 14:4  According to Cansdale this is a transposition of כֶּבֶשׂ. <sup>516</sup> Judging from the relative frequency of the terms, this appears to be correct. Meshel says that despite the word being formed by metathesis it has a separate meaning in the Priestly texts: a generic term for a sheep of any age or sex. <sup>517</sup> This is borne out by the contexts in which it is used.
כֶּשְׂבָה	female lamb or sheep	1	Lev 5:6
רְחֵל	ewe	5	Gen 29:6; 31:38; 32:15; Song 6:6; Isa 53:7 <sup>518</sup>
אֶמֶר	lamb, Aram.	3	Ezra 6:9; 6:17; 7:17
עֲשֵׂתָרֹת	young; increase (also Ashtaroth)	4	Deut 7:13; 28:4; 28:18; 28:51 (all for offspring of צֵאן, all in parallel to אֱלֹהֵי / שִׁגְרֵי). <sup>519</sup>
עֲתוּד	male goat	29	Gen 31:10; 31:12; Num 7:17 (in a list alongside אֵילִם; thus referring to goats as opposed to rams. Many of the following instances are in the same context); 7:23; 7:29; 7:35; 7:41; 7:47; 7:53; 7:59; 7:65; 7:71; 7:77; 7:83; 7:88; Deut 32:14; Ps 50:9; 50:13; 66:15; Prov 27:26; Isa 1:11; Isa 14:9

<sup>516</sup> Cansdale 1970:54.

<sup>517</sup> Meshel 2015:30-31.

<sup>518</sup> Excluding the personal name Rachel.

<sup>519</sup> Excluding the use of the word for the deity Ashtaroth.

			(metaphorical, meaning kings); 34:6; Jer 50:8; 51:40; Ezek 27:21; 34:17; 39:18; Zech 10:3 (metaphor for leaders) <sup>520</sup>
עז	goat, female or general term	75	Gen 15:9; 27:9; 27:16; 30:32; 30:33; 30:35; 31:38; 32:15; 37:31; 38:17; 38:20; Exod 12:5; 25:4; 26:7; 35:6; 35:23; 35:26; 36:14; Lev 1:10; 3:12; 4:23 (שְׂעִיר עֵזִים, thus the feminine denotes goats in general); 4:28; 5:6; 7:23; 9:3; 16:5; 17:3; 22:19; 22:27; 23:19; Num 7:16; 7:22; 7:28; 7:34; 7:40; 7:46; 7:52; 7:58; 7:64; 7:70; 7:76; 7:82; 7:87; 15:11; 15:24; 15:27 (a year old); 18:17; 28:15; 28:30; 29:5; 29:11; 29:16; 29:19; 29:25; 31:20; Deut 14:4; Judg 6:19; 13:15; 13:19; 15:1; 1 Sam 16:20; 19:13; 19:16; 25:2 (in this verse it is, oddly, placed in opposition to צֹאן which appears to refer only to sheep in this one context); 1 Kgs 20:27; 2 Chr 29:21; 35:7; עֵזִין in Ezra 6:17 (Aramaic); Prov 27:27; Song 4:1(habitat: slopes of Gilead); 6:5(slopes of Gilead); Ezek 43:22; 45:23; Dan 8:5; 8:8
שְׂעִיר	male goat, literally <i>hair</i> <sup>521</sup>	57	Gen 37:31; Lev 4:23; 4:24; 9:3; 9:15; 10:16; 16:5; 16:7; 16:8; 16:9; 16:10; 16:15; 16:18; 16:20; 16:21(x2); 16:22(x2); 16:26; 16:27; 17:7 (possibly demons); 23:19; Num 7:16; 7:22; 7:28; 7:34; 7:40; 7:46; 7:52; 7:58; 7:64; 7:70; 7:76; 7:82; 7:87; 15:24; 28:15; 28:22; 28:30; 29:5; 29:11; 29:16; 29:19; 29:22; 29:25; 29:28; 29:31; 29:34; 29:38; 2 Chr 11:15 (possibly demons); 29:23; Isa 13:21 (possibly demons); 34:14 (possibly demons); Ezek 43:22; 43:25; 45:23; Dan 8:21 <sup>522</sup>

<sup>520</sup> Excluding homonym meaning *ready* or *supplies*.

<sup>521</sup> May sometimes refer to hairy or goat-like demons in certain texts.

<sup>522</sup> Excluding the personal and geographical name *Seir* and a single occurrence meaning *rain*.



שְׂעִירָה	female goat	2	Lev 4:28; 5:6 <sup>523</sup>
תֵּישׁ	male goat	4	Gen 30:35; 32:15; 2 Chr 17:11; Prov 30:31
גִּדִּי	kid	16	Gen 27:9; 27:16; 38:17; 38:20; 38:23*; Exod 23:19*; 34:26*; Deut 14:21*; Judg 6:19; 13:15; 13:19; 14:6*; 15:1; 1 Sam 10:3*; 16:20; Isa 11:6 <sup>524</sup>  Always in the construct state with עֲזִים unless marked with an asterisk.
גִּדְיָה	female kid	1	Song 1:8
חֲשֵׁף	small flock <sup>525</sup>	1	1 Kgs 20:27 (construct state with עֲזִים)
צִפִּיר	male goat	6	2 Chr 29:21 (construct state with עֲזִים); Ezra 8:35; Dan 8:5(x2) (construct state with עֲזִים); 8:8 (construct state with עֲזִים); 8:21
צִפִּיר	male goat, Aram.	1	Ezra 6:17

**Table 44: Other words for sheep and goats**

With some animals, for example צִבִּי below, the masculine form is the default and the feminine is used only in specific circumstances. In the case of goats, however, the feminine עֵז is the usual term, and male goats, young goats and so on are described by more specific terms used in the construct state with עֵז. Meshel says that עֵז has a double meaning, where it usually means a goat of any age or sex, and less commonly, and only in non-Priestly texts, specifically a mature female goat.<sup>526</sup>

<sup>523</sup> Excluding geographic name.

<sup>524</sup> Excluding personal name Gadi and ethnonym meaning Gadites. Some sources (e.g. NLT) suggest that it should be substituted for גִּדִּים in Isaiah 5:17.

<sup>525</sup> Or possibly *premature kid*.

<sup>526</sup> Meshel 2015:35-36.

### 3.4.3.5. Wild ruminants

Members of this category are extremely problematic when it comes to trying to determine which species a word is referring to. The following are the non-domesticated members of the category:<sup>527</sup>

אֵיל	stag; deer	11	Deut 12:15; 12:22; 14:5; 15:22; 1 Kgs 5:3; Ps 42:2; Song 2:9; 2:17; 8:14; Isa 35:6; Lam 1:6 <sup>528</sup>
אֵילָה	doe; deer	11	Gen 49:21; 2 Sam 22:34; Job 39:1; Ps 18:34; 22:1; 29:9; Prov 5:19; Song 2:7; 3:5; Jer 14:5; Hab 3:19 <sup>529</sup>
צְבִי	gazelle	12	Deut 12:15 (also Aram. in TAR); 12:22; 14:5; 15:22; (may be eaten freely) 2 Sam 2:18 (of the field); 1 Kgs 5:3 (eaten); 1 Chr 12:9 (on the mountains); Prov 6:5 (hunted); Song 2:9; 2:17 (with mountains); 8:14 (mountains); Isa 13:14 (hunted) <sup>530</sup>
צְבִיָּה	female gazelle	4	Song 2:7; 3:5; 4:5; 7:4 <sup>531</sup>
יַעַל	ibex	3	1 Sam 24:3; Job 39:1; Ps 104:18 <sup>532</sup>
יַעַלָּה	female ibex	1	Prov 5:19
יַחְמוּר	roe deer	2	Deut 14:5; 1 Kgs 5:3
אֶקוּ	oryx	1	Deut 14:5

<sup>527</sup> With the exceptions of רְאָם, which falls under cattle, and שְׂעִיר which is dealt with under sheep and goats.

<sup>528</sup> Some translations read אֵיל for אֵילָה (fool) in Prov 7:22. This is a difficult verse. (Forti 2008:47).

<sup>529</sup> The instance in Ps 29:9 is sometimes translated *oaks*.

<sup>530</sup> Excluding occurrences of the sense of the word that means *beauty; honour; glory*, as none of the instances seem to shed light on the *gazelle* sense (except perhaps to say that the gazelle was considered particularly beautiful).

<sup>531</sup> Excluding personal name

<sup>532</sup> Excluding the use of the word as a personal name (Jael).





דִּישׁוֹן	addax	1	Deut 14:5 <sup>533</sup>
תֵּאוּ	hartebeest	2	Deut 14:5; Isa 51:20  Brown-Driver-Briggs says this word possibly means a type of oryx, BDB 2000:1060). Isaacs identifies it as a buffalo. <sup>534</sup>
זֶמְרָן	mouflon	1	Deut 14:5  Isaacs considers it to be an oryx. <sup>535</sup>
עֵפָר	fawn	5	Song 2:9; 2:17; 4:5(twins of a צִבְיָה); 7:4; 8:14 (an עֵפָר of the אֵילִים)  Thus it can refer to the young of various wild ruminants.

**Table 45: Wild ruminants**

Houston says of Deuteronomy 14:4-5: “This lists the obvious domestic kinds, and follows with seven wild animals.”<sup>536</sup> He considers these ten folk species to comprise all the ruminants known to the ancient Hebrews.<sup>537</sup> This cannot be completely true, as the רֵאִים, a ruminant related to cattle, and יַעֲלִי, almost certainly an ibex, also do not feature on this list.

זֹאת הַבְּהֵמָה אֲשֶׁר תֹּאכְלוּ: שׁוֹר שֶׁה כְּשָׂבִים וְשֵׂה עִזִּים:	Deut 14:4	These are the animals that you shall eat:  Cattle, sheep, and goats;
אֵיל וְצִבִּי וְיַחְמוֹר וְאֶקָּו וְדִישׁוֹן וְתֵאוּ וְזֶמְרָן:	Deut 14:5	fallow deer and gazelle and roe deer and oryx and addax and hartebeest and mouflon.

**Table 46: Deuteronomy 14:4-5**

<sup>533</sup> Excluding 7 instances of the word as a personal name.

<sup>534</sup> Isaacs 2000:47.

<sup>535</sup> Isaacs 2000:50.

<sup>536</sup> Houston 1993:61.

<sup>537</sup> Houston 1993:61.

In order to determine the meaning of each of the Hebrew terms for wild ruminants, examining which species live in the Near East is not enough – we need to find out which species used to live in the Near East thousands of years ago, when much of the land was less arid than it is today and the predations of humankind had not yet driven many species out. Certainly there were larger wooded areas then than there are today.<sup>538</sup> Biggam says, with reference to plants and colours: “The discipline of palaeobotany, for example, may eliminate a particular fruit as the likely prototype of a colour category because the plant could not have grown in the area where the prehistoric language was spoken.”<sup>539</sup>

The word *deer* tends to be used widely in translations and commentaries to mean almost any wild ruminant.<sup>540</sup> Even Forti, talking about the צִבִּי, uses *deer* interchangeably and synonymously with *gazelle* (the biologically correct English term).<sup>541</sup> However, the gazelle is actually a species of antelope, and calling it a deer is misleading. It is very easy for the average inhabitant of Europe or North America to accept the translation *deer* for any number of these terms, as most if not all of the wild even-toed ungulates they will encounter or think about encountering will be deer. In other words their prototype for this category is a deer. However, from a South African perspective this is not quite so obvious. Deer have antlers, branching structures consisting of bone and shed annually. Antelope, on the other hand, are very similar artiodactyls that instead have horns: non-branching structures that are made of keratin and are permanently attached to the skull of the animal: they are never shed throughout its lifetime. This group is more closely related to sheep, goats and cattle than deer are. Because deer are not naturally found in southern Africa, our prototypes do not feature them as prominently and we are more likely to think “but *are* all those animal words actually referring to deer? Or is it more likely that many of the words denote various species of antelope?”

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<sup>538</sup> Forti 2008:41.

<sup>539</sup> Biggam 2012:169.

<sup>540</sup> For example, the KJV lists 4 of the 7 species in Deut 14:5 as kinds of deer.

<sup>541</sup> Forti 2008:41.

Certainly deer and antelope belong in the same folk category: the similarities in general size and appearance, face shape and behaviour override the biological differences that divide them. However, for the purposes of translation it must be considered that many words traditionally understood as referring to deer of various kinds may actually denote species of antelope.

Starting with the word most likely to refer to a genuine deer, let us examine אֵילִם. The King James Version translates it as *hart*.<sup>542</sup> Houston, generally conservative with translations, renders it as (*fallow*) *deer* in his translation of Deut 14:5.<sup>543</sup> Later on he examines several other sources and suggests that it may cover both the red and fallow deer, but he still considers the fallow deer to be the core referent.<sup>544</sup> This deer, *Dama mesopotamica* or *Dama dama mesopotamica* (and *not* the nominate subspecies *Dama dama*, which never occurred in the region)<sup>545</sup> is along with the gazelle the most abundant wild food animal in the archaeological record.<sup>546</sup> The remains of fallow deer have actually been found at Ebal, thought to be an Israelite site, where they were used in sacrificial rites.<sup>547</sup> The red deer *Cervus elaphus* was rarer,<sup>548</sup> but did occur in the region although it does not do so currently.<sup>549</sup>

A number of Indo-European languages have terms for certain deer or antelope that descend from a Proto-Indo-European root *\*h<sub>1</sub>elw-* meaning white or a yellowish or reddish brown.<sup>550</sup> Does Hebrew, as a member of a completely different language group, have any similar or

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<sup>542</sup> See the discussion on deer gender below.

<sup>543</sup> Houston 1993:57.

<sup>544</sup> Houston 1993:61.

<sup>545</sup> Werner, Rabiei, Saltz, Daujat & Baker 2015:1.

<sup>546</sup> Houston 1993:61-70.

<sup>547</sup> Houston 1993:149.

<sup>548</sup> Houston 1993:62.

<sup>549</sup> Lovari, Herrero, Conroy, Maran, Giannatos, Stübbe, Aulagnier, Jdeidi, Masseti, Nader, de Smet & Cuzin, 2008b:1; Cansdale 1970:26.

<sup>550</sup> Biggam 2012:189.

parallel etymological histories for antelope or deer names? Yes, in the case of יְחִמּוֹר<sup>551</sup> which along with חִמּוֹר male donkey derives from the verb root חִמַּר to be red or reddish brown.<sup>552</sup>

אֵיל however is not related to any colour-terms; it almost certainly comes from the same root אָל to lead that is the source of אֵיל ram.<sup>553</sup> This means that אֵיל presumably originally meant stag rather simply deer. The variations and difficulties related to gender in deer is also addressed by Biggam in her discussion on the use of the PIE root \*h<sub>1</sub>elu-:

The reader will see from this study of PIE<sup>554</sup> \*h<sub>1</sub>elu- that there are multiple problems which a thorough study of this word-root would need to address. Firstly, for the non-German speaker, there is an initial problem in interpreting Pokorny's<sup>555</sup> German definitions of PIE word-roots and descendant cognates. A brief translating dictionary can be too generic when dealing with plant- or animal-names, and a larger dictionary can offer alternatives which may be misleading. Thus Ger. *Hirsch* can, according to my dictionary, be interpreted as 'stag, hart; (red) deer'. A *hart* is 'an adult male deer, especially a red deer over five years old'; and a *stag* is 'a fully adult male deer'. Did Pokorny intend to imply that the cognates refer specifically to male deer, and/or red deer, or is this a German to English translation problem? If this were a thorough piece of research, it would be necessary to probe more deeply. The *crucial* questions, of course, are not concerned with the best English interpretation of Ger. *Hirsch*, but with the meanings of colour terms in the original sources, the opinions of experts in particular languages, the definitions appearing in the best contemporary dictionaries, and the arguments presented in research publications.

Another obvious problem with this type of research is that it involves plants and animals, and it is assumed that few semanticists are also qualified botanists and zoologists. The researcher needs to consult reference works in these subjects, but must also consider the geography and chronology involved. It is quite possible that a deer species named by early Indic speakers in the Indus valley around 1,000 BC would not be the same species as that named by Gothic speakers in eastern Europe in 400 AD, and yet the words used by these two groups of speakers may be related.<sup>556</sup>

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<sup>551</sup> To be translated as *roe deer*; see argument below.

<sup>552</sup> Brown-Driver-Briggs 2000:331.

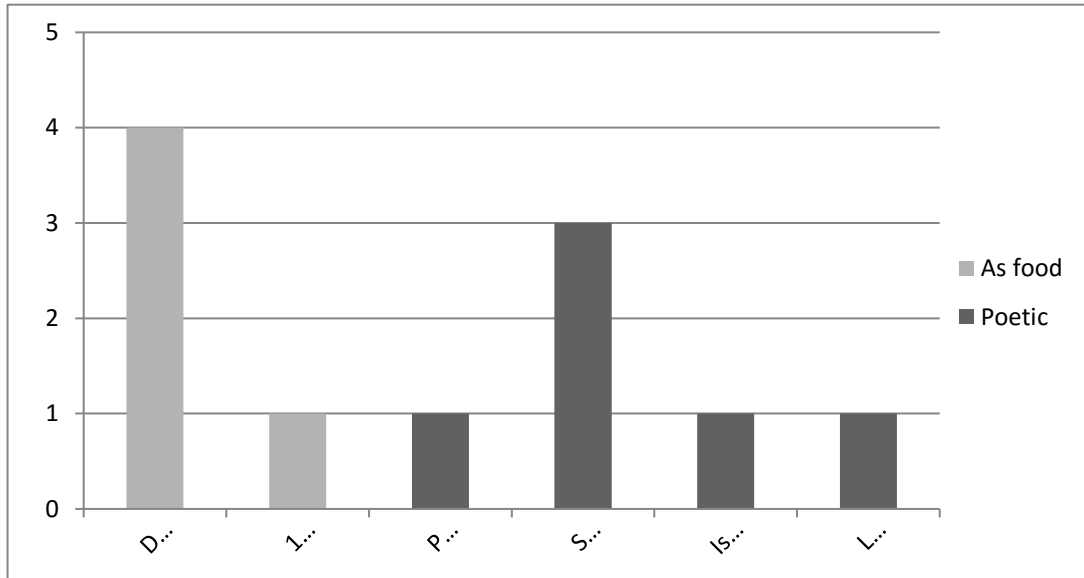
<sup>553</sup> Brown-Driver-Briggs 2000:17-19.

<sup>554</sup> Proto-Indo-European.

<sup>555</sup> Julius Pokorny (Pokorny, J. 1959-69. *Indogermanisches etymologisches Wörterbuch*. 2 vols. Bern and Munich: Francke Verlag).

<sup>556</sup> Biggam 2012:190.

From the extreme similarity between אֵיל and אֵילָה, it seems that in Hebrew the word refers to the adult male deer in particular, *stag* as parallel to *ram*. This is further borne out by the existence of a distinct separate female form: אֵילָה. The male and the female forms of this word are used in slightly different ways: in five out of the eleven texts where אֵיל is found, it is in a practical context as food. The rest of the time it is used in a poetic or symbolic sense.

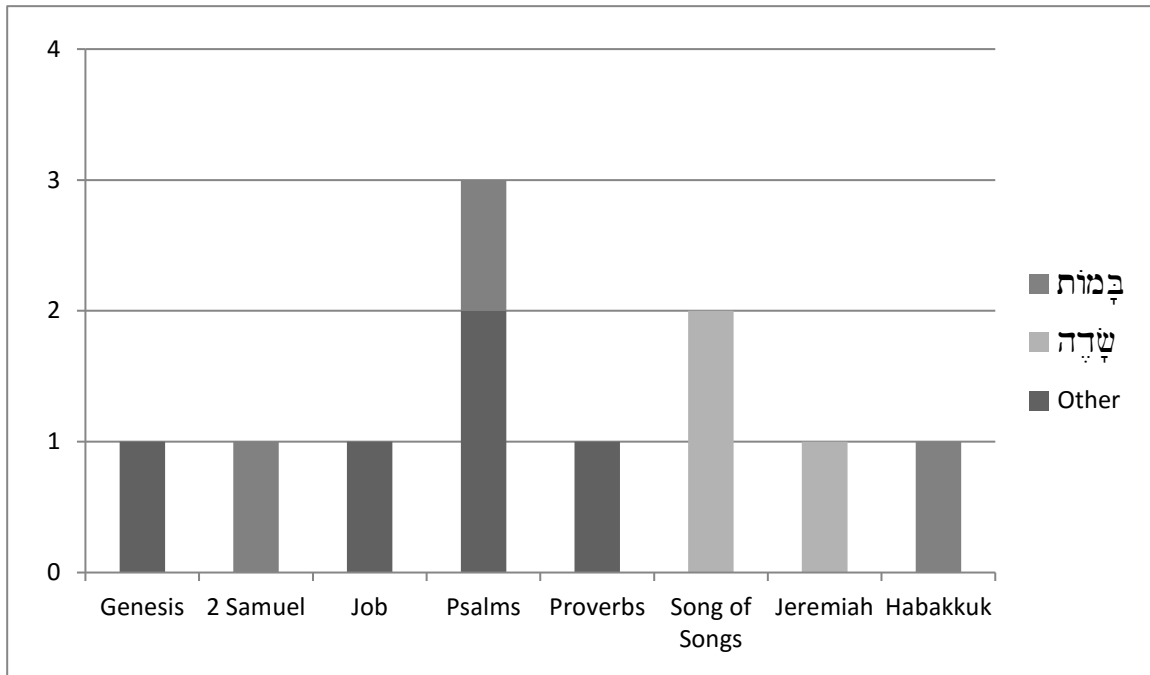


**Figure 6: Poetic versus practical uses of אֵיל**

Every time אֵיל is used in the sense of food it is juxtaposed with other words for similar ruminants. In Deut 14:5, as seen above, it forms part of a comprehensive list. In all other cases it occurs alongside אֵילָה, and once, in 1 Kgs 5:3, with אֵילָה and יְחִמּוֹר. In the texts where it is mentioned for symbolic reasons it is also juxtaposed with אֵילָה in two places (Song 2:17 and 8:14).

אֵילָה, on the other hand, is always used in a poetic sense. The following graph divides up its occurrences into instances where it inhabits the *בְּנוֹת heights*; those where it inhabits the *שָׂדֵה field/wild*, and those where no habitat is given. In four out of its eleven occurrences its young are mentioned along with it.<sup>557</sup>

<sup>557</sup> Gen 49:21; Job 39:1; Ps 29:9; Jer 14:5.



**Figure 7: Habitats ascribed to אֵילָה**

The next easiest term to determine is אֵילָה. Nearly all sources translate it as *gazelle*.<sup>558</sup> Gazelle remains are also commonly found in the archaeological record.<sup>559</sup> The fact that the gazelle and the fallow deer were the most commonly eaten wild mammals lines up perfectly with the fact that they are the two most commonly used words for wild ruminants and that the two terms are constantly used together when the context is that of use for food. The archaeological record combined with the principle of economically important animals being named more often means that the identification of these two animals is indisputable.

In all probability אֵילָה covers all gazelles regardless of species. Forti says that two species, the mountain gazelle (*Gazella gazella*) and the Dorcas gazelle (*Gazella dorcas*), probably inhabited the region during the Biblical period.<sup>560</sup> Houston says there were three species.<sup>561</sup> The exact classification of these animals is in dispute at the moment, with most scholars considering

<sup>558</sup> With the exception of the KJV, which has *roe*: both incorrect and confusing.

<sup>559</sup> Houston 1993:61-62.

<sup>560</sup> Forti 2008:41.

<sup>561</sup> Houston 1993:61.

*Gazella arabica* to be an invalid species,<sup>562</sup> but a group of researchers published an article in 2015 arguing from mitochondrial DNA analysis that a very small endemic population of a subspecies they call *Gazella arabica acacia* exists in Israel.<sup>563</sup> Whether two or three species exist in the region, they all fall under the category of צְבִי. Habitat words used for צְבִי are שְׂדֵה, in 2 Samuel 2:18, and הָרִים in 1 Chronicles 12:9, Song of Songs 2:17 and 8:14.

צְבִי also has a feminine counterpart, צְבִיָּה, which is used four times, all in Song of Solomon, as well as twice as the name of the mother of King Joash/Jehoash.<sup>564</sup> Two of these instances are with אֵילָה and the habitat term שְׂדֵה, although it is unclear whether the שְׂדֵה applies to both animals or only to the אֵילֹת.

<p>הַשְּׁבַעְתִּי אֶתְכֶם בְּנוֹת יְרוּשָׁלַם בְּצִבְאוֹת אוֹ בְּאֵילֹת הַשְּׂדֵה אִם־תִּעְרְרוּ וְאִם־תִּעְזְרוּ אֶת־הָאֱהָבָה עַד שֶׁתִּחַפְּצִי: ס</p>	<p>Song 2:7 (and 3:5)</p>	<p>I charge you, daughters of Jerusalem, by the gazelles, or by the does of the field, not to awaken or stir up love before it please.</p>
<p>שְׁנֵי שְׂדֵיךְ כְּשְׁנֵי עֲפָרִים תְּאוּמֵי צְבִיָּה הָרוּעִים בְּשׁוֹשְׁנִים:</p>	<p>Song 4:5</p>	<p>Your two breasts are like two fawns, twins of a gazelle, that graze among the flowers.</p>

**Table 47: Song of Songs 2:7, 3:5 and 4:5**

The other two refer to the gazelle as the mother of twins, which are an image of the woman's breasts. This word is the same as the Aramaic טְבִיתָא,<sup>565</sup> translated in Greek as δορκας,<sup>566</sup> which occurs as a woman's name in Acts 9:36. This Greek word is of course the source of the name *Gazella dorcas*. Liddell and Scott translate δορκας as *an antelope, gazelle*, and add that it is "so

<sup>562</sup> Bärmann, Börner, Erpenbeck, Rössner, Hebel & Wörheide 2013:220.

<sup>563</sup> Hadas, Hermon, Boldo, Arieli, Gafny, King & Bar-Gal 2015:1.

<sup>564</sup> 2 Kgs 12:2; 2 Chr 24:1.

<sup>565</sup> Deut 12:15 (TAR).

<sup>566</sup> Deut 12:15 (LXX); Acts 9:36.

called from its large bright eyes.”<sup>567</sup> It comes from the verb *δερκομαι*, to look/see or to flash/gleam.<sup>568</sup> Δορκας is a feminine noun and a translation of צִבְיָה rather than צִבִּי.

All three instances of the word יַעַל (excluding its use as a personal name) include references to its habitat: rocks in 1 Samuel 24:3 and Job 39:1, and mountains in Psalm 104:18. Additionally, the term *rocks* occurs in the psalm as well, in a parallel construction involving hyraxes. Job and the psalm use the word סֵלֶע for rocks; while 1 Samuel uses צִוֵּר. The strong association of this animal with rocky places makes its identification as an ibex close to certain. The feminine יַעֲלָה occurs in one place, Proverbs 5:19, where it is used in parallel to אֵיֶלָה. However, יַעַל itself is used as a woman’s name despite being grammatically masculine.

The above translations have not been very contentious, but from now on they become more difficult. Houston discusses the opinions of various scholars on these animals. They will be treated in the order in which they occur in Deuteronomy 14:5, starting with יְהַמֹּרֶר. Houston says that S.R. Driver considers this animal to be the roe deer, while E.R. Hope says it is the bubal hartebeest.<sup>569</sup> Isaacs, in his own book, identifies it as an addax<sup>570</sup>. This identification is highly unlikely as the name יְהַמֹּרֶר derives from the root חמר reddish brown, while the addax is white. Houston agrees with Driver and translates it as *roe deer*,<sup>571</sup> citing Driver’s argument of a cognate in contemporary Palestinian Arabic.<sup>572</sup> The roe deer, *Capreolus capreolus*, is now extinct in Israel (apart from a small number that have recently been reintroduced)<sup>573</sup> and I was cautious at first about its historical presence in the area; however the archaeological evidence

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<sup>567</sup> Liddell & Scott 1966:179.

<sup>568</sup> Liddell & Scott 1966:155; 179.

<sup>569</sup> Houston 1993:57-61.

<sup>570</sup> Isaacs 2000:47.

<sup>571</sup> Houston 1993:57.

<sup>572</sup> Houston 1993:61.

<sup>573</sup> Lovari, Herrero, Conroy, Maran, Giannatos, Stübbe, Aulagnier, Jdeidi, Masseti, Nader, de Smet & Cuzin, 2008a.



confirms it.<sup>574</sup> This, along with its colour which is indeed reddish-brown, and especially the Arabic cognate, together persuade me that the יְהַמְזֵר should be identified as the roe deer.

Driver says that the דִּישׁוֹן is the addax; תֵּאוֹ an oryx, and זִמְרֵ a wild sheep or mouflon. Houston does not consider Driver’s evidence for these latter four terms to be sufficient for definite identifications.<sup>575</sup> Other sources have other identifications: Hope (quoted by Houston), who does not believe that the addax was found in the region in Biblical times, calls the דִּישׁוֹן a “kobus”.<sup>576</sup> If by this he means the kob, *Kobus kob*, or any of the other members of the genus *Kobus*, they are all found only in sub-Saharan Africa, which disqualifies them as possibilities. The KJV translates דִּישׁוֹן as “Pygarg”, following the LXX πύγαργος meaning *white-rumped*. The Siberian roe deer *Capreolus pygargus* has nothing to do with the דִּישׁוֹן and, unlike its close relative *Capreolus capreolus*, is not found anywhere near the relevant area.<sup>577</sup> The addax, however, is a definite possibility. First, the verb root is דִּישׁ *tread/thresh*, suggesting something similar to a young cow, the animal most often used for the job. The addax fits this description, as it is a large and chunky antelope. Second, the translation *white-rumped* is ubiquitous enough that it should be taken into account. While a number of antelope have varying degrees of white on their hindquarters, the winter coat<sup>578</sup> of the addax is brownish grey with a very prominent white rump,<sup>579</sup> making this an extremely good candidate for the name.

Driver says that the אֶקֶן is a wild goat or ibex;<sup>580</sup> this causes some difficulty because יַעֵל has already, and with a good amount of evidence, been identified as the ibex. Isaacs also identifies this word as referring to a wild goat.<sup>581</sup> It is just possible that יַעֵל is the Nubian ibex while אֶקֶן

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<sup>574</sup> Stiner, Barkai & Gopher 2009; Tsahar, Izhaki, Lev-Yadun & Bar-Oz 2009.

<sup>575</sup> Houston 1993:61.

<sup>576</sup> Houston 1993:61.

<sup>577</sup> Gonzalez & Tsytsulina 2008.

<sup>578</sup> The summer coat being a uniform white.

<sup>579</sup> Ruoso, date unknown.

<sup>580</sup> Houston 1993:61.

<sup>581</sup> Isaacs 2000:49.

is some other type of wild goat. Goats are members of the genus *Capra*, some species of which are called ibexes. However, the Nubian ibex is the only species of wild goat currently inhabiting the region, and the term שְׁעִיר must still be accounted for, as it appears to cover wild or feral goats. To identify the אֶקוֹ as a goat of any sort requires more intellectual gymnastics than is really justifiable.

Rather, all three remaining terms that have not yet been identified, namely אֶקוֹ, תְּאוֹ and זְבוֹר, should be viewed in the context of “what wild ruminants living in the area have not yet been named?” One of them surely has to be the oryx, as this translation has been thrown around as a possibility in nearly all cases so far, and has been rejected in favour of another identification each time. The other two notable artiodactyls that inhabited the area at the time and are so far unaccounted for are the bubal hartebeest and the mouflon. זְבוֹר is translated as *mountain sheep* in many versions,<sup>582</sup> so is a good fit for the mouflon. תְּאוֹ, where it is not translated simply as *antelope*,<sup>583</sup> is often called a *wild ox*,<sup>584</sup> despite the term אֶקוֹ already being used for this animal. For this reason the bubal hartebeest *Alcelaphus buselaphus ssp. buselaphus*, a subspecies of hartebeest that is now extinct but that used to inhabit the region,<sup>585</sup> is considered as a possible identification. It is considered very bovine in appearance (hence *bubal*, and *busephalus*) and is an appropriate translation for תְּאוֹ. The last artiodactyl, then, without a name is the Arabian oryx, and the last name without an identification is אֶקוֹ. אֶקוֹ, then, will be tentatively identified with the oryx for translation purposes. The only real reason why all these words need to have separate translations instead of just calling them “antelope” is because they occur in the same verse, Deuteronomy 14.5.

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<sup>582</sup> E.g. NIV; ESV; RSV; JPS; NLT.

<sup>583</sup> E.g. NIV; ESV; RSV.

<sup>584</sup> E.g. KJV; GNV; KJG.

<sup>585</sup> Tsahar, Izhaki, Lev-Yadun & Bar-Oz 2009.

3.4.3.6. *The horse*

סוּס	horse	13 6	Gen 47:17; 49:17; Exod 9:3; 14:9; 14:23; 15:1; 15:19; 15:21; Deut 11:4; 17:16(x2); 20:1; Josh 11:4; 11:6; 11:9; Judg 5:22; 2 Sam 15:1; 1 Kgs 5:6; 5:8; 10:25; 10:28; 10:29; 18:5; 20:1; 20:20; 20:21; 20:25(x2); 22:4(x2); 2 Kgs 2:11; 3:7(x2); 5:9; 6:14; 6:15; 6:17; 7:6; 7:7; 7:10; 7:13; 7:14; 9:18; 9:19; 9:33; 10:2; 11:16; 14:20; 18:23; 23:11; 2 Chr 1:16; 1:17; 9:24; 9:25; 9:28; 23:15; 25:28; Ezra 2:66; Neh 3:28; Esth 6:8; 6:9(x2); 6:10; 6:11; 8:10; Job 39:18; 39:19; Ps 20:8; 32:9; 33:17; 76:7; 147:10; Prov 21:31; 26:3; Eccl 10:7; Isa 2:7; 5:28; 30:16; 31:1; 31:3; 36:8; 43:17; 63:13; 66:20; Jer 4:13; 5:8; 6:23; 8:6; 8:16; 12:5; 17:25; 22:4; 31:40; 46:4; 46:9; 50:37; 50:42; 51:21; 51:27; Ezek 17:15; 23:6; 23:12; 23:20; 23:23; 26:7; 26:10; 26:11; 27:14; 38:4; 38:15; 39:20; Hos 1:7; 14:4; Joel 2:4; Amos 2:15; 4:10; 6:12; Mic 5:9; Nah 3:2; Hab 1:8; 3:8; 3:15; Hag 2:22; Zech 1:8(x2); 6:2(x2); 6:3(x2); 6:6; 9:10; 10:3; 10:5; 12:4; 14:15; 14:20
פָּרָשׁ	horseman; horse	11	1 Sam 8:11; 2 Chr 1:14(x2); 9:25; Isa 21:7; 21:9; 28:28; Jer 46:4; Ezek 26:10; 27:14; Joel 2:4 <sup>586</sup>
רֶכֶשׁ	horse	4	1 Kgs 5:8; Esth 8:10; 8:14; Mic 1:13
רִמָּכָה	mare	1	Esth 8:10
אַבִּיר	strong adj.	4	Judg 5:22; Jer 8:16; 47:3; 50:11 <sup>587</sup>

<sup>586</sup> Only counting instances where it is used to mean *horse* rather than *horseman*.

<sup>587</sup> Only use as a term for an animal is counted. Otherwise used, usually substantively, to refer to strong men (warriors), God, or in one case (Ps 78:25) most likely angels.

	(bull or horse)		
קל	fast adj.	1	Isa 30:16 <sup>588</sup>

**Table 48: The horse**

Horses are viewed with ambivalence in the Hebrew Bible. They are admired for their speed and strength,<sup>589</sup> but are viewed primarily as weapons of war – more occurrences of the word are in the context of war than in all other contexts put together – and as such are not as much loved as the homely and useful donkey. This view can be seen clearly in Zechariah 9:9-10, where horses are categorised with chariots and battle bows as instruments of war that will no longer exist in the messianic kingdom associated with the king riding on a donkey. According to Forti, “The war-horse symbolizes the vainglory of human striving against God’s supremacy. The human trust in military might, in cavalry and chariots, is perceived as a challenge to faith in God’s power of salvation”,<sup>590</sup> and “The war-horse provided an ideal image for human might and vanity, which lower moral standards and undermine the fear of God (cf. Isa. ii 7-10, xxx 15-17; Hos. xiv 4; Amos ii 15; Mic. v 9; Ps xxxiii 17; Prov. xxi 31).”<sup>591</sup> Horses are seen generally as a bit suspect, the province of surrounding nations. Putting too much trust in their strength is seen as bad; symbolic of putting trust in military might rather than in God for salvation from national enemies.

Quite often the singular **סוס** is used with a plural sense, although the plural form is still common.

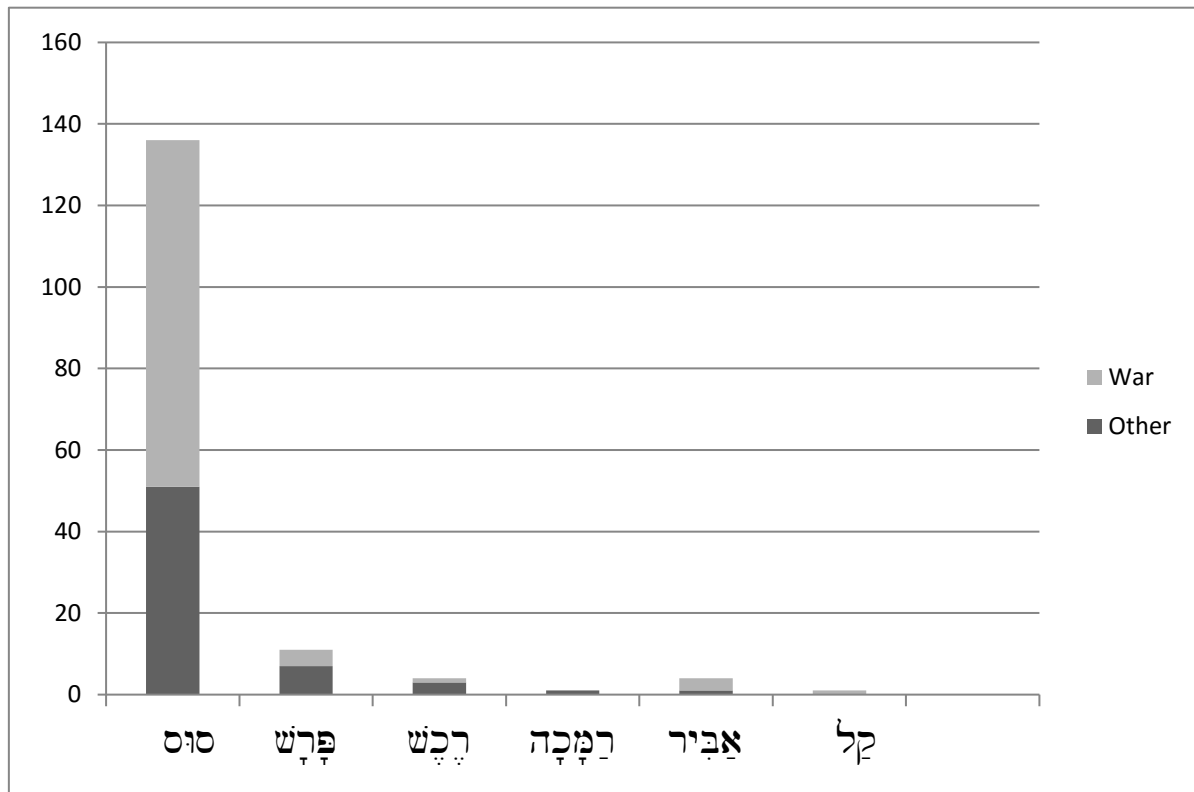
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<sup>588</sup> Used substantively to mean *horses* in this single verse.

<sup>589</sup> Forti 2008:72-73.

<sup>590</sup> Forti 2008:77.

<sup>591</sup> Forti 2008:72.



**Figure 8: Words for horses in the context of war versus all other contexts**

פָּרָשׁ is usually *horseman*, but is sometimes used to mean *horse*, and it is only those instances that are counted here. It is definitely a synonym of סוס in Joel 2:4, because it is a comparison in terms of appearance and locomotion with locusts. The other occurrences are more dubious. As *horsemen*, it refers to charioteers as well as mounted fighters. The other words sometimes translated as *horse* only occur in one or a few places each.

#### 3.4.3.7. Other equids

חֲמוֹר	male donkey	96	Gen 12:16; 22:3; 22:5; 24:35; 30:43; 32:6; 34:28; 36:24; 42:26; 42:27; 43:18; 43:24; 44:3; 44:13; 45:23; 47:17; 49:14; Exod 4:20; 9:3; 13:13; 20:17; 21:33; 22:3; 22:8; 22:9; 23:4; 23:5; 23:12; 34:20; Num 16:15; 31:28; 31:30; 31:34; 31:39; 31:45; Deut 5:14; 5:21; 22:3; 22:4; 22:10; 28:31; Josh 6:21; 7:24; 9:4; 15:18; Judg 1:14; 6:4; 15:15; 15:16(x2); 19:3; 19:10; 19:19; 19:21; 19:28; 1 Sam 8:16;
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			12:3; 15:3; 16:20; 22:19; 25:18; 25:20; 25:23; 25:42; 27:9; 2 Sam 16:1; 16:2; 17:23; 19:27; 1 Kgs 2:40; 13:13(x2); 13:23; 13:24; 13:27; 13:28(x2); 13:29; 2 Kgs 6:25; 7:7; 7:10; 1 Chr 5:21; 12:41; 2 Chr 28:15; Ezra 2:67; Neh 7:68; 13:15; Job 24:3; Prov 26:3; Isa 1:3; 21:7; 32:20; Jer 22:19; Ezek 23:20; Zech 9:9; 14:15 <sup>592</sup>
אֲתוֹן	female donkey	34	Gen 12:16; 32:15; 45:23; 49:11; Num 22:21; 22:22; 22:23(x3); 22:25; 22:27(x2); 22:28; 22:29; 22:30(x2); 22:32; 22:33; Judg 5:10; 1 Sam 9:3(x2); 9:5; 9:20; 10:2(x2); 10:14; 10:16; 2 Kgs 4:22; 4:24; 1 Chr 27:30; Job 1:3; 1:14; 42:12; Zech 9:9
עִיר	young donkey	8	Gen 32:16; 49:11; Judg 10:4; 12:14; Job 11:12; Isa 30:6; 30:24; Zech 9:9
פָּרָד	mule	14	2 Sam 13:29; 18:9(x3); 1 Kgs 10:25; 18:5; 2 Kgs 5:17; 1 Chr 12:41; 2 Chr 9:24; Ezra 2:66; Ps 32:9; Isa 66:20; Ezek 27:14; Zech 14:15
פִּרְדָּה	female mule	3	1 Kgs 1:33; 1:38; 1:44
יָמִים	mules (very dubious) <sup>593</sup>	1	Gen 36:24
פָּרָא	onager	10	Gen 16:12; Job 6:5; 11:12; 24:5; 39:5; Ps 104:11; Isa 32:14; Jer 2:24; 14:6; Hos 8:9
עָרוֹד	onager	1	Job 39:5
עָרָד	onager, Aram.	1	Dan 5:21

**Table 49: Other equids**

<sup>592</sup> Excluding personal name and occurrences with the meaning *heap*.

<sup>593</sup> Most likely *hot springs*. But some translations have mules (e.g. KJV; GNV). Holladay (2000:136) says that other sources have *vipers* but I have been unable to find any other corroboration.

חֲמֹרִים is often used in conjunction with שֹׂרֵם and שֶׁהָ (rather than בִּקְרָה or צֵאֵן) to list the three most important categories of domestic animals. עֵיר is sometimes translated as *stallion*, but *young donkey* is a much better interpretation. Forti considers it to be a young male donkey.<sup>594</sup> It refers to the young of the פֶּרֶא, the onager, as well as the domestic donkey as can be seen in Job 11:12. This shows that the ancient Hebrews considered the onager and the domestic donkey to be at least generally the same sort of thing, a significant point in terms of the worldview of the time.

The discrepancy in number of occurrences between סוּם and חֲמֹרִים is illustrative of a curious interaction between the general rule that that more lexical terms are found for species that are either useful or harmful, or symbolically important, than for other species, and the similar rule that significant species have a larger number of total mentions. Sometimes these two rules work against each other with the result that the (large) total number of mentions of a significant species are spread between a (large) number of different lexical terms, meaning that such species can sometimes end up further down the list in Appendix A than might otherwise have been expected. Here the donkey (economically important) and the horse (symbolically important as a weapon of war) have close to the same number of occurrences. But the number of occurrences of the word סוּם, the main horse term, is much higher than the number for חֲמֹרִים, the main term used for donkeys. This is because the alternative term אֶתוֹן takes up much of the lexical territory of *donkey*, whereas סוּם has no similar equivalent, probably because it was not as integral a part of everyday life as the donkey was. As figure 8 shows, the term סוּם is used overwhelmingly more often than any of its synonyms.

An extremely high number of instances of a certain word implies two things: One, the animal was important to the ancient Hebrews; two, the word does not have too many synonyms. Thus the top few places in the list of most-mentioned animal names are taken up by a mix of animals that are so very important (such as צֵאֵן and בִּקְרָה, and a number of superordinate categories)

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<sup>594</sup> Forti 2008:71.

that even their many synonyms are not enough to dilute their impact, and animals that one would not really expect to see there as they were less culturally significant, such as the horse and the camel. These animals make it to the top of the list because they have one name used the vast majority of the time and only a few rare synonyms, possibly because they were perceived as foreign to some extent.

### 3.4.3.8. Camels

גָּמָל	camel	54	Gen 12:16; 24:10(x2); 24:11; 24:14; 24:19; 24:20; 24:22; 24:30; 24:31; 24:32(x2); 24:35; 24:44; 24:46(x2); 24:61; 24:63; 24:64; 30:43; 31:17; 31:34; 32:8; 32:16; 37:25; Exod 9:3; Lev 11:4; Deut 14:7; Judg 6:5; 7:12; 8:21; 8:26; 1 Sam 15:3; 27:9; 30:17; 1 Kgs 10:2; 2 Kgs 8:9; 1 Chr 5:21; 12:41; 27:30; 2 Chr 9:1; 14:14; Ezra 2:67; Neh 7:68; Job 1:3; 1:17; 42:12; Isa 21:7; 30:6; 60:6; Jer 49:29; 49:32; Ezek 25:5; Zech 14:15
בָּכָר	camel	1	Isa 60:6 <sup>595</sup>
בְּכֵרָה	female camel	1	Jer 2:23
כְּבֵרָה	female camel	1	Isa 66:20

**Table 50: Camels**

Fortunately for translators, terms used for various types of camel are usually unambiguous. In fact, the English word *camel* is a descendant of גָּמָל, with its phonemes almost intact. Camels are not associated with any habitat words, being domestic and thus in the realm of humankind. The three alternative terms for camels are all rather similar to each other, and each used only once. בָּכָר is used in Isaiah 60:6 in parallel with גָּמָל, apparently as a synonym or near-

<sup>595</sup> Excluding personal name.



synonym. בְּכָרָהּ is the female equivalent of בְּכָר, used in Jeremiah as a metaphor for female sexual rapacity. כְּפִרְכָּהּ is the only term where translation difficulties have occurred: the KJV and JPS have “swift beasts” as their translation, but most other versions have *dromedaries* or *camels*. Cansdale notes that the original meaning of *dromedary* – now used for the one-humped Arabian camel to distinguish it from the two-humped Bactrian – was a thoroughbred riding or racing camel, longer-legged and faster than pack camels.<sup>596</sup> Brown-Driver-Briggs translates the word as *dromedary* and derives it from the root כָּרַר to *dance or whirl about*, interestingly enough very similar to the motion ascribed to the בְּכָרָהּ in Jeremiah, although the verb used in that text is a completely different one: שָׂרַךְ to *twist or interweave*. It seems that the image of a camel in the mind of the ancient Hebrews was not exactly that of a heavy, plodding beast.

The camels mentioned in the Hebrew Bible are probably all or mainly dromedaries in the contemporary sense; however, this is less certain than is generally assumed. Bactrians, native to the Gobi Desert,<sup>597</sup> have been recorded as having been received as tribute by both Shalmaneser II<sup>598</sup> and Shalmaneser III.<sup>599</sup> Camels, like chickens, are commonly thought to have been introduced to the Near East only at a late stage, but also as with chickens, the archaeological evidence shows that this is not entirely true. Camel remains only begin to be found with any frequency in the settled areas of Israel-Palestine from about 500 BC onwards, but they are found in reasonable numbers at fortresses and way stations in the Negev from the tenth century onwards, and in small numbers from the fourteenth century.<sup>600</sup> Also, while camels only became economically important in Egypt from the Ptolemaic period onwards and are strangely absent from most records in earlier times, a limestone carving has been found south of Cairo of a loaded camel dating from the First Dynasty, before 3000 BC.<sup>601</sup> This implies that

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<sup>596</sup> Cansdale 1970:65.

<sup>597</sup> Hare 2008:1.

<sup>598</sup> Cansdale 1970:65.

<sup>599</sup> As depicted on the Black Obelisk at Nimrud, Cansdale 1970:64.

<sup>600</sup> Houston 1993:140-141.

<sup>601</sup> Cansdale 1970:66.

they were used for a long time by travellers and nomads, but that the idea of keeping them only caught on among settled peoples in the area a good deal later. The categorisation of camels (when they are categorised, as they are usually mentioned alone) tends to place them adjacent to donkeys which makes sense as both are beasts of burden and inedible,<sup>602</sup> but the food laws of Leviticus place them with pigs, hares and hyraxes as anomalies according to the rule of cud/cloven hooves.

<p>אֲךְ אֶת־זֶה לֹא תֹאכְלוּ מִמַּעֲלֵי הַגֶּרֶה וּמִמְפָּרְיָי הַפְּרָסָה אֶת־הַגִּמְלָה כִּי־מַעֲלָה גֵרָה הוּא וּפְרָסָה אֵינָנוּ מִפָּרִיס טָמֵא הוּא לָכֶם:</p>	<p>Lev 11:4</p>	<p>But these you shall not eat of those that bring up the cud and part the hoof: the camel, because he brings up cud but does not divide the hoof he is unclean for you</p>
<p>וְאֶת־הַשֶּׁפָּן כִּי־מַעֲלָה גֵרָה הוּא וּפְרָסָה לֹא יִפְרִיס טָמֵא הוּא לָכֶם:</p>	<p>Lev 11:5</p>	<p>and the hyrax, because he brings up cud but does not divide the hoof he is unclean for you</p>
<p>וְאֶת־הָאֲרֵנֶבֶת כִּי־מַעֲלַת גֵּרָה הוּא וּפְרָסָה לֹא הִפְרִיסָה טָמְאָה הוּא לָכֶם:</p>	<p>Lev 11:6</p>	<p>and the hare, because she brings up cud but does not divide the hoof she is unclean for you</p>
<p>וְאֶת־הַחֲזִיר כִּי־מִפְּרִיס פְּרָסָה הוּא וְשֹׁסֵעַ שֹׁסֵעַ פְּרָסָה וְהוּא גֵרָה לֹא־יִגֵּר טָמֵא הוּא לָכֶם:</p>	<p>Lev 11:7</p>	<p>and the pig, because he divides the hoof and cleaves a cleft in the hoof but he does not chew cud he is unclean for you.</p>

**Table 51: Leviticus 11:4-7**

<sup>602</sup> Gen 24:35; 30:43; Exod 9:3; 1 Sam 15:3; 27:9; 1 Chr 12:41; 27:30; Ezra 2:67; Neh 7:68; Isa 21:7; 30:6; 66:20 (בְּרִכְרָה, with horses and mules) Jer 2:23 (בְּכִרְהָ); Zech 14:15, but next to other animals, (cattle; sheep) in Gen 32:8; 32:16; 1 Chr 5:21; 2 Chr 14:15; Job 1:3; 42:12; Jer 49:32 and Ezek 25:5.

What this tells us is that the ancient Israelites were quite capable of using different methods of categorisation in different circumstances. The act of categorisation that places camels with hares, hyraxes and pigs is a perfect example of classical category theory, where category membership is circumscribed by rules and questions with binary answers. It is not the usual way that things were categorised, and it was probably not thought of as the “real” classification of camels, but simply one that was useful in this particular situation. The classification that was actually used in most places where camels are encountered in the texts places them closest to donkeys. The two types of categorisation are described by Pinker, using the example of stereotypes about humans: “This comes from the two-part design of the human categorization system mentioned earlier. Our network of fuzzy associations naturally reverts to a stereotype when we first encounter an individual. But our rule-based categorizer can block out those associations and make deductions based on the relevant facts about that individual.”<sup>603</sup> The existence of a second, classical, system of categorisation alongside the normal, prototype-based one is discussed in chapter 4.4.6.

### 3.4.3.9. Lions

<p>אַרְיֵה</p>	<p>lion</p>	<p>57</p>	<p>Gen 49:9(x2); Deut 33:22; Judg 14:8(x2); 14:9; 2 Sam 17:10; 23:20(K; Q אַרְיֵה); 1 Kgs 13:24(x2); 13:25; 13:26; 13:28(x2); 20:36(x2); 1 Chr 12:9; Job 4:10; Ps 7:3; 10:9 (with סֶבֶךְ, thicket); 17:12; 22:14; 22:22; Eccl 9:4; Isa 11:7; 15:9; 21:8 (disputed); 31:4; 35:9; 65:25; Jer 2:30; 4:7 (with סֶבֶךְ, thicket); 5:6 (with יַעַר, forest); 12:8 (with יַעַר, forest); 49:19 (with הַיַּרְדֵּן הַגָּאוֹן, thickets of the Jordan); 50:44 (with הַיַּרְדֵּן הַגָּאוֹן, thickets of the Jordan); Lam 3:10(K) (with מִסְתָּר); Ezek 1:10; 10:14; Dan 6:8 (inhabitants of גֶּב, pit); 6:13; 6:17; 6:20; 6:21; 6:23;</p>
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<sup>603</sup> Pinker 2002:205.

			<p>6:25(x2); 6:28; 7:4 (all Daniel instances are Aramaic); Hos 11:10; Joel 1:6; Amos 3:4 (with יַעַר , forest); 3:8; Mic 5:7; Nah 2:12(x2); 2:13 (with dens and caves)</p> <p>This is the most commonly used word for a lion. It is a little more poetic, less plain or matter-of-fact than אַרְיָ. For instance אַרְיָ is used for the lion decorations on the throne in 1 Kings 7, while אַרְיֵה is used for the lions' heads of the cherubim making up the heavenly throne in Ezekiel 1 and 10. Occurs more often in the Psalms.<sup>604</sup></p>
אַרְיָ	lion	35	<p>Num 23:24; 24:9; Jdg 14:5; 14:18; Sam 17:34; 17:36; 17:37; 2 Sam 1:23; 23:20; 1 Kgs 7:29(x2); 7:36; 10:19; 10:20; 2 Kgs 17:25; 17:26; 1 Chr 11:22; 2 Chr 9:18; 9:19; (Ps 22:17, dubious, possibly <i>pierced</i>); Prov 22:23; 26:13; 28:15; Song 4:8 (high places, dens); Isa 38:13; Jer 50:17; 51:38; Lam 3:10; Ezek 19:2; 19:6; 22:25; Amos 3:12; 5:19; Nah 2:12; Zeph 3:3 (roaring lions parallel with evening/desert wolves)</p> <p>This word is the plainest term for lions, often used when a lion is simply named in the text, for example as a decorative motif, as having been killed, or in parallel with <i>bear</i>.</p>
כַּפִּיר	young lion	31	<p>Judg 14:5; Job 4:10; 38:39; Ps 17:12 (with מִסְתָּר , <i>secret places</i>); 34:11; 35:17; 58:7; 91:13; 104:21; Prov 19:12; 20:2; 28:1; Isa 5:29; 11:6; 31:4; Jer 2:15; 25:38 (with סֵד , <i>thicket</i>); 51:38; Ezek 19:2; 19:3; 19:5; 19:6; 32:2; 38:13; 41:19; Hos 5:14; Amos 3:4 (with מְעִנָּה , den or lair); Mic</p>

<sup>604</sup> Excluding personal name.

			5:7; Nah 2:12; 2:14; Zech 11:3 (with נְאוֹן הַיַּרְדֵּן, thickets of the Jordan).  This term associated with eating, being hungry, being given food and so on. Although usually translated as <i>young lion</i> , it may also be used synonymously with the other lion terms.
לְבִיא	lioness; lion	13	Gen 49:9; Num 23:24; 24:9; Deut 33:20; Job 4:11; 38:39; Isa 5:29; 30:6; Ezek 19:2 (definitely female, pointed as לְבִיאָה); Hos 13:8; Joel 1:6; Nah 2:12; 2:13 (female)
לֵבָא	lion	1	Ps 57:5
גֹּר	cub	7	Gen 49:9; Deut 33:22; Lam 4:3 (of jackal rather than lion); Ezek 19:2; 19:3; 19:5; Nah 2:12
גֹּר	cub	2	Jer 51:38; Nah 2:13
שַׁחַל	lion (poetic)	7	Job 4:10; 10:16; 28:8; Ps 91:13; Prov 26:13; Hos 5:14; 13:7
לֵישׁ	lion	3	Job 4:11; Prov 30:30; Isa 30:6 <sup>605</sup>
פְּרִיץ	ravenous one or robber	1	Used for <i>lion</i> in construct state with חֲזִיהַ in Isa 35:9.

**Table 52: Lions**

The first thing one notices when looking at the texts that deal with lions is that where one lion word is used, a lot more tend to follow. In Genesis 49:9, for example, three separate words for lions or types of lions are used consecutively within the same verse:

<sup>605</sup> Excluding place name and personal name.

גֹּר אַרְיֵה יְהוּדָה	Gen	A lion's cub is Judah
מִטְרֵף בְּנֵי עָלִית	49:9	From the prey, my son, you have gone up
כָּרַע רַבֵּץ כְּאַרְיֵה		He crouched and lay down like a lion
וּכְלָבִיא מִי יִקְיָמוֹנוּ		and like a lion, who will disturb him?

**Table 53: Genesis 49:9**

First there is גֹּר, a word used for the cubs only of lions and, in one verse,<sup>606</sup> of jackals. The word אַרְיֵה, the most common term for a lion, is used twice, and then in a chiasmus with the second use of אַרְיֵה, לְבִיא is used. לְבִיא is most often translated as *lioness*,<sup>607</sup> but in many cases it may, like most of these other terms, best be translated simply as *lion*.

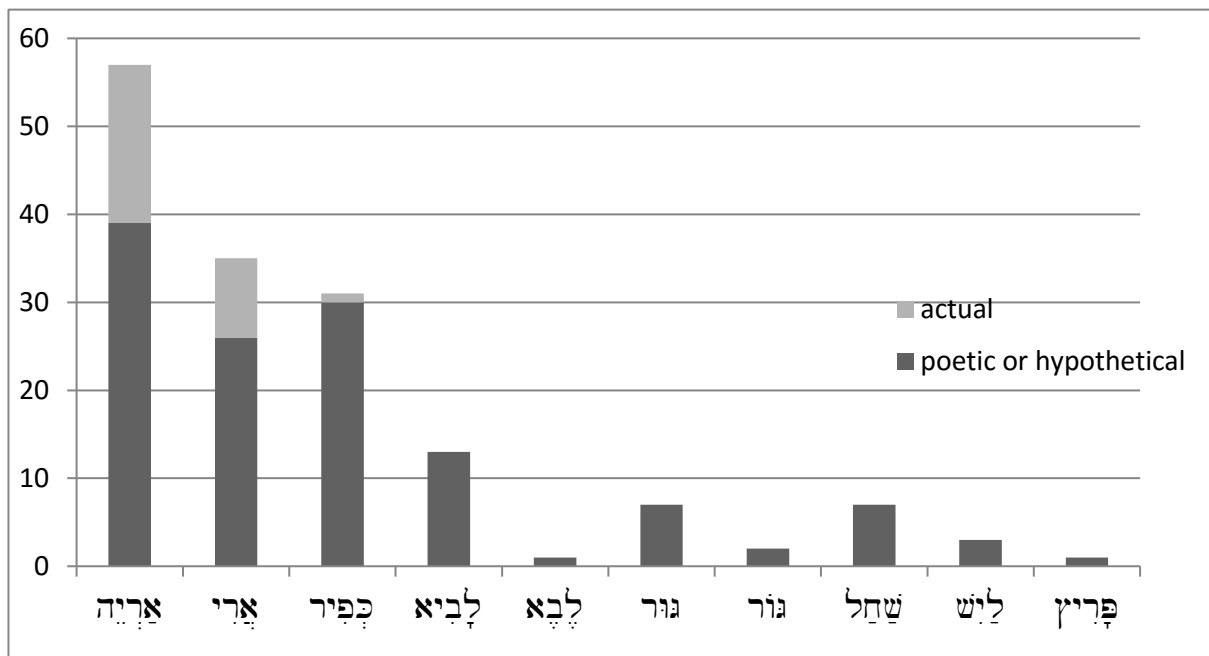
What the contemporary reader is confronted with here is a multiplicity of terms that function synonymously or close to synonymously, and we (translators in particular) are not comfortable with that. Since English does not possess the large number of synonyms for *lion* that exist in ancient Hebrew, translation of these verses necessarily becomes either a clumsy repetition of “lion, lion, lion” or a wild casting about for different terms to attach to the Hebrew words: *lioness; old lion; strong lion; old lion; young lion*.... These distinctions in meaning are not borne out by the actual texts. What can be seen in the way lions are spoken of in the Hebrew Bible is dramatically different from the way sheep, for instance, are talked about. There are many words for sheep because they are practically and economically important. There are many words for lions because they are symbolically and ideologically important.

The different words for sheep have a practical purpose, they refer to sheep of different genders and ages, they perform functions of categorisation. The different words for lions have a poetic purpose, they are used in parallel constructions to repeat ideas. The texts in which words for sheep occur are mostly practical, referring to farming or, overwhelmingly, to sacrifice. The

<sup>606</sup> Lam 4:3.

<sup>607</sup> E.g. Gen 49:9 in NIV; ESV; RSV; JPS. Only KJV and BBE consistently translate it as something other than *lioness*, although in some verses, for example Is 5:29, nearly all versions translate it simply as *lion*.

texts in which words for lions occur are mostly poetic. Of the 156 instances of words for lions, only 28 occur in verses referring to actual lions that are recorded as having done literal things like killing people, being killed by David, not killing Daniel, or having bees nest in their corpses. The other 128 instances are metaphorical or hypothetical, often occurring as prophecy, and generally comparing people or groups of people to lions. The use of the lion as a decorative motif is also included. The different words for lions do not have the function of categorising different types of lions; rather they have the function of providing additional terms for lions to use in poetic texts in order to avoid the excessive and inelegant repetition of a single word.



**Figure 9: Actual versus poetic or hypothetical mentions of lions**

Habitat words associated with lions are varied; usually various words translated as *den* or something similar in English: for example *בְּסֻתָּר*, *secret places*, *בְּעֵנָה*, *den or lair*, *חֹר*, *cave*, *גֵּב*, *pit*, *סִבְךָ*, *thicket*, *גְּאוֹן הַיַּרְדֵּן*, *thickets of the Jordan*, and *יַעַר*, *forest*. In the texts of the Hebrew Bible, lions are animals of the forests and river valleys. However, these are not the most important context for lions (or lion words). Unlike some other wild animals that are associated strongly with a particular habitat, lions inhabit various dens and thickets, but are not invariably associated with them. The most striking context in which lions are found is, instead, other lions. No other type of animal has name clusters as pronounced as this, where three or

four different words for the same animal are found in a single verse. This is particularly true in descriptive or poetic texts, and is a linguistic mirror of the social structure of lions themselves, the only big cat that normally lives in groups.

לְשֹׁחַל is found in seven texts. In all but one of these (Job 10:16), it is found in a parallelistic construction (either parallelism or chiasmus), and in four of them it is used in parallel to a different word also meaning *lion*. Brown-Driver-Briggs (2000) defines לְשֹׁחַל as “lion (poet).”<sup>608</sup> and this is borne out by its usage.

Why are there so many different words for *lion* in Hebrew? The general rule is that animals that have many words or terms associated with them are particularly important, whether economically, practically, symbolically, or as a threat. Lions are certainly a threat, but are even more important symbolically. Reitz and Wing say “animals are used to signify cultural attributes, such as social affiliation and belief systems”.<sup>609</sup> What are the symbolic characteristics associated with lions in the Hebrew Bible? To us lions are symbolic of courage and bravery.<sup>610</sup> Was the same the case for the ancient Hebrews? Certainly, the “king of beasts” image exists in the Biblical texts. In Proverbs 19:12 and 20:2, the anger of a king is likened to the roaring of a lion.

<p>נָהֵם כִּפְפִיר זַעַף מֶלֶךְ וּכְטֹל עַל-עֵשֶׂב רְצוֹנוֹ</p>	<p>Prov 19:12</p>	<p>(Like) the growling of a young lion is the rage of a king; but (like) dew on the grass (is) his favour.</p>
<p>נָהֵם כִּפְפִיר אֵימַת מֶלֶךְ מִתְעַבְּרוּ חוּטֵא נַפְשׁוֹ</p>	<p>Prov 20:2</p>	<p>(Like) the growling of a young lion is the terror of a king; to make him angry is to sin against one’s own life.</p>

**Table 54: Proverbs 19:12 and 20:2**

<sup>608</sup> Brown-Driver-Briggs 2000: 1006.

<sup>609</sup> Reitz & Wing 2008:7.

<sup>610</sup> Grady 1997:87.



The term **כַּפִּיר** was determined by mediaeval Jewish grammarians to mean a young lion, subadult but larger than a cub.<sup>611</sup> In some texts, such as these, the word is used interchangeably with the other lion words.

In Proverbs 28:15, a king is again compared with a lion, in less than flattering terms:

<p style="text-align: center;">אֲרִי־נָהֵם וְדָב שׁוֹקֵק מוֹשֵׁל רָשָׁע עַל עַם־דָּל</p>	<p style="text-align: center;"><i>Prov 28:15</i></p>	<p>A growling lion and a rampaging bear (is) a wicked ruler over a poor people.</p>
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**Table 55: Proverbs 28:15**

Lions are symbolic, not particularly of courage as such, but of both glory and danger, and their use in poetry bears out their conceptual importance to the ancient Hebrews who often identified themselves, whether as clans or as a whole, with these animals.

#### 3.4.3.10. Other large predators

##### 3.4.3.10.1. The leopard and/or cheetah

<p style="text-align: center;">נִמְר</p>	<p>leopard / cheetah</p>	<p style="text-align: center;">6</p>	<p>Song 4:8; Isa 11:6; Jer 5:6; 13:23; Hos 13:7; Hab 1:8</p>
<p style="text-align: center;">נִמְר</p>	<p>leopard / cheetah, Aramaic</p>	<p style="text-align: center;">1</p>	<p>Dan 7:6</p>

**Table 56: The leopard and/or cheetah**

The following set of texts are all the occurrences of the word **נִמְר**, normally translated as *leopard*. I want to argue that in Habakkuk 1:8 *cheetah* would be a better translation, even though this is used in only one of the English translations consulted.<sup>612</sup> A number of commentaries and other sources agree with this view.<sup>613</sup> The argument is bolstered by the fact that no separate

<sup>611</sup> Forti 2008:58.

<sup>612</sup> NLT.

<sup>613</sup> Isaacs 2000:14-15.

ancient Hebrew term meaning *cheetah* appears to exist; the contemporary term is ברדלס which is a transliteration of the Greek *πάρδαλις*, also meaning *leopard* (or *panther*). The term *panther* is something of a curiosity, as it is itself a word unconnected with the scientific categories of contemporary biology, and is used as a blanket term covering all large spotted cats (and sometimes other big cats as well, usually excluding the lion and tiger). נִמְרִי is probably a narrower term than *panther*, referring only to the leopard and cheetah. The features of the prototype are large size and spots, and ancient Hebrew speakers would not have been concerned with issues of common ancestry, claws, skeletal structure and so on.

<p>אָתִי מִלְבָּנוֹן כָּלָה אָתִי מִלְבָּנוֹן תָּבוֹאִי תִשׁוּרִי מִרֹאשׁ אַמָּנָה מִרֹאשׁ שֵׁנִיר וְחֶרְמוֹן מִמְעֵנוֹת אַרְיֹת מִהַרְרֵי נְמֵרִים:</p>	<p>Song 4:8</p>	<p>(Come) with me from Lebanon, bride, with me from Lebanon, come down from the top of Amana, from the top of Seir and Hermon, from the dens of lions; from the mountains of leopards.</p>
<p>וְגַר זֵאֵב עִם־כֶּבֶשׂ וְנִמְרֵי עִם־גִּדִּי יִרְבֵּץ וְעֵגֶל וְכֹפִיר וּמְרִיא יַחְדָּו וַיַּנְעֵר קָטָן נְהַג בָּם:</p>	<p>Isa 11:6</p>	<p>And a wolf will live with a young ram, and a leopard with a kid; a calf and a young lion and a fattened calf will lie down together, and a small boy will lead them.</p>
<p>עַל־כֵּן הִקָּם אַרְיֵה מִיַּעַר זֵאֵב עֲרָבוֹת יִשְׁדָּרֵם נִמְרֵי שִׁקְדֵי עַל־עָרֵיהֶם כָּל־הַיּוֹצֵא מִהֵנָּה יִטְרַף כִּי רַבּוּ פְשָׁעֵיהֶם עֲצָמוֹ (מִשְׁבוֹתֵיהֶם) (מִשְׁבוֹבוֹתֵיהֶם):</p>	<p>Jer 5:6</p>	<p>Therefore a lion of the forest will strike them; a wolf of the desert will destroy them; a leopard will watch their cities – everyone who goes out of there will be mauled because many are their transgressions and numerous are their apostasies.</p>
<p>הֲיִהְיֶה כּוֹשֵׁי עוֹרוֹ וְנִמְרֵי חִבְרֵתָיו גַּם־אַתֶּם תּוֹכְלוּ לְהִיטִיב</p>	<p>Jer 13:23</p>	<p>Can a Cushite change his skin or a leopard its markings? Well then, you will be able to behave well</p>

לְמַדְרֵי הָרָע:		who are used to acting wickedly.
וְאֵהִי לָהֶם כְּמוֹ-שִׁחַל כְּנִמְרֹת עַל-דֶּרֶךְ אֲשׁוּרָה:	Hos 13:7	And I will be just like a lion to him, like a leopard by the road I will watch.
וְקָלוּ מִנִּמְרִים סוּסָיו וְחִדְדוּ מִזֹּאבֵי עָרֶב וּפָשׁוּ פָרָשָׁיו וּפָרָשָׁיו מִרְחוֹק יָבֹאוּ יַעֲפוּ כְּנֶשֶׁר חָשׁ לְאֹכֹל:	Hab 1:8	And they are swifter than cheetahs, their horses and fiercer than wolves of the evening And they gallop, their horses and their horses, from far away they come and they fly like an eagle (that is) hurrying to eat.

**Table 57: Song of Songs 4:8, Isaiah 11:6, Jeremiah 5:6, Jeremiah 13:23, Hosea 13:7 and Habakkuk 1:8**

The first text, Song 4:8, refers to נְמִרִים as living in mountainous areas (or rather, the animals are used to give interest to a poetic reference to mountainous areas), which is noteworthy in terms of the pattern of animals being seen in conjunction with their habitats. This is also in line with the known habits of leopards – a fact which suggests strongly that the appropriate translation in this context will be “leopards” rather than “cheetahs” as cheetahs generally live in open areas.<sup>614</sup> However tempting though, we should not get too carried away by the reference to mountains, as in the same text lions are also spoken of as living in the same mountainous habitat, which while it may be accurate is not as characteristic of lions as it is of leopards.

In Jeremiah 5:6, animals are again seen in the context of their habitats. The lion is associated with the forest and the wolf with the desert. The leopard, in an extension placed against the chiasmus of הַכֶּם / אַרְיֵה מִיַּעַר and זֵאֵב עֲרֵבוֹת / יִשְׁדָּדֵם, only “watches their cities”. This is not a direct juxtaposition of animal with habitat as occurs in the previous two lines, but if we look more closely we can see that it is in fact a reference to the habits and habitat of the

<sup>614</sup>Smithers 1986:98; Badino 1978:69.

leopard, which is more at home on the fringes of civilisation than are the other big cats, and which is an ambush hunter <sup>615</sup> whose modus operandi is to “watch” and then to pounce. The same habit is referenced in Hosea 13:7. Isaiah 11:6 uses the leopard as an example of a predator, and Jeremiah 13:23 refers to its spots, but these two verses otherwise shed no extra light on the subject.

Habakkuk 1:8 is different in that it is likely that the proper translation of נִמְרִים should probably be “cheetahs” rather than “leopards”. While the leopard is an ambush predator, the cheetah runs down its prey at an immense speed over short distances,<sup>616</sup> and is thus a much more likely animal to use as an image to convey the swiftness of horses.

### 3.4.3.10.2. The wolf

זֶאֵב	wolf	7	Gen 49:27; Isa 11:6; 65:25; Jer 5:6; Ezek 22:27; Hab 1:8; Zeph 3:3 <sup>617</sup>
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**Table 58: The wolf**

<p>עַל־כֵּן הִכָּם אֲרִיָּה מִיַּעַר זֶאֵב עֲרָבוֹת יִשְׁדָּדֵם נִמְרֵךְ שֶׁקֵּד עַל־עָרֵיהֶם כָּל־הַיּוֹצֵא מִהֵנָּה יִטָּרַף כִּי רַבּוּ פְּשָׁעֵיהֶם עֲצָמוֹ (מְשׁוּבוֹתֵיהֶם) [מְשׁוּבוֹתֵיהֶם]:</p>	Jer 5:6	<p>Therefore a lion of the forest will strike them; a wolf of the desert will destroy them; a leopard will watch their cities – everyone who goes out of there will be mauled because many are their transgressions and numerous are their apostasies.</p>
<p>וְקָלוּ מִנִּמְרִים סוּסָיו וְחָדְרוּ מִזֶּאֵבֵי עָרֶב וּפָשׁוּ פָרָשָׁיו וּפָרָשָׁיו מִרְחוֹק יָבֹאוּ</p>	Hab 1:8	<p>And they are swifter than cheetahs, their horses and fiercer than wolves of the evening And they gallop, their horses and their horses, from far away they come</p>

<sup>615</sup> Badino 1978:72.

<sup>616</sup> Badino 1978:67.

<sup>617</sup> Excluding personal name.

<p>יֵעָפוּ כְּנֶשֶׁר חָזָה לְאֹכֹל:</p>		<p>and they fly like an eagle (that is) hurrying to eat.</p>
<p>שָׂרֵיהָ בְּקִרְבָּהּ אֲרִיּוֹת שְׂאֲנִים שֹׁפְטֵיהָ זְאֵבֵי עָרֶב לֹא גִרְמוּ לְבֹקֵר:</p>	<p>Zeph 3:3</p>	<p>Her princes are roaring lions in her centre; her judges are evening wolves – they leave nothing for the morning.</p>

**Table 59: Jeremiah 5:6, Habakkuk 1:8 and Zephaniah 3:3**

The habitat word associated with wolves is a difficult case, and it appears that miscopying or idiomatic variation may have affected it at some point. In Jeremiah 5:6, the author speaks of **עֲרְבוֹת זֶאֵב** – a wolf of the desert. This seems all good and well, a typical habitat term. The majority of the translations apart from the KJV and ASV agree on this.<sup>618</sup> The KJV and ASV have *evening*, for reasons that will become clear shortly. When Habakkuk 1:8 is examined, things become more complicated. This time the word in the construction with *wolf* is **עָרֶב**, which means *evening*. This time most translations join the KJV and ASV in rendering it *evening* or *dusk*, as is to be expected,<sup>619</sup> but the JPS sticks with *desert*, presumably believing that a textual error has occurred and that it should be **עֲרֻבָה**. NET also has *desert*, LXX has τῆς Ἀραβίας, and TNK has *steppe*.

The next instance of this idiom, or idioms, is in Zephaniah 3:3. Again almost all translations render **עָרֶב זְאֵבֵי** as *evening wolves*, with the exception once more of the JPS, NET, LXX and TNK. However, this text is different as it has context that further supports the translation of *evening*: i.e. the parallelism **שֹׁפְטֵיהָ זְאֵבֵי עָרֶב / לֹא גִרְמוּ לְבֹקֵר**:

*Evening/morning* works better here than *desert/morning*, and there is one more text that supports this interpretation: Genesis 49:27.

<sup>618</sup> E.g. NIV; ESV; RSV; JPS etc.

<sup>619</sup> E.g. NIV; ESV; RSV etc.

<p>בְּנֵימִין זֶאֵב יִטְרֹף בַּבֹּקֶר יֹאכַל עֵר וּלְעֶרֶב יַחְלֵק שָׁלָל:</p>	<p>Gen 49:27</p>	<p>Benjamin is a wolf that tears, in the morning he devours the prey and towards evening he divides the loot.</p>
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**Table 60: Genesis 49:27**

In this text *evening* is not used with *wolf* in the construct state as it is in the previous two instances, but alongside Zephaniah 3:3 it supports the idea of עֶרֶב as a sort of temporal habitat term, describing an animal that is active at dawn and dusk. Does this mean that עֶרְבוֹת in Jeremiah 5:6 is merely a mistake or miscopying? This is unlikely, as the consonants are correct for the word to be the plural of the feminine עֶרְבָה rather than the masculine עֶרֶב. Rather, I propose that the idiom itself varied, perhaps because of the similarities between the two words, and that *desert wolves* and *evening wolves* were both constructions that were in use to describe these animals.

### 3.4.3.10.3. Other canids

<p>כָּלָב</p>	<p>dog</p>	<p>32</p>	<p>Exod 11:7 (as barking, perhaps referring to watchdogs kept by Egyptians); 22:30 (eating unclean meat); Deut 23:18 (perhaps meaning male prostitute); Judg 7:5 (manner of lapping water); 1 Sam 17:43; 24:15 (<i>dead dog</i> as a slur, indicating someone particularly pathetic); 2 Sam 3:8 (<i>dog's head</i> – odd insult); 9:8 (<i>dead dog</i> as a slur); 16:9 (<i>dead dog</i> as a slur); 1 Kgs 14:11 (as eating the dead); 16:4 (as eating the dead); 21:19(x2) (as eating the dead); 21:23 (as eating the dead); 21:24 (as eating the dead); 22:38 (as eating the dead); 2 Kgs 8:13 (self-abasement); 9:10 (as eating the dead); 9:36 (as eating the dead); Job 30:1 (sheepdogs); Ps 22:17 (unusually, attacking live human); 22:21(attackig live human); 59:7 (howling); 59:15</p>
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			(howling); 68:24 (your dogs licking up the blood of your enemies); Prov 26:11 (returns to vomit); 26:17 (grabbing dog by ears: bad idea); Eccl 9:4 (living dog better than dead lion); Isa 56:10 (mute watchdogs); 56:11 (greedy); 66:3 (sacrificing dog abominable); Jer 15:3 (as eating the dead) <sup>620</sup>
צְבוּעַ	hyaena; speckled	1	Jer 12:9 <sup>621</sup>  This word may have been used to mean <i>hyaena</i> , but not in any Biblical texts: in Jer 12:19 it is an adjective describing a bird and meaning simply <i>speckled</i> .
צִי	desert dweller	6	Ps 72:9 (possibly human or supernatural); 74:14 (uncertain); Isa 13:21; 23:13; 34:14; Jer 50:39 <sup>622</sup>
אֶהָ	howling creature	1	Isa 13:21.  An animal of waste places.
אֵי	jackal, or possibly hyaena or wolf	3	Isa 13:22; 34:14; Jer 50:39.  The NASB has different translations for the word in each verse: <i>Hyaena</i> in the first, <i>wolf</i> in the second and <i>jackal</i> in the third. <sup>623</sup>
תַּן	jackal	14	Job 30:29; Ps 44:20; Isa 13:22; 34:13; 35:7; 43:20; Jer 9:10; 10:22; 14:6; 49:33; 51:37; Lam 4:3(K/Q); Mic 1:8; Mal 1:3. KJV translates it <i>dragon</i> , presumably due to the similarity to תַּנִּין.

<sup>620</sup> Excluding personal name.

<sup>621</sup> Excluding place name in 1 Sam 13:18. The plural is used here so the word definitely seems to refer to a type or animal rather than just being an adjective.

<sup>622</sup> Excluding homonym *ship*.

<sup>623</sup> There are many homonyms, but the noun denoting an animal is thought to derive from the verb root \*אָהָ, *howl* (BDB 2000:17), or else, less likely, from \*אֵ, *shore* (as inhabitants of) (Holladay 2000:12).

שׂוּעָל	jackal/fox	7	Jdg 15:4; Neh 4:3; Ps 63:10 (scavenging); Song 2:15(x2); Lam 5:18 (inhabiting ruins); Ezek 13:4 (inhabiting ruins) <sup>624</sup>
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**Table 61: Other canids**

The dog is viewed negatively in the Hebrew Bible with a few minor exceptions, particularly in Job (which also contains a more-positive-than-usual mention of the horse – did the author of Job have less stereotyped ideas about animals to go with his progressive ideas about the lack of a link between misfortune and divine punishment?) In general, though, the dog’s nature is seen as a rather unpleasant combination of predatory blood-thirst, cringing servility,<sup>625</sup> and a habit of eating carrion including human corpses.<sup>626</sup> The remaining canids are also scavengers as well, and tend mostly to be found in texts describing desolate places (see 4.2.1.) אֶבֶר and יָבֵשׁ are difficult to define – יָבֵשׁ may not even refer to an animal at all – but canids are among the interpretations most commonly put forward for them so they are included here for completeness.

#### 3.4.3.10.4. The bear

דָּב	bear	13	1 Sam 17:34; 17:36; 17:37; 2 Sam 17:8; 2 Kgs 2:24; Prov 17:12; 28:15; Isa 11:7; 59:11; Lam 3:10; Dan 7:5; Hos 13:8; Amos 5:19
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**Table 62: The bear**

דָּב is in general an untroublesome word. There are no disputes about its translation and no ambiguous texts. The bear mentioned in the Bible is and can only be *Ursus arctos syriacus*,<sup>627</sup> the only subspecies of the highly cosmopolitan brown bear that can be found in the region. It is

<sup>624</sup> Excluding the use of the word as a personal and place name. I could find no evidence that the land of Shual is particularly desolate or ruinous.

<sup>625</sup> Forti 2008:93.

<sup>626</sup> Forti 2008:94.

<sup>627</sup> Forti 2008:62.



seen as a dangerous animal, placed in parallel with lions in 8 of its 13 occurrences, but lacking the symbolic and metaphorical weight accorded to the lion as evidenced by its single name and few mentions. The word itself is grammatically masculine but refers to either a male or a female bear, and is twice considered grammatically feminine: in 2 Kings 2:24 where the feminine cardinal *two* is used before the noun, and in Isaiah 11:7 where it and a cow are the collective subject of a feminine verb. The female bear is considered particularly dangerous (and thus particularly important) as can be seen by the fact that 5 of the 13 mentions explicitly involve female bears. Three of these describe the female bear with the adjective *שְׂכֹוֹל*, *bereaved of offspring*. Habitat words are used twice for bears: *שָׂדֵה* *field* (a term which can be understood to mean something similar to *the wild*) in 2 Sam 17:8, and *יַעַר* *forest, thicket* in 2 Kgs 2:24, a habitat word that is also closely associated with the lion.

#### 3.4.3.11. Other inedible large animals

חֲזִיר	pig; wild boar	7	Lev 11:7; Deut 14:8 (both “do not eat”); Ps 80:14; Prov 11:22 (gold ring in pig’s snout – only other non-eating related mention); Isa 65:4; 66:3; 66:17 (all three using eating/offering of pig as characteristic of bad people) <sup>628</sup>
קוף	monkey	2	1 Kgs 10:22; 2 Chr 9:21
שָׁפָן	hyrax	4	Lev 11:5; Deut 14:7; Ps 104:18 (inhabiting rocks); Prov 30:26 (inhabiting rocks) <sup>629</sup>
אַרְנֵבֶת	hare	2	Lev 11:6; Deut 14:7

**Table 63: Other inedible large animals**

The pig needs no introduction as the prototypical example *par excellence* of unclean animals. For the amount of psychic and intellectual space it takes up, there are remarkably few mentions

<sup>628</sup> Excluding 2 instances of the personal name *חֲזִיר*; which some sources consider to be *חֲזִיר* with the pointing changed to avoid offence, but others to be a word meaning *pomegranate* (Brown-Driver-Briggs 2000:306).

<sup>629</sup> Excluding personal name.

of it in the actual text. Only one is more or less neutral, Psalm 80:14 (*boar from the forest*). No distinction is made between domesticated and wild pigs, as discussed in 3.4.3.3.

The Septuagint text of 1 Kings 21:19 and 22:38 adds pigs to the dogs that scavenge the dead. Houston entertains the possibility that the pigs may have been in the original text and were censored by the Masoretes in order to avoid implying that pigs lived in an Israelite town.<sup>630</sup> In any case, this suggests that the problem with pigs was that, like dogs, they were scavengers and played into the old horror of being unburied and eaten by animals and birds. Houston cites ancient sources linking both dogs and pigs to the eating of human corpses: “The Vassal Treaties of Esarhaddon contain the expressions, ‘May dogs and swine eat your flesh’ (l. 451), and ‘May dogs and swine drag your corpses to and fro in the squares of Ashur; may the earth not receive them’ (ll. 483-84) (Wiseman 1958 as in Weinfeld 1972:131). Ashurbanipal asserts that he fed the corpses of rebels to ‘dogs, swine, jackals, eagles (or vultures), the birds of heaven and the fish of the deep’ (Streck 1916: II, 38, iv: 74-76, in Weinfeld 1972:132).<sup>631</sup> Interestingly, the carrion birds that also figure prominently in this image, although still unsuitable for eating, are viewed in a much more positive manner than either dogs or pigs. The vulture or eagle is a symbol of strength and swiftness,<sup>632</sup> even being a component animal of the cherub, and ravens (despite their perceived penchant for picking out eyes) are seen as friendly birds that even perform tasks for humans, as in the cases of Moses and Elijah.

The hyrax and the hare are counted here with large animals since they are judged according to the edibility standards for large mammals in Leviticus 11 and Deuteronomy 14 rather than being considered with the creeping things later in Leviticus 11. This is significant as it shows exactly where the ancient Hebrews drew the line between *בְּהֵמָה* and *שָׂרִיץ / רֶמֶשׂ*.

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<sup>630</sup> Houston 1993:190-191.

<sup>631</sup> Houston 1993:190.

<sup>632</sup> Houston 1993:193.

Whitekettle considers the division between the two groups to be based on locomotion: that creeping things were considered to move in a horizontal plane, along the ground, and large animals in a vertical plane, over the ground.<sup>633</sup> Locomotion is of course a factor here, hence the name *creeping things*, but it is still likely mediated by size, as there is no actual difference between the way a hyrax moves over the ground and the way a mouse does. The distinction is that the smaller animals, *because* they are smaller, are perceived as creeping or crawling. Whitekettle argues that this is not the case based partially on the hyrax being up to half a metre in length and the Uromastyx lizard reaching one metre.<sup>634</sup> This is still not conclusive even if one accepts the אָרְנֵבֶת as being the Uromastyx, as that metre of length is mostly tail, and also prototype effects would likely cause it to be placed with its fellow lizards even if it was slightly bigger than a hyrax.

Whitekettle believes that the line was drawn here on the grounds of rats and mice having a more sprawling stance and possibly a gait that involves more side-to-side bending than hares and hyraxes have.<sup>635</sup> This argument seems to me to be reaching for differences that are really not there (consider the jerboa, which in no sense sprawls or crawls) to explain a phenomenon that could much more easily be explained by the use of prototype category theory: *most* animals that are small also crawl, *most* lizards are much smaller than a hyrax, and the exceptions to the rules get subsumed into the categories anyway on the grounds of overall similarity. This does not mean, however, that locomotion was not an important factor in classification, just that I believe it was not the *primary* factor for the exact placement of the division here with hares and hyraxes.

אָרְנֵבֶת is only found in the two texts declaring it unclean. The term would probably also have referred to rabbits if these animals had been native to the Holy Land; as they are not, the translation *hare* is indisputable. They do not in fact chew the cud, but they do reingest faeces

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<sup>633</sup> Whitekettle 2001:345.

<sup>634</sup> Whitekettle 2001:347-348.

<sup>635</sup> Whitekettle 2001:354-355.

which serves the same purpose. The idea that they chew the cud, however, is more likely to derive from the working of their jaws when they eat grass. The rock hyrax does not actually chew the cud either. However, both are grazing animals with digestive systems similar to those of ruminants.

The שָׁפָן, often translated *coney*,<sup>636</sup> *badger*<sup>637</sup> or *rock-badger*,<sup>638</sup> is one species that is easy to pinpoint exactly. It is the Syrian rock hyrax or Syrian rock dassie, *Procavia capensis syriacus*, the only subspecies of hyrax found in the Levant region.<sup>639</sup> Some years ago it was considered a separate species, *Procavia syriacus*,<sup>640</sup> but currently all members of the genus *Procavia* are considered to be the same species, *P. capensis*.<sup>641</sup> In two of the four mentions of the word (the only occurrences apart from the Lev 11 / Deut 14 texts), the habitat term סְלָעִים *rocks* is associated with them. In one of these, Psalm 104:18, *rocks / hyraxes* are used to parallel *high mountains / ibexes*:

הַרִּים הַגְּבוּהִים לְיַעֲלִים סְלָעִים מַחֲסֵה לְשִׁפָּנִים:	Ps 104:18	The high mountains for the ibexes; rocks are a refuge for the hyraxes.
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**Table 64: Psalm 104:18**

### 3.4.4. *Crawlers and swarms: nouns and verb forms used to name things that creep on the ground*

רִמָּשׁ	crawlers; swarmers	33	Gen 1:21 (participle, used adjectivally with נִפְשׁ חַיָּה, of water creatures); 1:24 (noun, of terrestrial creatures, used with/in opposition to בְּהֵמָה); 1:25 (noun, used with הָאָרֶץ (earth) in
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<sup>636</sup> E.g. KJV and NIV.

<sup>637</sup> E.g. Prov 30:26 in RSV.

<sup>638</sup> E.g. ESV and JPS.

<sup>639</sup> Fourie 1985:29.

<sup>640</sup> Fourie 1985:27.

<sup>641</sup> Butynski, Koren & de Jong 2015:1.

			<p>the sense of “crawlers of the ground”); 1:26 (2x) (noun; participle; <b>הָאָרְיָן</b>); 1:28 (participle, used for terrestrial creatures as opposed to <b>עוֹף</b> and fish); 1:30 (participle, terrestrial creatures); 6:7(noun); 6:20 (noun); 7:8 (participle); 7:14(x2) (noun+participle); 7:21 (participle, inclusive of all living things including man; synonymous with <b>כָּל-בֶּשֶׂר</b>; in this verse <b>שָׂרְיָן</b> substitutes for the usual use of <b>רִמָּשׁ</b>); 7:23 (noun); 8:17(x2) (noun+participle); 8:19(x2) (noun+participle, global sense); 9:2 (verb impf.); 9:3 (noun); Lev 11:44 (participle, used after the noun <b>שָׂרְיָן</b> as in other places it is used after the noun <b>רִמָּשׁ</b>. It thus seems that two terms are capable of being synonymous); 11:46 (here used with water where <b>שָׂרְיָן</b> goes with earth; this is unusual and unexpected); 20:25 (verb impf); Deut 4:18 (participle); 1Kgs 5:13 (noun); Ps 69:35 (participle; water); 104:25 (noun); 148:10 (noun); Ezek 8:10 (noun); 38:20(x2) (noun+participle); Hos 2:20 (noun); Hab 1:14 (noun)<sup>642</sup></p>
<b>שָׂרְיָן</b>	swarmers	20	<p>Gen 1:20 (verb+<b>מַיִם</b> +noun+ <b>חַיָּה נֹפֵשׁ</b>); 7:21(x2) (noun+participle); Lev 5:2 (noun); 11:10 (noun, aquatic); 11:20 (noun, air, <b>שָׂרְיָן הָעוֹף</b> as subcategory of <b>עוֹף</b>); 11:21 (noun, <b>הָעוֹף שָׂרְיָן</b>, locusts are subcategory of this); 11:23 (noun, <b>הָעוֹף שָׂרְיָן</b>); 11:29(x2) (noun+participle+the ground); 11:31 (noun); 11:41(x2) (noun+participle, as generally unclean); 11:42(x2) (noun+participle; category including members that go on their bellies, go on all fours, and that have many legs); 11:43(x2)</p>

<sup>642</sup> Including most instances of the verb **רָמַשׁ** to *crawl/swarm or teem*, as it is used adjectivally and sometimes in the imperfect as a name or as part of a name for a type of animal. Its occurrence in Ps 104:20 is excluded as in this case it is used simply as a verb, with no naming or descriptive function.

			(noun+participle); 11:44 (noun, used with the participle of רָמַשׁ. Confirms that they can be used synonymously); 22:5 (noun); Deut 14:19 (שָׂרִיץ הָעוֹף.)
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**Table 65: Crawlers and swarmers**

Although the ground surface is part of the earth realm, it is to a great extent seen as separate in terms of the animals that inhabit it. Texts such as 1 Kings 5:13 show that living things were divided primarily into עוֹף, דָּג, בְּהֵמָה and שָׂרִיץ / רָמַשׁ. For this reason the inhabitants of this realm are here treated separately from the rest of the earth dwellers.

Both שָׂרִיץ and רָמַשׁ come from verb roots, and it is quite difficult to draw a line between verbal and nominal uses of the words. רָמַשׁ means *to crawl, swarm, or teem* and שָׂרִיץ means *to breed, multiply, be many, swarm, or teem*. This means that שָׂרִיץ and רָמַשׁ may be synonymous in many instances, but רָמַשׁ has stronger connotations of creeping motion while שָׂרִיץ has stronger connotations of immense numbers. This also implies that רָמַשׁ is more strongly associated with terrestrial animals in particular while שָׂרִיץ is more likely to refer as well to small, teeming inhabitants of the air and of the sea. However, this is a tendency rather than a strict rule and both words are used for inhabitants of either water or land. However, only שָׂרִיץ is used for air-dwellers. When this happens the construct state is used to form the term שָׂרִיץ הָעוֹף. This phrase indicates a subcategory of עוֹף: swarming or teeming עוֹף.

Distinguishing between verbal and substantive uses of these words is important, as it would be incorrect for words used as verbs to be counted in a list of animal names. Both nouns and verb forms that are used substantively (in practice, mostly participles) are counted here, while finite verbs are not. However, occasionally when a finite verb occurs in a construction in such a way that it has a naming function, it is also included. There is a common construction where the noun form of one of these terms is used in close conjunction with the participle of the same word, for example Genesis 1:26: וּבְכָל-הָרֶמֶשׂ הָרֹמֵשׂ עַל-הָאָרֶץ: (and over all the crawlers

that are crawlers on the earth). Often the verb שָׂרַץ has the environment as its subject and living things as its object (as in Genesis 1:21; it is then translated as *swarm with; teem with; bring forth*.) These verbal forms are not counted in Appendix A.

### 3.4.4.1. Things that have many legs and things that go on their bellies

<p>וְכָל-הַשָּׂרִץ הַשָּׂרִץ עַל-הָאָרֶץ שָׂקֵץ הוא לא יאָכַל:</p>	<p>Lev 11:41</p>	<p>And all swarmers that swarm on the earth (are) taboo, they are not to be eaten.</p>
<p>כָּל הוֹלֵךְ עַל-גָּחוֹן וְכָל הוֹלֵךְ עַל-אַרְבַּע עַד כָּל-מְרִבָּה רַגְלִים לְכָל-הַשָּׂרִץ הַשָּׂרִץ עַל-הָאָרֶץ לא תאכלום כִּי-שָׂקֵץ הֵם:</p>	<p>Lev 11:42</p>	<p>Everything that goes on its belly and everything that goes on all fours up to everything with many legs, of every swarmer that swarms on the earth you shall not eat because they are taboo.</p>

**Table 66: Leviticus 11:41-42**

Isaacs considers מְרִבָּה רַגְלִים itself to be an animal name meaning *centipede*;<sup>643</sup> I prefer to translate it as a generic description: “anything that has many legs”.

פִּרְעֹשׁ	flea	2	1 Sam 24:15; 26:20 <sup>644</sup>
כֵּן	louse	5	Ex 8:12; 8:13; 8:14; Ps 105:31; Isa 51:6 (some sources).  Exodus 8:13 and 8:14 have one occurrence each of כֵּן and כָּנָם.
כָּנָם	lice	2	Ex 8:13; 8:14  This word is probably a variation on כָּנָם, the plural form of כֵּן.
נִמְלָה	ant	2	Prov 6:6; 30:25

<sup>643</sup> Isaacs 2000:48.

<sup>644</sup> Excluding personal name.



			Has cognates in other Semitic languages. <sup>645</sup>
תולעה	worm (including cochineal insect)	43	Exod 16:20 (in manna); 25:4; 26:1; 26:31; 26:36; 27:16; 28:5; 28:6; 28:8; 28:15; 28:33; 35:6; 35:23; 35:25; 35:35; 36:8; 36:35; 36:37; 38:18; 38:23; 39:1; 39:2; 39:3; 39:5; 39:8; 39:24; 39:29 (the term for the scarlet dye made from these animals is שָׁנִי (תולעת)); Lev 14:4; 14:6; 14:49; 14:51; 14:52; Num 4:8; 19:6; Deut 28:39 (worms eating grapes); Job 25:6 (humankind as worthless,    maggot); Ps 22:7 (humankind as worthless); Isa 1:18 (red dye again); 14:11 (   maggot); 41:14 (Israel as small and weak); 66:24 (as eating the dead); Lam 4:5 (red dye); Jonah 4:7 (ate Jonah's plant).  Isaacs identifies the תולעה as a beetle. <sup>646</sup> In fact, in view of the contexts in which it is found, this word covers a number of different biological categories. The cochineal insect is a true bug of the genus <i>Kermes</i> that feeds on the sap of oak trees, <sup>647</sup> and other animals included in this category are maggots (Ps 66:24) and caterpillars (Deut 28:39).
רמזה	maggot	7	Exod 16:24; Job 7:5; 17:14; 21:26; 24:20; 25:6; Isa 14:11
עלוקה	leech	1	Prov 30:15
שבולל	snail	1	Ps 58:9
עכביש	spider	2	Job 8:14; Isa 59:5

<sup>645</sup> Forti 2008:101.

<sup>646</sup> Isaacs 2000:47.

<sup>647</sup> Spodek&Ben-Dov 2012:11-12.



עֲקָרָב	scorpion	6	Deut 8:15 (living in a terrible wilderness); 1 Kgs 12:11 (possibly a type of whip; the following 3 verses are the same); 12:14; 2 Chr 10:11; 10:14; Ezek 2:6 (metaphor for hostile people) <sup>648</sup>
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**Table 67: Things that have many legs and things that go on their bellies**

Forti cites a papyrus found in the mouth of an Egyptian mummy saying “The worms will not become flies within you” as evidence that ancient peoples were aware that flies develop from maggots.<sup>649</sup> However, it is uncertain how widespread this knowledge was over time, space and culture; it is quite possible that the average Israelite did not have a concept of תולעָה and זבוב as being related. This is complicated by the fact that WORM (prototypically small, elongated, wriggling, without legs or with very small legs) is a category that covers a wide range of animals that are biologically very diverse, and only a few of these are the young of flies.

#### 3.4.4.1.1. Snakes

נָחָשׁ	snake	22	Gen 3:1; 3:2; 3:4; 3:13; 3:14 (all these referring to the serpent in the Garden of Eden); 49:17 (normal snake); Ex 4:3; 7:15 (Moses’ staff); Num 21:6 (w. שָׂרָף); 21:7; 21:9 (x3) (all referring to snakes sent among Israelites and Moses’ other staff); Deut 8:15 (normal snakes, w. שָׂרָף); 2 Kgs 18:4 (Moses’ staff from the story in Numbers); Job 26:13 (chaos monster); Ps 58:5 (as poisonous); 140:4 (sharp tongue); Prov 30:19 (mysterious, on a rock); Ecc 10:8; Isa 14:29 (odd usage; serpent’s root); 27:1 (Leviathan) <sup>650</sup>
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<sup>648</sup> Excluding three instances of its use as the name of a pass.

<sup>649</sup> Forti 2008:143.

<sup>650</sup> Excluding the use of the word as a personal name, and the verb meaning *to divine*.



נְחֹשֶׁתַּן	Proper noun; name for the bronze snake Moses had made	1	2 Kgs 18:4  נְחֹשֶׁתַּן and נְחֹשֶׁתַּן <i>bronze, copper</i> appear to come from the verb root נִחַשׁ with unknown meanings, but the same root also means <i>to practice divination</i> . It is just possible that the latter is the source of the former two meanings, in which case the supernatural associations of snakes may be important, or else they could simply be homonyms.
שָׂרָף	seraph; fiery and/or flying serpent	7	Num 21:6; 21:8 (used adjectivally with נְחֹשֶׁתַּן); Deut 8:15 (used adjectivally with נְחֹשֶׁתַּן); Isa 6:2 (seraph); 6:6 (seraph); 14:29; 30:6 <sup>651</sup>
תַּנִּין	serpent / dragon / chaos monster	14	Gen 1:21 (in the sea); Ex 7:9 (snake; Aaron's rod); 7:10; 7:12; Deut 32:33 (snake); Job 7:12 (sea monster); Ps 74:13 (sea monster); 91:13 (snake); 148:7 (sea monster); Isa 27:1 (sea monster, specified as Leviathan); 51:9 (sea monster, specified as Rahab); Jer 51:34 (sea monster); Ezek 29:3 (sea monster, metaph. of Pharaoh, living in Nile); 32:2 (Pharaoh as sea monster).
רַהַב	Rahab	6	Job 9:13; 26:12; Ps 87:4; 89:11; Isa 30:7; 51:9 <sup>652</sup>
לִוְיָתָן	Leviathan	6	Job 3:8; 40:25; Ps 74:14; 104:26; Isa 27:1(x2)
פָּתָן	cobra	6	Deut 32:33; Job 20:14; 20:16; Ps 58:5; 91:13; Isa 11:8
אַפְּעָה	adder	3	Job 20:16; Isa 30:6; 59:5
שָׂפִיפָן	viper	1	Gen 49:17

<sup>651</sup> Excluding one instance of the word as a personal name as well as the root used as the verb *to burn*.

<sup>652</sup> Proper noun naming a semi-mythical sea monster, used metaphorically for Egypt. Excluding many homonyms.



עֲכָשׁוּב	viper	1	Ps 140:4
צִפְעָה	viper	1	Isa 11:8
צִפְעָנִי	viper; variant of above	3	Isa 14:29; 59:5; Jer 8:17
זָחָלִי עָפָר זָחָלִי אֲרֶז	snakes	2	Deut 32:24; Mic 7:17 <sup>653</sup>
צִמְאוֹן	snake (incorrect)	1	Deut 8:15 <sup>654</sup>
יָמָם	vipers (very dub.)	1	Gen 36:24 <sup>655</sup>

**Table 68: Snakes**

There is a multiplicity of terms used for snakes of various kinds, and these words, even more so than the names of other groups of animals, show a great overlap and blurring between the concepts of animals and of legendary, mythological or supernatural entities. Here, more than ever, the rule of not imposing scientific categories onto the texts needs to be followed. The temptation to split the SNAKE category into “real” and “not-real” must be resisted in order to develop a proper idea of how the category works.

According to Forti, נָחָשׁ is the generic or higher-category word for *snake*. She cites Jeremiah 8:17 where צִפְעָנִי is used to modify and narrow the sense of נָחָשׁ, thus implying that צִפְעָנִי is

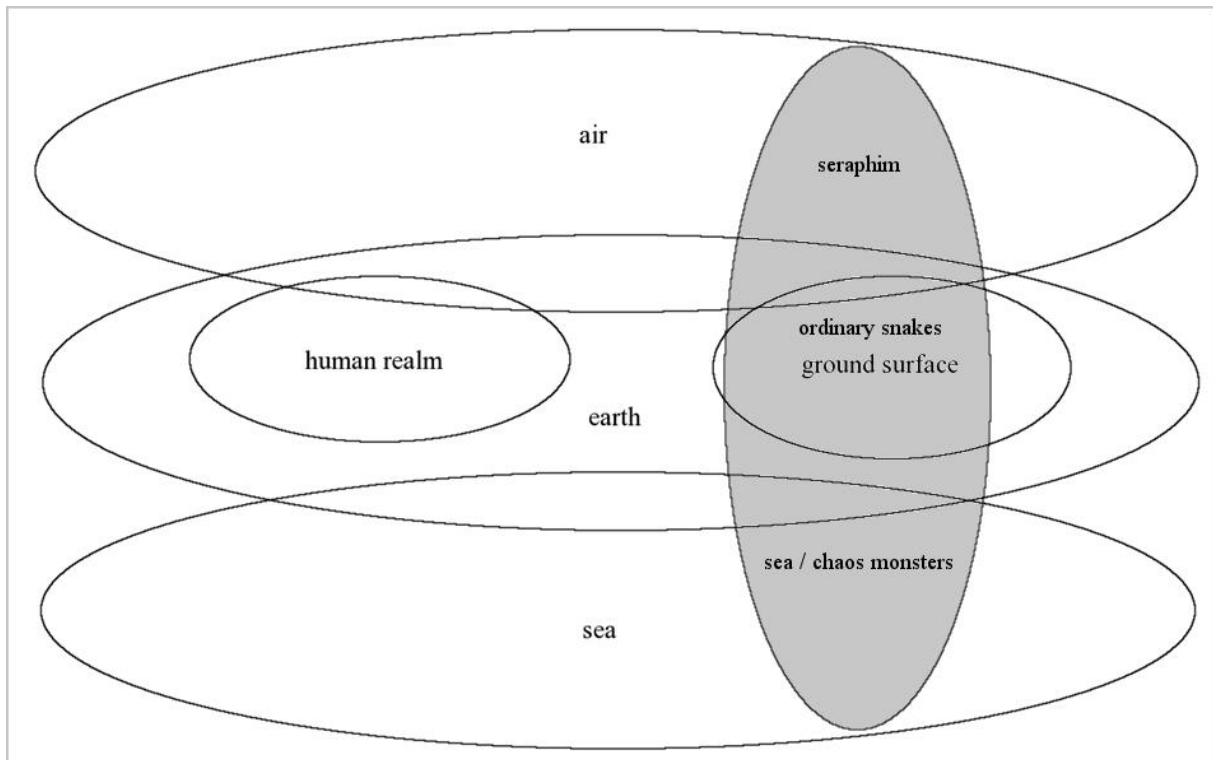
<sup>653</sup> The participle of the verb זָחַל to crawl; be afraid used substantively with עָפָר dust or אֲרֶז ground to denote snakes.

<sup>654</sup> DRA, following a misunderstanding of the word δῦσα in the Septuagint, wrongly translates this word, meaning dry ground, as dipsas, thinking it to mean a kind of snake whose venom causes thirst.

<sup>655</sup> Most likely hot springs. But some translations render it as mules or vipers.

a member of the category נחש. Later on she lists the words שָׂרָף, צַפְעָנִי, פִּתָּן, אֲפַעָה, שְׂפִיפֹן, and עֲכָשׂוּב as all falling into the category נחש.<sup>656</sup>

Looking at Isaiah 27:1, the terms לוֹיִתָּן and תַּנִּין also fall into the same macro-category. Everything in the above table is a SNAKE. In fact, everything in that table is a נחש. However, something is odd if you look at the habitats or realms inhabited by these creatures. Three of them, תַּנִּין, רֶהַב, and לוֹיִתָּן, are creatures of the sea to the point of being mythical personifications of that sphere. And the שָׂרָף belongs, at least sometimes, to the realm of the sky. This crossing or combining of domains is both surprising and highly significant.



**Figure 10: The realm-crossing nature of the snake category**

The snake, when seen as a category that includes the various more or less supernatural or legendary members attributed to it, is possibly the most symbolically important animal in the Hebrew Bible. Forti points out that snakes are the first specific animal mentioned in the Bible. In the first two chapters of Genesis, only broad categories, בְּהֵמָה, חַיָּה, דָּג, רֶמֶשׂ, and שָׂרָף and

<sup>656</sup> Forti 2008:123.

עוף, are mentioned apart from the תַּנִּינִים in Gen 1:21, and then in Genesis 3:1 the נָחַשׁ is introduced.<sup>657</sup> And the תַּנִּינִים are themselves a member of the category נָחַשׁ. Beings considered to be snakes include the personified serpent of Eden, in later tradition identified with Satan, as well as all the creatures falling under the archetype of the chaos monster, and anything translated as “dragon”. However, it must not be thought that the snake archetype was seen as solely evil. The seraphim associated with God’s throne are also a kind of supernatural snake. Snakes are thus strongly associated with all three spheres: earth, sea and sky.

Although they are covered under “everything that goes on its belly” in Lev 11:42, they are never expressly forbidden as food; possibly this implies that it would be unthinkable to eat them (even though in folklore Leviathan forms the feast of the righteous at the end of days). Leviathan is not always seen as a snake; sometimes it is categorised instead as a fish. It is considered a fish in terms of this end-of-days feast. This relates again to the cross-realm nature of snakes. Ordinary snakes are creatures of the earth, and in fact creatures of the ground surface: creeping things that fall under the category of שָׂרָץ. However, they also include the תַּנִּינִים, the legendary and semi-legendary sea monsters, dragons and the chaos monster. And lastly, the שָׂרָף, which seems to refer to both a natural (although possibly legendary) and a supernatural being, and which inhabits the sky (or symbolic heavens). This mastery over the three realms either explains or is a result of the incredible symbolic significance of this creature in the Biblical texts and in folklore.

Why are snakes so very symbolically important? The fear of snakes is a universal in human nature, found in every society that has ever been documented (as of 2002 at least).<sup>658</sup> It is even a particular fear among certain animals, especially other primates.<sup>659</sup> In *The Blank Slate*, Pinker reproduces anthropologist Donald E. Brown’s list of human universals, traits documented in every culture that has been studied. Traits that occur in most but not all societies are not

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<sup>657</sup> Forti 2008:124.

<sup>658</sup> Pinker 2002:55.

<sup>659</sup> Van Lea, Isbell, Matsumotoa, Nguyena, Horia, Maiorc, Tomazc, Trana, Onoa & Nishijoa 2013:19000.

included.<sup>660</sup> Snakes are the only animals mentioned in this list.<sup>661</sup> “Snakes, wariness around”<sup>662</sup> is a universal of human nature and one of only a few universal fears: “childhood fears”; “childhood fear of loud noises”; “childhood fear of strangers”;<sup>663</sup> and “fear of death”.<sup>664</sup> In other words, in terms of perceived danger snakes are unique among animals, and this translates to immense symbolic significance.

Nearly all references to snakes in their natural sense either mention or imply venomousness; insofar as some snakes are non-venomous, such snakes are irrelevant. It is the venomous ones that are important to human beings because of the dangers they pose. The prototypical snake, in other words, is venomous.

The habitat/domain word most often applied to snakes that are neither seraphim nor sea monsters is *road*. In a sense this is indeed their habitat, as they do enjoy basking on the hard and vegetation-free surface of a trodden path, but of course snakes do not live only or even primarily on roads. The reason why this habitat word in particular is the one associated with snakes is based on human experience: the presence of snakes on roads is noted as important because of the danger posed to humans and animals (such as horses) by this habit – we are most likely to encounter snakes when they are lying in the road, and it is for this reason that *road* is significantly associated with these animals. However, this only applies to the thoroughly mundane members of the *snake* category. The others, the monstrous and the heavenly, cross all borders between realms.

Forti considers זַפְעָנִי to represent the family Viperidae, and זַפְעָנָה to mean *Vipera palestinae* in particular. She notes that although the European viper or adder is ovoviviparous, *Vipera*

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<sup>660</sup> Pinker 2002:435.

<sup>661</sup> Pinker 2002:435-439.

<sup>662</sup> Pinker 2002:438.

<sup>663</sup> Pinker 2002:435.

<sup>664</sup> Pinker 2002:439.

*palestinae* and most other snakes of Israel are oviparous, consistent with Isaiah 59:5 where both צַפְעָנִי and אַפְעָה are mentioned as producing eggs.<sup>665</sup>

<p>כִּי הִנְנִי מִשְׁלַח בְּכֶם נֹחָשִׁים צַפְעָנִים אֲשֶׁר אֵין-לָהֶם לְחַשׁ וְנִשְׁכוּ אֶתְכֶם נְאֻם-יְהוָה:</p>	<p><i>Jer</i>  <i>8:17</i></p>	<p>Look! I am sending among you viper snakes that cannot be charmed and they will bite you: thus says the LORD.</p>
<p>בִּיצֵי צַפְעוֹנֵי בִקְעוֹ וְקוֹרֵי עֶכְבִּישׁ יֶאֱרָגוּ הָאֶכֶל מִבִּיצֵיהֶם יָמוּת וְהַזּוֹרָה תִּבְקַע אַפְעָה:</p>	<p><i>Isa</i>  <i>59:5</i></p>	<p>They hatch vipers' eggs and weave a spider's web. Anyone who eats of the eggs dies, and if one is crushed it hatches an adder.</p>

**Table 69: Jeremiah 8:17 and Isaiah 59:5**

Jeremiah 8:17 also implies that צַפְעָנִי and אַפְעָה are synonymous or close to synonymous. I have chosen to translate אַפְעָה as *adder* in this verse, because it is a word sometimes used for vipers and this translation preserves the near-synonymy of the words, which is especially important if Forti is correct about the identification of these two snakes.

She also says that פִּתְוֹן (usually translated as asp or viper) “presumably represents the family *Elapidae*” (cobras).<sup>666</sup>

<p>חֲמַת-לָמוֹ כְּדָמוֹת חֲמַת-נָחָשׁ כְּמוֹ-פִתְוֹן חָרַשׁ יֵאָטֵם אָזְנוֹ:</p>	<p><i>Ps 58:4</i></p>	<p>Their venom is similar to snakes' venom, like a deaf cobra that shuts its ear.</p>
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**Table 70: Psalm 58:4**

<sup>665</sup> Forti 2008:36.

<sup>666</sup> Forti 2008:36.

The following verse clarifies that the context is that of snake-charming. The fact that the cobra is the snake usually used by snake-charmers means that the identification of פתן with *cobra* is a good one. *Asp* is an older term that usually also refers to a cobra. This verse again reinforces the fact that נחש is the basic-level term for snakes, of which פתן, צפע and the rest are subcategories. Isaacs considers שרף as well as פתן to denote cobras.<sup>667</sup>

However, Forti is nevertheless cautious about making definite identifications: “The identification of snake names according to particular characteristics is problematic. The ancient translators were not sure about the identification of these snakes. The Aramaic translations use the same equivalent *hūrmānā*’ for *šip* ‘*ōnī* (Prov. xxiii 32), *šēp̄p̄ōn* (Gen. xlix 17), *hanēḥāšīm hasērāp̄īm* (Num. xxi 6), and ‘*ep* ‘*eh* (Job xx 16).”<sup>668</sup>

Something that stands out when we look at the usage of the various words for *snake* is how often different snake terms are used together in parallel constructions. This may imply that snake terms used in this way were synonymous with each other – or merely that they were seen as similar enough to be used rhetorically in this way. The most common of these constructions is נחש in parallel with another snake term. This is why I have translated most of these unknown snake names as *viper*, since translating them simply as *snake* would lead to problems of repetition when they are used in parallel with נחש. This pattern is very similar to what we see with words for lions, and the implications are the same: that many of the texts in which we find these animals are poetic, which in turn implies that their dangerousness to humankind has led to a strong symbolic significance. This significance, in turn, lead to their being seen as powerful creatures that unite all three realms of earth, sea and sky.

#### 3.4.4.2. Things that go on all fours

לָטֹאֵה	lizard	1	Lev 11:30
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<sup>667</sup> Isaacs 2000:48.

<sup>668</sup> Forti 2008:36.





חֲמָט	agama	1	Lev 11:30
כֹּחַ	monitor	1	Lev 11:30 <sup>669</sup>
שְׂמָמִית	gecko	1	Prov 30:28
אַנְקָה	gecko	1	Lev 11:30 <sup>670</sup>
תַּנְשֵׁמֶת	chameleon	3 (1)	Lev 11:30 <sup>671</sup>
צָב	tortoise	1	Lev 11:29 <sup>672</sup>

**Table 71: Things that go on all fours**

וְזֶה לָכֶם הַטְּמֵא בְּשָׂרָיִם הַשָּׂרִיץ עַל-הָאָרֶץ הַחֹלֵד וְהָעֶכְבֵּר וְהַצָּב לְמִינֵהוּ:	Lev 11:29	And these are unclean for you of the swarmers that swarm on the ground: the weasel, the mouse and the tortoise according to its species;
וְהָאַנְקָה וְהַכֹּחַ וְהַלְטָאָה וְהַחֲמָט וְהַתַּנְשֵׁמֶת:	Lev 11:30	and the gecko and the monitor and the lizard and the agama and the chameleon.

**Table 72: Leviticus 11:29-30**

שְׂמָמִית is about evenly divided in translation between *spider* and *lizard*; however, based on the text I am convinced that it should very definitely be translated as *gecko*, for the following reasons:

שְׂמָמִית בְּיָדָיִם תִּתְפֹּשׂ וְהִיא בְּהֵיכַל מֶלֶךְ:	Prov 30:28	A gecko grasps with its hands and it is in the king's palace.
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**Table 73: Proverbs 30:28**

<sup>669</sup> Homonym of *power*.

<sup>670</sup> Related to verb *groan*.

<sup>671</sup> Only refers to a reptile in Lev 11:30.

<sup>672</sup> Excluding homonym meaning *covered wagon*; this may be the source of KJV's translation *tortoise*.

One, it grasps with its hands. Two, it lives in the king’s palace. Spiders live indoors, but they have nothing that could be considered “hands” in human terms. Of the various kinds of lizards, only geckos commonly live in human habitations, running on the walls and ceilings with five-fingered, sticky “hands” (the back feet have four toes but are just as hand-like). Many scholars interpret **תַּתְּפֵשׁ בְּיָדָיו** as meaning “can be grasped in the hand”,<sup>673</sup> but this strains the reading of **תַּתְּפֵשׁ**, and the word **יָד** should be in the singular rather than the plural if this meaning was intended.

The earliest translations such as the Septuagint as well as the Vulgate considered **שְׂמָמִית** to be a lizard, but not a gecko as such.<sup>674</sup> The chameleon has also been proposed, but although it does have strongly grasping feet, they are not in any way hand-like and it does not make use of human habitations. Some mediaeval Jewish commentators agreed with the reading of **תַּתְּפֵשׁ בְּיָדָיו** as “grasps with its hands” but introduced the idea that the word should mean a type of spider, since ordinary lizards generally do not use their hands to grasp anything.<sup>675</sup> Forti supports the translation “grasps with its hands” as well as the identification of **שְׂמָמִית** as a gecko, in the tradition of Rashi, about whom she says “equally likely is Rashi’s notion that it alludes to the gecko’s amazing ability to scale vertical walls. This interpretation fits with what we have seen of the sage as a close observer of the natural world.”<sup>676</sup>

It is likely that **אֲנָקָה** also refers to the gecko, because it is the most vocal of all lizard types. The word is a homonym of **אֲנָקָה** *crying* or *groaning*, and the translations *ferret* or *shrew-mouse*<sup>677</sup> do not fit well with the word’s position in a list of lizards (although shrews are also

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<sup>673</sup> Forti 2008:117.

<sup>674</sup> Forti 2008:116. LXX *καλαβότη spotted lizard*; Vulgate *stellio agama*.

<sup>675</sup> Forti 2008:116.

<sup>676</sup> Forti 2008:117.

<sup>677</sup> Brown-Driver-Briggs 2000:60.

very vocal for such tiny animals).<sup>678</sup> Geckos also live in people's houses and make their noises at night, which means that their vocal nature is easily noticed.

The word תִּנְשָׁמֹת is a particularly interesting one. In Leviticus 11:18 and Deuteronomy 14:16 it is explicitly grouped under birds, while in Lev 11:30 it is explicitly grouped under creeping things. There are two possibilities here: either it is a creature that manages to be a member of the category *birds* and the category *creeping things* at the same time, or else the word refers to two different animals. The latter is the more likely explanation, as the same word being used for different animals is not uncommon. According to Reitz and Wing: "In some parts of the southeastern United States, burrowing pocket gophers (*Geomys pinetus*), which create large sand mounds, are called 'salamanders.' This is thought to be a corruption of 'sandy-mounder.' This rodent should not be confused with amphibians that are also called salamanders (order Caudata), or with gopher tortoises (*Gopherus polyphemus*), both of which live in the same area as the pocket gopher."<sup>679</sup> For this reason it is possible to entertain the possibility that certain terms such as תִּנְשָׁמֹת and קִפְדֵי may refer to a bird as well as to something else.

The Lev 11:30 instance is at the end of a list of lizards, and thus should be a kind of lizard that puffs itself up and/or makes a hissing noise. The chameleon does both when angered, and, vitally, is slow and harmless enough to be easily picked up and this habit noticed. A number of things may make hissing noises when picked up and yet not be picked up often enough for this to become common knowledge.

זָבִי means *tortoise* in modern Hebrew, but the Arabic cognate refers to the Uromastyx, a large lizard.<sup>680</sup> Neither contemporary usage nor Arabic cognates are infallible when determining the correct translation of a word, so more factors need to be taken into account.<sup>681</sup> Isaacs also

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<sup>678</sup> Siemers, Schauermaun, Turni & von Merten 2009:593.

<sup>679</sup> Reitz & Wing 2008:33

<sup>680</sup> Bodenheimer 1960:10.

<sup>681</sup> Forti 2008:5.

translates the term as *tortoise*.<sup>682</sup> The context is ambiguous, as the word appears at the beginning of a list of lizards, but directly after two small mammals. Bodenheimer considers that it should mean the lizard as it would have been more tempting to use as food,<sup>683</sup> but this is a debatable point. The fact that the word also means *covered wagon* is enough to place me firmly in the *tortoise* camp.

צַפְרִידַעַ	frog	13	Ex 7:27; 7:28; 7:29; 8:1; 8:2; 8:3; 8:4; 8:5; 8:7; 8:8; 8:9; Ps 78:45; 105:30
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**Table 74: צַפְרִידַעַ frog**

All references to this animal, including the ones in the Psalms, are in the context of the Egyptian plague. They are never specifically mentioned as inedible, which presumably means that no one was even tempted to try them – possibly because they fall between the realms of land and water. However, Mary Douglas considers frogs to be clean, based on a text in the Mishnah and the fact that they are not specifically mentioned as unclean in the Leviticus texts.<sup>684</sup> For further discussion see 4.4.4. The word has a plural form, but the singular is also sometimes used with a plural meaning.

חֶלְדַּד	weasel	1	Lev 11:29
חַפְרָפְרָה חַפְרַ פְרָה	molerat	1	Isa 2:20
קַפְדַּ	hedgehog; bittern	3	Isa 14:23; 34:11; Zeph 2:14  Included for completeness only, as the meaning <i>bittern</i> is intended in all three instances of this word as well as the one below.

<sup>682</sup> Isaacs 2000:45

<sup>683</sup> Bodenheimer 1960:10.

<sup>684</sup> Douglas 2001:57.

קָפּוֹז	hedgehog; bittern	1	Isa 34:15
עֶכְבָּר	mouse	6	Lev 11:29; 1 Sam 6:4; 6:5; 6:11; 6:18; Isa 66:17

**Table 75: Other things that go on all fours**

עֶכְבָּר is unproblematic; as *mouse*, it includes other small rodents such as jerboas, hamsters and possibly rats (depending on what חֲלִיד means). חֲפִרְפִּרָה has several interpretations, but since the verb חָפַר means *to dig*, *mole* is the obvious answer. Isaacs suggests that what is intended is the molerat, a rodent, rather than the true mole which is an insectivore;<sup>685</sup> the molerat is certainly conspicuous as it eats bulbs and tubers and throws up large mounds of soil in its excavations,<sup>686</sup> and indeed, no true moles appear to exist in the Near East region.<sup>687</sup> The molerat *Spalax ehrenbergi*, however, is widespread and common, and is thus the only real option for חֲפִרְפִּרָה.<sup>688</sup> חֲלִיד, on the other hand, is a mystery. Isaacs says it is a rat.<sup>689</sup> Brown-Driver-Briggs gives all three main options: molerat, weasel and rat.<sup>690</sup> Because the molerat is already spoken for and because it is highly likely that rats are included in the category עֶכְבָּר (especially since the עֶכְבָּר is connected with plague in 1 Samuel 6:4), חֲלִיד is translated here as *weasel*. The word could apply to polecats and mongooses as well as to the least weasel *Mustela nivalis*, whose range just grazes Israel currently but could quite plausibly have extended further south in the past.<sup>691</sup> These four animals are the only mammals that belong to the “surface of the earth” realm of creeping things; anything from the size of hares and hyraxes up are classified with בְּהֵמָה.

<sup>685</sup> Isaacs 2000:50.

<sup>686</sup> Smithers 1986:56.

<sup>687</sup> Elbaum 2005:1.

<sup>688</sup> Schlitter, Shenbrot, Kryštufek, & Sozen 2008:1.

<sup>689</sup> Isaacs 2000:51.

<sup>690</sup> Brown-Briver-Briggs 2000:317.

<sup>691</sup> Tikhonov, Cavallini, Maran, Kranz, Herrero, Giannatos, Stubbe, Conroy, Kryštufek, Abramov, Wozencraft, Reid & McDonald 2008:1.

### 3.5. Conclusion

All of the animals named in the Hebrew Bible may be divided into a threefold scheme according to their place in the sky/earth/sea spatial division of the world. Within the earth realm, there are two more minor habitat divisions: the realm of humans, inhabited by domestic animals, and the surface of the ground, inhabited by creeping and crawling animals. All animal taxonomy is done according to this scheme rather than relatedness or even physical similarity, so that flying insects and bats are grouped with birds rather than with other insects or mammals.

The exercise of making these divisions and placing each term within them is useful for translation purposes, and a number of translations for groups of difficult words have been proposed. New insights into the texts themselves are also achieved, as can be seen from the example of the locust-centred text in 3.4.1.6.1. These conclusions and findings are expanded upon in the next chapter.

## Chapter 4

### Findings

#### 4.1. Introduction

Certain significant discoveries were made in the course of the analyses of words and texts that were performed in the previous chapter. Some of them, in particular matters of translation and interpretation, and insights into particular texts, were dealt with within that chapter. However, certain larger trends and findings could not be adequately examined within the process of analysis, and do not fit within a discussion of the individual words or texts as set out in chapter 3. These findings are presented in chapter 4.

#### 4.2. Habitat- or realm-based taxonomy

Names for animals in Biblical Hebrew occur in patterns that suggest a degree of idiomatic usage that approaches ritualised construction. The most important aspect of the way animal words are used is the fact that they are so often attached to the habitat of the animal in question. In fact, it may be concluded from this study that habitat is the most fundamental level of animal classification in the system used by the ancient Hebrews. This means that if we want to approach the Biblical texts involving animals in the way they were intended by their authors, we must always think of the animal in the context of its habitat – the two concepts are so basically intertwined that they cannot be viewed separately if we hope to achieve any level of insight into the way the ancient Hebrews viewed and classified animals. Habitat, and not morphology, is the most important factor in classification. “Beasts of the field, birds of the air” – these constructions are not accidental artefacts of translation, or simply quaint idioms: they are utterly fundamental to the biological worldview of the ancient Hebrews.

There is no way to overstate the importance of habitat. The first and most important aspect of habitat, as used to classify animals, is that of sphere or domain – earth, sea or sky. This threefold division of the created world divides all animals along with it. עוֹרְיָּ inhabit the sky, and דְּבַיָּ

inhabit the sea. Earth is subdivided again, into the actual ground surface, home of the שָׁרֵץ and רֶמֶשׂ; the human sphere, inhabited by domesticated animals often classified under the term בְּהֵמָה, and the wild, the שָׂדֵה or field, inhabited by wild animals.

The שָׂדֵה is again divided into separate geographical features, each with its own animals that inhabit it. For example, hyraxes are associated with rocks and ibexes with high mountains, wolves with the desert and lions with thickets. These are not just general ideas to be gleaned from contextual clues: constructions comprising habitat word/animal word, and often utilising the construct state, are so common as to be idiomatic expressions. Even certain birds, that usually belong to the sky sphere, also have their own geographical place, for example ravens are associated with wadis.

Psalm 104 is full of the use of animal terms and their associated habitat words, used to exemplify the proper order of creation. From the “beasts of the field” and “birds of the air” in verses 11-12, the theme of animals in their particular habitats is continued with the birds nesting in cedars and storks in conifers in verses 16-17, the ibexes and hyraxes in high and rocky places in verse 18, the “beasts of the forest” in verse 20, lions in their dens in verse 21-22, teeming things in the sea in verse 25, and Leviathan in the sea in verse 26. In contrast, there are only two mentions of animals that do not specifically link them to a particular habitat: the donkeys in verse 11 and the cattle in verse 14. This psalm demonstrates that the habitat-based taxonomy of animals was a theological principle: the placing of animals in their correct habitats was a sign of God’s power in ordering his creation.

A final division of the earth sphere is the realm of desolation: any area that used to be part of the human sphere but is no longer. This realm has its own animal inhabitants that are particularly characteristic of it, overwhelmingly night birds and scavenging canids.



#### 4.2.1. The realm of desolation

A number of obscure words for birds, as well as some terms that are thought by some sources to refer to animals other than birds, are associated with a very specific habitat: desolate places. Several times lists of these animals occur in texts for the express purpose of describing the way in which a place is or will be left waste, wild, without human inhabitants. Most often, but not always, dryness is also a feature of these landscapes. A number of the birds or animals involved also find themselves on lists of unclean animals, but not all unclean animals are animals specifically associated with these uninhabited (but usually previously inhabited, thus ruined) places. It is not only these specific creatures that serve this purpose in the text. Even the homeliest domestic animals can be associated with desolation, if grazing in places previously reserved for human habitation (such as the calf in Isaiah 27:10, and sheep/goats with shepherds in Jeremiah 33:12-13). However, certain kinds of animals occur in these texts more than others. Isaiah 34:11-15 is a good example of this genre:

<p>וִירְשׁוּהָ קָאֵת וְקַפּוּד וַיִּנְשׂוּף וְעֵרַב יִשְׁכְּנוּ-בָהּ וְנָטָה עָלֶיהָ קֶרְתָּהּ וְאֲבִי-בַהּ:</p>	<p>Isa 34:11</p>	<p>And the sandgrouse and the bittern will possess it, and the eagle owl and the raven will dwell in it, and he will stretch over it the cord of formlessness and the stone of void.</p>
<p>חֲרִיָּה וְאִין-שָׁם מְלוּכָה יִקְרָאוּ וְכָל-שָׂרֵיהָ יִהְיוּ אָפֶס:</p>	<p>Isa 34:12</p>	<p>They will not acknowledge its nobles and royalty there and all its princes will come to nothing.</p>
<p>וְעֵלְתָה אֲרָמְנֹתֶיהָ סִירִים קִמוּשׁ וְחוֹחַ בְּמִבְצָרֶיהָ וְהָיְתָה נוֹה תַנִּים חֲצִיר לְבָנוֹת יַעֲנָה:</p>	<p>Isa 34:13</p>	<p>And thorn bushes will grow up in its citadels; weeds and brambles in its fortifications, and it will become a jackals' camp and a settlement for ostriches.</p>
<p>וּפְגָשׁוּ צִיִּים אֶת-אֵיִם וְשֹׁעִיר עַל-רַעְהוֹ יִקְרָא אֲדָ-שָׁם הִרְגִיעָה לִילִית</p>	<p>Isa 34:14</p>	<p>And wild beasts will meet with jackals and the goat will call to his friend surely the night bird will land there</p>



<p>וּמְצָאָה לָהּ מְנוּחָה:</p>		<p>and find for herself a resting place.</p>
<p>שָׁמָּה קִנְנָה קַפּוּז וּתְמִילֹת וּבְקָעָה וְדִגְרָה בְּצֶלֶה אֲדָרְשָׁם נִקְבְּצוּ דְיֹת אִשָּׁה רְעוּתָהּ:</p>	<p>Isa 34:15</p>	<p>There the bittern will nest, and lay and hatch and gather in her shadow, surely hawks will gather there, each one with her mate.</p>

**Table 76: Isaiah 34:11-15**

Houston says:

There is however a special literary context in which many of the unclean species appear, including many of the birds that do not appear elsewhere outside Leviticus 11 and Deuteronomy 14, and it may allow us to use extrabiblical evidence. This is the prophetic curse of destruction, when it extends to descriptions of the deserted ruins of the doomed place, which become the habitation of many wild creatures, including a surprisingly high proportion of those that appear in our chapters as unclean. There are also passages that use the same idea of the ruins as the habitation of wild creatures, though they are not of the same genre.<sup>692</sup>

Possibly the main predictor of an animal being used in an image of desolation is a scavenging nature. Ravens, for instance, and jackals and related canids, are staples of the genre. Scavenging is also correlated with uncleanness. However, uncleanness is by no means a prerequisite for animals to be used in these texts, and even edible domestic animals are sometimes named. This seems to be at odds with the nature of desolation – areas that were part of the human realm but are no longer – but the human realm in this context refers to dwellings and towns, and the reversion of buildings to open land, even when that is pasture land used by shepherds,<sup>693</sup> still comprises a kind of desolation.

Many of the animal names associated with desolation occur only once, while others occur twice in parallel passages. Some have several occurrences but all in similar contexts that do not tell us much about the meaning of the word. When words are found so few times in the text,

<sup>692</sup> Houston 1993:194.

<sup>693</sup> Jer 33:12-13.

translations tend to be speculative, little more than a guessing game or a copying of the guesses of previous scholars, lent credence by repetition. Occasionally a term of this sort has a strong tradition attached to it; these terms remain constant across most translations. Others are rendered differently in almost every translation. The following are some of the animals most closely associated with the genre of desolation:

קֶאֶת	sandgrouse	5	Lev 11:18; Deut 14:17; Ps 102:7; Isa 34:11; Zeph 2:14
יְנִישׁוּרַי	eagle owl	3	Lev 11:17; Deut 14:16; Isa 34:11
דִּיָּה	hawk	2	Deut 14:13; Isa 34:15 <sup>694</sup>
יַעֲנָה	female ostrich	8	Lev 11:16; Deut 14:15; Job 30:29; Isa 13:21; 34:13; 43:20; Jer 50:39; Mic 1:8.
עֵרָב	raven	10	Gen 8:7; Lev 11:15; Deut 14:14; 1 Kgs 17:4; 17:6; Job 38:41; Ps 147:9; Prov 30:17; Song 5:11; Isa 34:11 <sup>695</sup>
קַפְדִּי	bittern; hedgehog	3	Isa 14:23; 34:11; Zeph 2:14
קַפּוּז	bittern; hedgehog	1	Isa 34:15
לַיְלִית	Lilith; night bird	1	Isa 34:14
צִי	desert- dweller	6	Ps 72:9 (possibly human or supernatural); 74:14 (uncertain); Isa 13:21; 23:13; 34:14; Jer 50:39 <sup>696</sup>
אֶחָ	howling creature	1	Isa 13:21.  Also an animal of waste places.

<sup>694</sup> *Diy* means *hawk* in Ugaritic (Forti 2008:30).

<sup>695</sup> Excluding personal name Oreb

<sup>696</sup> Excluding homonym *ship*.



שְׂעִיר	male goat (literally hairy)	57	Gen 37:31; Lev 4:23; 4:24; 9:3; 9:15; 10:16; 16:5; 16:7; 16:8; 16:9; 16:10; 16:15; 16:18; 16:20; 16:21(x2); 16:22(x2); 16:26; 16:27; 17:7 (possibly demons); 23:19; Num 7:16; 7:22; 7:28; 7:34; 7:40; 7:46; 7:52; 7:58; 7:64; 7:70; 7:76; 7:82; 7:87; 15:24; 28:15; 28:22; 28:30; 29:5; 29:11; 29:16; 29:19; 29:22; 29:25; 29:28; 29:31; 29:34; 29:38; 2 Chr 11:15 (possibly demons); 29:23; Isa 13:21 (possibly demons); 34:14 (possibly demons); Ezek 43:22; 43:25; 45:23; Dan 8:21 <sup>697</sup>
אֵי	jackal, or possibly hyaena or wolf	3	Isa 13:22; 34:14; Jer 50:39.  The NASB has different translations for the word in each verse: <i>Hyaena</i> in the first, <i>wolf</i> in the second and <i>jackal</i> in the third. <sup>698</sup> The hyaena that lives in the region is the Striped hyaena. <sup>699</sup>
תַּן	jackal	14	Job 30:29; Ps 44:20; Isa 13:22; 34:13; 35:7; 43:20; Jer 9:10; 10:22; 14:6; 49:33; 51:37; Lam 4:3 (K/Q); Mic 1:8; Mal 1:3.  KJV translates it <i>dragon</i> , presumably due to the similarity to תַּנִּין.
שׁוּעָל	fox/jackal	7	Jdg 15:4; Neh 4:3; Ps 63:10 (scavenging); Song 2:15(x2); Lam 5:18 (inhabiting ruins); Ezek 13:4 (inhabiting ruins) <sup>700</sup>

**Table 77: The animals closely associated with the genre of desolation**

<sup>697</sup> Excluding the personal and geographical name *Seir* and a single occurrence meaning *rain*.

<sup>698</sup> There are many homonyms, but the noun is thought to derive from the verb root \*אִי, *howl* (BDB 2000:17), or else, less likely, from אֵי, *shore* (as inhabitants of) (Holladay 2000:12).

<sup>699</sup> Cansdale 1970:27.

<sup>700</sup> Excluding the use of the word as a personal and place name.

Several of the terms used in this genre possibly refer to legendary creatures rather than natural animals. Cansdale says “The Heb. *sa’ir* is found in four verses where it cannot possibly be tr. goat. It is rendered satyr in Isa. 13:21; 34:14; and devil in Lev. 17:7 and II Chron. 11:15. It is generally thought that these represent the heathen woodland spirits that the people pictured as half-man, half-goat. Some commentators regard them as related to Egyptian deities which the Hebrews must have known and it is never suggested seriously that they were wild animals.”<sup>701</sup> Houston says “Certainly there is no reason in principle why the text should not people these horrid ruins with mythological as well as real creatures.”<sup>702</sup>

He goes on to note that there is a high correlation between ritual uncleanness and presence in these texts, more so that is likely to be the result of coincidence. He wonders whether the animals used as symbols of desolation were selected because they were unclean, or whether animals became considered unclean because they were believed to inhabit unpleasant, desolate places.<sup>703</sup> Earlier he hypothesised that the first eight species on the list of unclean birds form an early tradition and the subsequent twelve names were added later.<sup>704</sup> Now he argues that these twelve may have been added specifically because they were perceived as inhabiting desolate places, based on the fact that no more than two of the first eight terms are found in the desolation texts, but that at least six of the subsequent twelve are.<sup>705</sup>

Finally, he mentions the possibility that certain of the terms for unclean birds – in particular **יִנְשׁוּרָה**, **קִאֵת**, **רָחִם** and **אֲנַפָּה** – may have referred to water birds. Certain scholars reject this possibility altogether because it is unlikely that water birds would be found in the middle of a desert, but Houston argues that the authors would have been guided by tradition and cultural attitudes rather than real ecology, and that it is still possible that water birds could be among

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<sup>701</sup> Cansdale 1970:48.

<sup>702</sup> Houston 1993:196.

<sup>703</sup> Houston 1993:196.

<sup>704</sup> Houston 1993:48.

<sup>705</sup> Houston 1993:197.

the creatures used in descriptions evoking desolation.<sup>706</sup> Of course **רָחֹם** and **אֲנָפָה** occur only in texts declaring them unclean and not in passages describing desolation. According to the translations put forward in the current study **אֲנָפָה** is the only one of these four terms that should properly be considered to be a water bird, but the mysterious **קָפוּז** or **קָפֹד** is translated as *bittern* and may also be considered as such, despite appearing in the desolation texts. It occurs in Isaiah 14:23 where **וְאֲנָמֵי-מַיִם**, marshy pools of water, are explicitly described as part of the desolate landscape.

#### 4.3. Natural versus supernatural animals.

<b>שָׂעִיר</b>	goat, possibly sometimes goat-demon. Literally <i>hairy</i>	57	Gen 37:31; Lev 4:23; 4:24; 9:3; 9:15; 10:16; 16:5; 16:7; 16:8; 16:9; 16:10; 16:15; 16:18; 16:20; 16:21(x2); 16:22(x2); 16:26; 16:27; 17:7 (possibly demons); 23:19; Num 7:16; 7:22; 7:28; 7:34; 7:40; 7:46; 7:52; 7:58; 7:64; 7:70; 7:76; 7:82; 7:87; 15:24; 28:15; 28:22; 28:30; 29:5; 29:11; 29:16; 29:19; 29:22; 29:25; 29:28; 29:31; 29:34; 29:38; 2 Chr 11:15 (possibly demons); 29:23; Isa 13:21 (possibly demons); 34:14 (possibly demons); Ezek 43:22; 43:25; 45:23; Dan 8:21 <sup>707</sup>
<b>לִילִית</b>	Lilith – night demon. Possibly also used for a night bird.	1	Isa 34:14
<b>בְּהֵמוֹת</b>	Behemoth; hippopotamus	1	Job 40:15

<sup>706</sup> Houston 1993:197.

<sup>707</sup> Excluding the personal and geographical name *Seir* and a single occurrence meaning *rain*.



כְּרוּב	cherub	91	<p>Gen 3:24; Exod 25:18; 25:19(x3); 25:20(x2); 25:22; 26:1; 26:31; 36:8; 36:35; 37:7; 37:8(x3); 37:9(x2); Num 7:89; 1 Sam 4:4; 2 Sam 6:2; 22:11; 1 Kgs 6:23; 6:24(x2); 6:25(x2); 6:26(x2); 6:27(x3); 6:28; 6:29; 6:32(x2); 6:35; 7:29; 7:36; 8:6; 8:7 (x2); 2 Kgs 19:15; 1 Chr 13:6; 28:18; 2 Chr 3:7; 3:10; 3:11(x2); 3:12(x2); 3:13; 3:14; 5:7; 5:8(x2); Ps 18:11; 80:2; 99:1; Isa 37:16; Ezek 9:3; 10:1; 10:2(x2); 10:3; 10:4; 10:5; 10:6; 10:7(x3); 10:8; 10:9(x3); 10:14; 10:15; 10:16(x2); 10:18; 10:19; 10:20; 11:22; 28:14; 28:16; 41:18(x4); 41:20; 41:25</p> <p>Most people would not consider these to be “animals”, but they certainly fit into the linguistic category . Leaving them out would be allowing contemporary prejudices to override the reality of the linguistic categorisation.</p>
שָׂרָף	flying or fiery serpent; seraph	7	Num 21:6; 21:8; Deut 8:15; Isa 6:2; 6:6; 14:29; 30:6 <sup>708</sup>
רַהַב	Rahab	6	Job 9:13; 26:12; Ps 87:4; 89:11; Isa 30:7; 51:9 <sup>709</sup>
לְוִיָּאֵתָן	Leviathan	6	Job 3:8; 40:25; Ps 74:14; 104:26; Isa 27:1(x2)
תַּנִּין	serpent / dragon / chaos monster	14	Gen 1:21 (in the sea); Ex 7:9 (snake; Aaron’s rod); 7:10; 7:12; Deut 32:33 (snake); Job 7:12 (sea monster); Ps 74:13 (sea monster); 91:13 (snake); 148:7 (sea monster); Isa 27:1 (sea monster, specified as Leviathan); 51:9 (sea monster, specified as Rahab); Jer 51:34 (sea monster); Ezek 29:3 (sea monster,

<sup>708</sup> Excluding one instance of the word as a personal name as well as the root used as the verb *to burn*.

<sup>709</sup> Proper noun naming a semi-mythical sea monster, used metaphorically for Egypt. Excluding many homonyms.

			metaphor for Pharaoh, living in Nile); 32:2 (Pharaoh as sea monster).
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**Table 78: Natural versus supernatural animals**

One of the most difficult things to do in this study was to override the natural inclination to make a primary distinction between “real” and “not-real” animals when this distinction simply did not exist to the authors of the original texts. This section is partly a discussion of this effect, and partly a sop to the modernist urge to put all the legendary beasts by themselves in a category somewhere.

Whether the **בְּהֵמוֹת** is natural or legendary is one of the ongoing disputes in this field. Isaacs notes that in later Jewish literature, **בְּהֵמוֹת** is a purely mythological creature,<sup>710</sup> sometimes considered to be the mate and terrestrial counterpart of **לְוִיָּתָן**.<sup>711</sup> It is often identified as the hippopotamus, partly because this is the largest land animal that was native to the region,<sup>712</sup> and the description in Job fits for the most part with the exception of the tail. The fact that the word **בְּהֵמוֹת**, although used as a singular, is grammatically the plural of **בְּהֵמָה** (which is itself used as a collective noun) raises some interesting questions on the subject of prototypes. Is it possible that this animal, whether real, legendary or in between – Isaacs says “it would seem that the reference is to an existing animal, to which legendary details were later added”<sup>713</sup> – was viewed as a sort of *ne plus ultra* of **בְּהֵמָה**? This would be a sort of prototype, although not the kind we are dealing with in prototype theory: while prototype theory deals with something that is the ultimate example of its category in the sense of being the best example, with the implication of being average or usual, **בְּהֵמוֹת** is different: it seems to be a kind of ideal – the prototype as biggest, strongest and best of its category, and also possibly not entirely of this world. In later

<sup>710</sup> Isaacs 2000:178.

<sup>711</sup> Isaacs 2000:177.

<sup>712</sup> Isaacs 2000:178

<sup>713</sup> Isaacs 2000:177



Jewish folklore, the **רִאֵם** fills the same role,<sup>714</sup> a giant animal of which only one male and one female are alive at once, and they live on opposite sides of the world except when they find each other every seventy years to mate and die, producing a new pair.<sup>715</sup>

This folklore is similar to that of the **זִיז**, a word which in the Biblical texts means *animals* in general, with no reason whatsoever to imagine that a bird is intended, but Isaacs says that in Gen Rabbah 19:4 the Ziz is an enormous bird, the equivalent in the sphere of the air of **בְּהֵמָה** on land and **לְיַתָּן** in the sea, and which like them in legend will be eaten at the future feast for the righteous. The description is very similar to the Roc and other legendary giant birds.<sup>716</sup>

Various words are used to refer to the concept of the chaos monster or dragon, usually envisaged as living in the sea. **לְיַתָּן** is the best-known, but others include **רֵהַב** and **תַּנְיִן**. Isaacs relates these sea monsters to the Canaanite monster Lotan, described as “a tortuous serpent with seven heads” and killed by Baal,<sup>717</sup> as well as to Tiamat, the primeval monster of Babylonian mythology.<sup>718</sup> These mythological dragon-like creatures of the water find their mirror in the seraph which is a denizen of the land and the sky. I concluded in my Master’s dissertation that *seraph*, when the word refers to a supernatural being, is a composite creature, sometimes winged, with snake-like or dragon-like attributes.<sup>719</sup> There is no evidence for a perceived boundary between the “natural” and “supernatural” members of this category, or indeed of any animal category. Sea monsters were just as real and solid as whales or sharks.

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<sup>714</sup> See 3.4.3.3.

<sup>715</sup> Isaacs 2000:181-182.

<sup>716</sup> Isaacs 2000:183.

<sup>717</sup> Isaacs 2000:180.

<sup>718</sup> Isaacs 2000:179.

<sup>719</sup> Deysel 2009:151.

#### 4.4. The clean / unclean dichotomy

A major surprise is the relative unimportance, in terms of the primary categorisation system, of the clean / unclean dichotomy. Going into the study I imagined that this would have been a major – even *the* major – categorical division for animals in terms of Hebrew thought. After all, the anthropological theory presupposes that the things that are talked about are above all the things that have practical or ritual significance for the speakers. In 2.2 I said “...the primary question of this genre (on the surface, at least) is ‘can we eat it?’” It seems that the ancient Hebrews did not after all consider this to be the primary question. Instead, the primary question is “where does it live?”

##### *4.4.1. Reasons for the existence and for the content of food taboos: two questions rather than one*

In this study, cleanness and edibility are treated as synonymous. Different words are sometimes used to mean *unclean*, and Deuteronomy adds a restriction on certain animals that their dead bodies may not be touched, but to attempt to define *clean* as being distinct from *edible* leads to a lot of speculation not warranted by the texts. Esias Meyer says: “...both chapters know that certain animals may not be eaten. Leviticus uses שֶׁקֶץ for these animals. Deuteronomy uses טִמֵּא. Then there are animals which may not be eaten and may not be touched when dead. For these Deuteronomy also uses טִמֵּא, but qualifies it in verse 8 (and you may not touch). Leviticus uses טִמֵּא only for these. Yet the end result is pretty much the same.”<sup>720</sup>

So why are some animals allowed for food and others not, and where do the boundaries between clean and unclean animals come from? These two questions are nearly always conflated, but they have completely different answers and should be dealt with separately. Much of the confusion on the topic could be avoided if the two issues, of, firstly, the existence of food taboos, and secondly, their content, were always clearly distinguished. The attempted

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<sup>720</sup> Meyer 2014:80-81.

explanations given below sometimes address one, sometimes the other, and sometimes both at once.

These questions (usually masquerading as a single question) have been extensively dealt with by enormous numbers of scholars. Ronald Isaacs provides a short summary in his book of various explanations given by both ancient and modern authors for the dietary laws.<sup>721</sup> The most common rationales given are health, aesthetic, moral, symbolic, and mnemonic. According to Houston, the four different principles invoked to try and explain dietary laws are the moral-symbolic, the cultic, the aesthetic and the hygienic.<sup>722</sup>

The health or hygiene argument is often made by lay people today who have considered the topic; it is materialist and practical in nature.<sup>723</sup> However, ancient sources also cite it, although they do not depend on it exclusively to explain the dietary laws. Maimonides<sup>724</sup> says many forbidden animals are unhealthy to eat; Nachmanides says that fish without fins and scales have more impurities; Hinnuch says the prohibition on eating carrion is for health reasons.<sup>725</sup> The mediaeval health-based explanations rely on the theory of the humours, while more contemporary theorists cite health dangers such as roundworm cysts in pork. The obvious argument against this is that the ancient authors could not have known about such things as roundworm cysts, but there is a theological as well as a scientific argument as to why this is not necessarily the case: from the theological point of view God, who is omniscient, is the true author of the Bible; while certain cultural theorists believe that human societies can unconsciously acquire adaptive behaviour in a process similar to Darwinian natural selection. In general though, the hygiene argument is inadequate because clean animals also have their

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<sup>721</sup> Isaacs 2000:196-198.

<sup>722</sup> Houston 1993:69.

<sup>723</sup> Houston 1993:69.

<sup>724</sup> (in Isaacs) and passim: for the next few paragraphs a number of ancient authors are quoted from more modern sources, as cited in each case.

<sup>725</sup> Isaacs 2000:196-198.

own parasites and diseases, and there is overall no real difference in potential health hazards between the two groups.<sup>726</sup>

Maimonides uses an aesthetic argument when saying that certain animals such as eels and roaches are not to be eaten because they are repulsive.<sup>727</sup> Pigs, too, he considers loathsome in their food and habits.<sup>728</sup> The aesthetic theory only works in a few cases and cannot explain anything on its own, but aesthetic factors are highly likely to have played a part in certain early unspoken taboos.

Ibn Ezra uses a direct moral argument when he says that cooking a kid in its mother's milk is barbarous and constitutes cruelty to animals.<sup>729</sup> Maimonides' and Philo's argument that particularly desirable meats were forbidden in order to restrain gluttony and prevent self-indulgence can also be considered a direct moral argument.<sup>730</sup> A third possibility is that restraints on eating (which implies killing) animals were intended to inculcate a reverence for life and remind the Israelites that vegetarianism is the original and ideal state of creation, and that eating meat at all is a concession made after the Flood.<sup>731</sup>

Other sources make moral claims as well, but they are symbolic in nature: Philo says that clean mammals, which have divided hoofs and chew the cud, are symbolic of wisdom in that "a person grows in wisdom only if he repeats and chews over what he has studied and if he learns to divide and distinguish various concepts", while Sforino says that the prohibition on eating the thigh muscle symbolises that "a Jew must never let physical handicaps discourage him in his fight for survival". Nachmanides says that eating animal blood would cause one to take on the

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<sup>726</sup> Houston 1993:69-70.

<sup>727</sup> Isaacs 2000:196.

<sup>728</sup> Houston 1993:71.

<sup>729</sup> Isaacs 2000:198.

<sup>730</sup> Houston 1993:75.

<sup>731</sup> Houston 1993:76-77.

instincts and characteristics of the animal.<sup>732</sup> Philo adds that eating carnivores would make people take on their characteristics and become animalistic.<sup>733</sup>

A fourth factor, that may be considered a part of the moral/symbolic argument, is that the dietary laws may be viewed as a reminder of other laws and of religious and cultural unity. Joseph Hertz, the former chief rabbi of Great Britain, said that the dietary laws are an outward expression of an inner sanctity, and a reminder to Jews of their separate status as a holy people.<sup>734</sup> Maimonides also considered the main purpose of the dietary laws as being to teach self-control.<sup>735</sup>

The cultic theory is favoured by many modern scholars. The general form it takes is that unclean animals were considered so because they were used in pagan rituals. However, while it true that pigs in particular were used in certain Canaanite rites, the animals most associated with pagan religions were the same ones that were considered clean and used in Israelite rituals. The bull was associated with Baal, the dove with Asherah, the cow to Hathor, the ram to Amon; even the fish was very important in the worship of certain Canaanite and also Mesopotamian deities.<sup>736</sup> A variation on this argument was used by Douglas after she recanted the theory that I defend later in this study (see 4.4.4). It states that the use of animals in everyday life was modelled on their use in sacrificial rites: that clean animals are the ones that were used in the Temple cult.<sup>737</sup> Certainly the connection between slaughter and sacrifice was very close in early Israel, to the point where one may question whether secular slaughter existed at all.<sup>738</sup> A theory

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<sup>732</sup> Isaacs 2000:196-198.

<sup>733</sup> Houston 1993:75.

<sup>734</sup> Isaacs 2000:197.

<sup>735</sup> Isaacs 2000:196.

<sup>736</sup> Houston 1993:72-73.

<sup>737</sup> Douglas 2002:xv-xvi. This explanation is still deficient without prototype theory, as it is simply not true that the only clean animals were the ones that could be sacrificed. Wild deer and antelope, wild birds, and fish could be hunted and eaten but not sacrificed.

<sup>738</sup> Houston 1993:81.

that is very popular at the moment and that is presented as an alternative to Douglas’s anomaly theory (including by Douglas herself), it is really simply a restatement of it with the addition of the observation that the closest among mammals to the prototypes were those sacrificed in the Temple cult. Houston explains: “Now the domestic flocks and herds of cattle, sheep and goats (and among birds doves or pigeons) had from time immemorial provided both the bulk of the human meat diet and virtually all sacrifices to deities. The cleanness of animals would be determined by their resemblance to a model provided by these recognized sacrificial species. ‘The handful of species fit for God’s altar-table, universally accepted as such from the beginning, provided the required definition of cleanness for the rest of the animal world.’”<sup>739</sup> And again: “[Edwin] Firmage describes the ‘temple paradigm’ as ‘the mainspring of the dietary law’”.<sup>740</sup>

However, this explanation has several deficiencies. First, it applies to birds and mammals but says nothing about aquatic creatures.<sup>741</sup> Second, it simply pushes the problem back one step: instead of asking “why were certain animals deemed suitable for eating?” we now need to ask “why were certain animals deemed suitable for sacrifice?” Houston says, “Firmage’s explanation takes us some of the way along the road, but in the end we simply find ourselves faced with the same problem one stage further back.”<sup>742</sup> It would seem that in either case an answer still needs to be provided, and that answer is still “prototype effects”. Certain animals were domesticated and used widely for food, these animals became the basis of the prototypes by which all animals were judged, and these animals were also the ones that were used in sacrificial rituals, both because they were “clean”, adhering closely to the prototype, and because killing them was a genuine economic sacrifice in a way that killing a wild animal would

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<sup>739</sup> Houston 1993:115.

<sup>740</sup> Houston 1993:115.

<sup>741</sup> Houston 1993:115-116.

<sup>742</sup> Houston 1993:120.

not be. This also explains why fish, also prototypical and clean, were not sacrificed: because they were not owned and are thus not an economic sacrifice.

And finally, economic explanations – also a purely contemporary phenomenon – are favoured by some scholars. In this paradigm, “the selection and rejection of foods are aspects strictly of the struggle for subsistence; religious prohibitions are simply an effective means of enforcement of that which is dictated by economic necessity, and the variations between different societies primarily reflect differences in their ecological settings, and especially the balance of costs and benefits in the provision of animal protein.”<sup>743</sup> It is certain that taboos on certain animals such as donkeys and camels can be traced back at least partially to the fact that they are more useful alive than dead. However, such explanations do not work all the time or for all cultures: Muslims, for example, have no taboo on eating camels no matter how useful they are in their various cultures.<sup>744</sup> An enormous amount of work has been done attempting to account for the pig taboo using economic theory,<sup>745</sup> but in the end it is inadequate to explain the case.<sup>746</sup>

However, two separate points are being conflated in most of these explanations. The first question is: Why did the ancient Hebrews have dietary laws? The second is: Why were the divisions between clean and unclean set in the places that they were? These are two separate points that require answering individually. It is a confusion of the two to say “the ancient Hebrews had dietary laws because they believed the following things about certain animals.” All societies have food prohibitions and avoidances, but not all of them are the same as those prescribed in the Hebrew Bible.

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<sup>743</sup> Houston 1993:84.

<sup>744</sup> Houston 1993:82; 87.

<sup>745</sup> Houston 1993:83-93.

<sup>746</sup> Houston 1993:90-93.

The first question is theological and anthropological in nature. It has nothing to do with the animals themselves, or with the nature of classificatory systems beyond the fact of their existence. Why did the ancient Hebrews have dietary laws? Firstly, we need to avoid the assumption that the ancient Hebrews were somehow unique in having food taboos. All cultures without exception have them, whether explicit or implicit. Reitz and Wing say “At no point in the history of our species did humans eat whatever was available to them.”<sup>747</sup> Tabooed foods feature on Brown’s list of human universals as given in Pinker.<sup>748</sup> Christians are traditionally supposed to be allowed to eat anything,<sup>749</sup> and the same is more or less true for secular Western culture – but just imagine, for one moment, serving up a dog at a dinner party. All cultures have food taboos, even though in Western society today for the most part (except for the major ones, such as dogs, which tend to be so ingrained they are hardly ever thought about) they are related to subcultures, whether religious, ethnic or particularly food-based ones such as vegetarians, vegans, followers of particular diets, organic eaters, raw-foodists, locavores and so on.

However, the Hebrew dietary laws are both explicitly stated and explicitly religious in nature – something that not all cultural food taboos are.<sup>750</sup> Through the course of history, Jews have been made conspicuous by their adherence to certain food laws which have distinguished them from their neighbours. According to Houston:

The dietary laws have taken a central place in the self-understanding of Judaism throughout its history. While Jews have expressed their faithfulness to their God by the observance of all the laws, it is these, along with those of circumcision and the Sabbath, that have most conspicuously enabled them to express their identity as Jews over against their neighbours, to resist assimilation, and thereby to be faithful to God who has called them to be ‘his special possession among all the nations that are on the earth’. This power of the dietary laws arises not least from the fact that Jews draw attention to themselves among their neighbours by their observance, often indeed incurring ridicule for it.<sup>751</sup>

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<sup>747</sup> Reitz & Wing 2008:347.

<sup>748</sup> Pinker 2002:438.

<sup>749</sup> See Houston 1993:15.

<sup>750</sup> Houston 1993:17.

<sup>751</sup> Houston 1993:13.



There have been many attempts to explain the existence of Hebrew dietary laws, but this is the most satisfactory: the inculcation of an idea of holiness as well as separateness, community cohesion and loyalty to tradition. Houston again:

It is in itself wrong to disobey God, but one of the objects of God's law is to keep his people distinct from all others. The adoption of foreign customs, and in particular foreign diet, frustrates this purpose. This is the precise conception of Leviticus 20. It is not just that being a Jew entails not eating pork, but that eating pork in a certain sense entails ceasing to be a Jew.<sup>752</sup>

There are other, more universal, aspects to the laws as well: Isaacs says that in Jewish thought the eating of meat, which means taking the life of an animal, is seen as a concession or compromise, something that ideally should not happen but that is allowed under certain circumstances in an imperfect world.<sup>753</sup> From this point of view, constraints and taboos serve as a reminder of the concessionary nature of the permission given to humans to eat animals. Jacob Milgrom, writing in Firmage, Weiss and Welch's book *Religion and law*, agrees with this, saying "According to the Priestly account of creation, people initially were meant to be vegetarian. God concedes, however, to humanity's carnivorous desires: craving for meat is to be indulged, but people are to abstain from consuming the blood. Thus, P's theory of anthropogenesis reveals its reservation and, indeed, its uneasiness toward humanity's uncontrolled power over animal life. Through its law code, of which Lev 17:11 can now be seen as an integral part, it seeks to curb that power."<sup>754</sup>

So there are good reasons, both universal and specific, for the dietary laws. However, none of these reasons require any *specific* animals to be tabooed, they simply require that there should be certain animals that are. It would be perfectly possible for the taboos to be completely arbitrary. Pinker says:

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<sup>752</sup> Houston 1993:14.

<sup>753</sup> Isaacs 2000:193-194.

<sup>754</sup> Milgrom 1990:168.

Many cultural practices are arbitrary in their specific form but not in their reason for being. There is no good reason for people to drive on the right side of the road as opposed to the left side, or vice versa, but there is every reason for people to drive on the *same* side. So an arbitrary choice of which side to drive on, and a widespread conformity with that choice, make a great deal of sense. Other examples of arbitrary but coordinated choices, which economists called ‘cooperative equilibria,’ include money, designated days of rest, and the pairings of sound and meaning that make up the words in a language.<sup>755</sup>

And Houston says:

Now, in itself this function of the dietary laws in marking boundaries and protecting holiness could operate with a perfectly arbitrary definition of the permitted and forbidden species. Nothing in the ideological framework of the story of Eleazar suggests any intrinsic reason why it should be pork – rather than, say, beef – that the king’s officers vainly force down his throat. But it was of course pork, because it is pork, among other things, which is forbidden in Leviticus. But why is it pork (and the rest) in Leviticus? There have been strong souls who have been perfectly happy that the definition should be arbitrary, and that there should be no answer to that question. But they are rare. For the mass of the devout it is as difficult to suppose that the Most High makes arbitrary decrees as for the scholar to leave such questions unanswered; and through the centuries there have been many attempts both by the devout and by scholars – not of course mutually exclusive groups – to explain the prohibitions of Leviticus 11 and Deuteronomy 14.<sup>756</sup>

Milgrom’s argument is the following: “The traditional view is that the list of prohibited animals is simply arbitrary: the unalterable and inscrutable will of God: ‘A man should not say “I do not desire to eat the flesh of swine”... On the contrary, he should say “I desire it but must abstain because my father in heaven has so ordered”.’ (*Sipra* Kedoshim 11:22; cf. *Ahare Mot* 13:10). This position will not be discussed since, as I shall show, there are definite and ascertainable reasons that lie behind the food taboos of Leviticus.”<sup>757</sup> The latter, however, does not in fact invalidate the former. The fact that we can ascertain patterns and reasons behind the *content* of the taboos, the drawing of lines between certain animals and others, does not invalidate the fact that the reason behind the *existence* of the taboos is so that people, through the acceptance of a

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<sup>755</sup> Pinker 2002:64.

<sup>756</sup> Houston 1993:15.

<sup>757</sup> Milgrom 1990:175.

certain degree of arbitrariness, would be strengthened in their bonds with God and with each other as a nation. The means by which this may occur is treated in 4.4.2.

#### ***4.4.2. Arbitrary taboos and cognitive dissonance***

So the distinctions between clean and unclean could be arbitrary. But are they? I would argue that they are not entirely so. Few things in human society are completely random; humans are pattern-making beings. However, that is not to say that I agree with the scholars who believe that the distinctions are primarily about hygiene, or economics, or the intrinsic natures of certain animals, or even the sacrificial cult. In fact, a degree of arbitrariness is beneficial to the boundary-marking function of the dietary laws, for one reason: cognitive dissonance.

Now, cognitive dissonance has had a lot of bad press from people who have turned it into shorthand for something like “intellectual dishonesty.” However, the actual meaning of the term is simply the mental activity that happens when a belief held by a person interacts with either another, conflicting, belief held by the same person, an action committed by the person, or new information acquired by the person. Leon Festinger, who developed the idea of cognitive dissonance, explains it as follows:

This theory centers around the idea that if a person knows various things that are not psychologically consistent with each other, he will, in a variety of ways, try to make them more consistent. Two items of information that psychologically do not fit together are said to be in a dissonant relation to each other. The items of information may be about behaviour, feelings, opinions, things in the environment and so on. The word “cognitive” simply emphasizes that the theory deals with relations among items of information.

Such items can of course be changed. A person can change his opinion; he can change his behavior, thereby changing the information he has about it; he can even distort his perception and his information about the world around him. Changes in items of information that produce or restore consistency are referred to as dissonance-reducing changes.<sup>758</sup>

The relevant part of the theory for current purposes is the part about the interaction between a belief and an action. One would generally assume that one’s actions are determined by one’s

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<sup>758</sup> Festinger 1962:3.

beliefs, but cognitive dissonance means that sometimes the influence can work the other way around. Festinger and Carlsmith present two derivations of cognitive dissonance with regard to actions:

1. If a person is induced to do or say something which is contrary to his private opinion, there will be a tendency for him to change his opinion so as to bring it into correspondence with what he has done or said.
2. The larger the pressure used to elicit the [p. 210] overt behavior (beyond the minimum needed to elicit it) the weaker will be the above-mentioned tendency.<sup>759</sup>

In a famous experiment,<sup>760</sup> subjects participated in an extremely boring activity (they were told it was an experiment to measure motor dexterity) and then were paid either \$20 or \$1 to tell another subject that the experiment had been fun and interesting. This was explained to them as being necessary to study the effect of expectations on the performance of the task.<sup>761</sup> Afterwards, the subjects were all surveyed on how interesting they had actually found the experiment. Those who had been paid only \$1 rated it much more favourably than those who had been paid \$20.<sup>762</sup> Both sets of participants had committed actions that were dissonant with their self-perception as generally intelligent and honest people<sup>763</sup> – first, taking part in a tiring and mind-numbing experiment, and then lying to another participant about what it would be like – but the highly-paid participants had a good external reason to have done those things

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<sup>759</sup> Festinger & Carlsmith 1959:203-210.

<sup>760</sup> In view of the replication crisis currently making news, it was prudent to double-check the validity of this experiment. Eddie Harmon-Jones (2000) provides an overview of criticisms of the experiment and answers to them, as well as later replications and failures to replicate, concluding that while the theory and original experiments are not perfect, the experiments are still valid and the theory sound (Harmon-Jones 2000:193-201).

<sup>761</sup> Festinger & Carlsmith 1959:203-210.

<sup>762</sup> Festinger 1962:6-7.

<sup>763</sup> Later theorists proposed that cognitive dissonance occurs only when something threatens a person's sense of self or positive self-image (Harmon-Jones 2012:545.) However experiments support Festinger's original idea that consistency of beliefs is the motivating factor. Self-perception can easily be one of the conflicting beliefs: here the two bits of information are "I am a generally intelligent and honest person" and "I just told someone that I found shoving pegs around for an hour fun and interesting." Self-affirmation theory can be thought of as dissonance in another guise (Harmon-Jones 2012:548.) Even if self-image is the essential factor, to most people "I believe correct things" is a fundamentally important part of their self-image.

(“Sure, I wasted an hour of my life and conned someone else into doing the same, but it was for \$20!”) while the lower-paid participants did not have an external reason, so they revised their beliefs about how enjoyable the experiment had actually been (“It wasn’t really that bad... in fact it was actually kind of fun. I certainly wouldn’t waste an hour of my life and then lie about it!”) In other words, practical motivations were found to reduce the effect of cognitive dissonance in modifying beliefs.

In what way is this relevant to food taboos? I would like to suggest a corollary to Festinger and Carlsmith’s above two points: *If a person is induced to do something that is consonant with his or her private opinion or self-image, that opinion or self-image is reinforced. But the larger the pressure used to elicit the behaviour, the weaker the reinforcement.* When food laws are used to strengthen someone’s identity as a member of a certain community, external or practical motivations may weaken that effect in the same way that a financial reward weakened the effect of cognitive dissonance in the experiment. Of course, in the experiment the participants’ self-image was challenged while in the case of food laws it is reinforced, but the principle works in exactly the same way. If there is a definite, practical reason for the taboo, “pork will give you tapeworms” for instance, the effectiveness of keeping the taboo in terms of reinforcing group identity and religious loyalty will be weakened. If the taboo is arbitrary, cognitive dissonance causes the individual’s loyalty to the group to be affirmed each time he keeps it. (“I don’t eat pork because Jews don’t eat pork. I certainly wouldn’t deprive myself of a food source for no good reason; I do it because being Jewish is an important part of my identity.”) If the taboo has practical reasons behind it (“I don’t eat pork because it’s unhealthy,” “I don’t eat pork because pigs are intelligent animals,” “I don’t eat pork because I wouldn’t like the taste anyway,”) the effect of reinforcing group cohesion is lost. For this reason, it is a losing proposition to look for practical reasons for the particular divisions between clean and unclean animals, as practical reasons for the tabooing of particular animals would defeat the practical purpose of having taboos in the first place. That is by no means to say that practical considerations did not come into it; just that they were not the primary or “real” reason for forbidding certain foods. It also

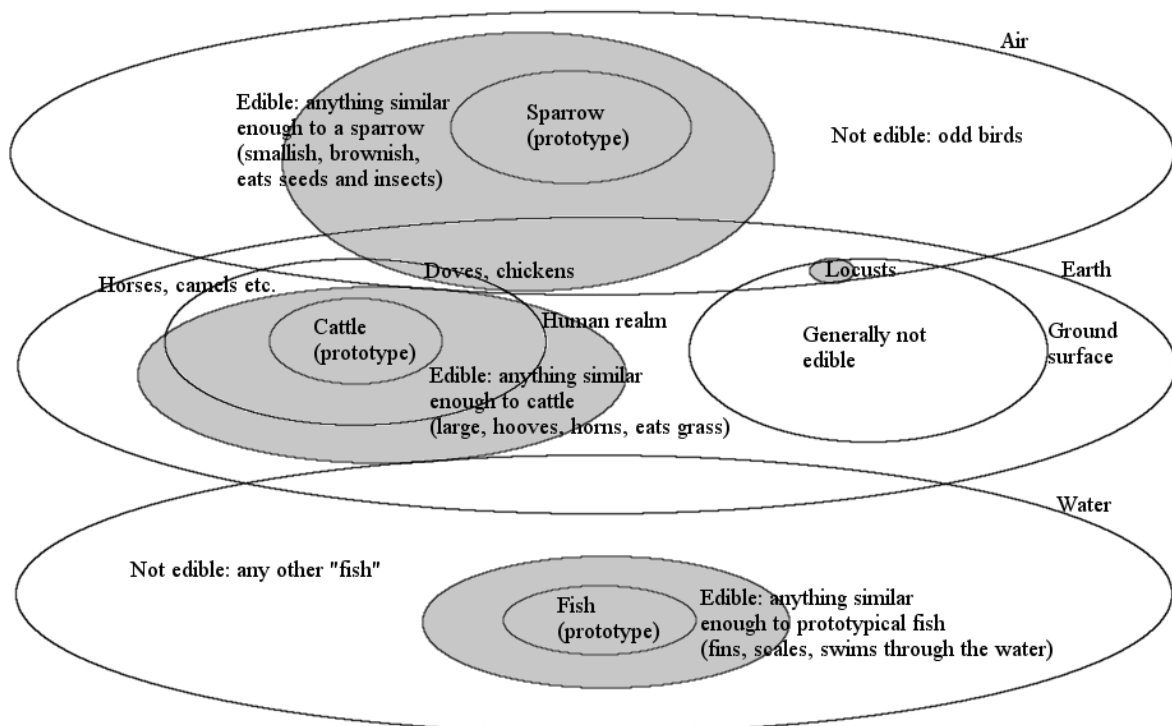
explains why pork is the prototypical forbidden food: because no practical reasons for its exclusion can be rationalised. Pigs do not have economic value alive as beasts of burden do; they do not provoke squeamishness as small animals do to some people; they were eaten and even sacrificed by surrounding cultures. Attempts to find a “real” reason for the forbidding of pork are always being made; according to the cognitive dissonance / social cohesion theory the real reason is that there is no “real” reason.

So if the reason for having food taboos is the encouragement of social cohesion and religious faithfulness through cognitive dissonance, what is the answer to the second question, how were the particular animals to be labelled clean or unclean decided upon? Certainly a wide range of factors played their parts, from atavistic disgust to the development of agriculture and domestication to the temple cult to economic factors. However, none of these factors is enough on its own to explain the system. And stating that the divisions may be to some degree arbitrary is not at all the same saying that they were decided at random. They are certainly not random, so what lies behind them?

#### ***4.4.3. Cleanness and uncleanness as artefacts of the habitat-based classification system***

If the distinctions between clean and unclean animals are neither totally random nor based on practical considerations, how were they decided upon? All of the arguments considered in 4.4.1 have their place, but none explains all cases. In the course of my study of the prototype-based classification system of animals in the Hebrew Bible, I began to notice certain patterns. However, they did not look like linear divisions or dichotomies; instead, they appeared to consist of circles and circles within circles, reminiscent of the “lumpiness” described by Pinker. The inner circles, the centres of the lumps, in each domain (earth, sky and sea) contain the animals that are permitted as food. The outer reaches of the circles contain the tabooed animals. In other words, in each realm the prototypical animals and those close to them are considered edible, and the anomalous ones, those that are atypical of their category or that combine categories, are inedible. The only realm that is not included is the surface of the ground: all the

animals of this realm are inedible except for locusts, which are also inhabitants of the sky realm and which in any case are a practical concession. Houston has noticed this structure as well: “The text we are dealing with overtly expresses its concern for order in the form of a binary opposition: animals are either clean or unclean, either to be eaten or to be abominated. But more than one student has observed that this superficial binary structure reveals an underlying centrism as soon as we reckon in the rules defining which animals are acceptable for sacrifice.”<sup>764</sup>



**Figure 11: Edibility as an artefact of prototypicality within the spatial taxonomy**

Acceptability for sacrifice is a simple union of the sets describing edibility (which are based on closeness to prototypes) with the human realm. Any animal (excepting chickens, to the extent that they were kept; they may have been thought of as foreign or a novelty which, along with their terrestrial habits, would decrease their prototypicality score) that was property and that was suitable for eating was suitable for sacrifice. A sacrifice had to be a genuine economic

<sup>764</sup> Houston 1993:237. The students he is referring to here are Douglas and Milgrom.

sacrifice, hence the absence of fish and other unowned animals on the altar. There is no need to resort to explanations involving pagan rituals or anything else to explain this custom.

#### ***4.4.4. The theories of Mary Douglas***

Soon after starting to notice these patterns, I began to find references in the literature to Mary Douglas. Isaacs says of her:

This anthropologist suggests that holiness means keeping distinct categories of creation. She believed, therefore, that the biblical categories would classify as unacceptable or unclean any foods from species that are imperfect members of their class, or whose class itself confounds the general scheme of the world. The dietary laws are, therefore, signs that inspire meditation on the oneness, purity, and completeness of God. By following rules of avoidance, holiness is given a physical expression in every human encounter with the animal kingdom and at every meal.<sup>765</sup>

Houston, in whose book I first found mention of Douglas, goes into considerable detail about her theories, their strengths and weaknesses, and objections to them. In the end, he says of Edwin Firmage that he “begins from the failure of Douglas’s theory of anomaly.”<sup>766</sup> However, I am far from convinced of this so-called failure, because the evidence is right there in the text when it is viewed through the lens of prototype category theory. If Douglas’s theory was a mistake, then how could I be reaching the very same conclusion using a completely different approach? Further research on Douglas shows that she retracted her theory, rather dramatically, in the preface to the 2002 edition of her book *Purity and Danger*. This meant that it became very important to look closely at both her original theory and at the retraction.

Douglas’ theory of anomaly is found in chapter 3 of *Purity and danger*, titled *The Abominations of Leviticus*. She starts by asking “Why should the camel, the hare and the rock badger be unclean? Why should some locusts, but not all, be unclean? Why should the frog be clean and the mouse and the hippopotamus unclean? What have chameleons, moles and crocodiles got in

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<sup>765</sup> Isaacs 2000:197.

<sup>766</sup> Houston 1993:114.



common that they should be listed together (Levit. xi, 27)?”<sup>767</sup> After considering and discarding various proposed explanations similar to those discussed in 4.4.1, she begins by speaking about holiness. Holiness, she says, is derived from a root meaning “set apart”.<sup>768</sup> In other words, holiness, with all its connotations of oneness, wholeness and perfection, at heart has to do with *categorisation*. With this in mind she starts with domestic animals: contact with them did not make people unclean, requiring purification before entering the Temple, as they were an integral part of society and normal life.<sup>769</sup> From this point she, without naming it explicitly as such, uses prototypicality to explain why this cleanness is extended to wild animals such as antelope that most closely resemble the domestic herds.<sup>770</sup> She does not mention the fact that not all domestic animals are considered clean or edible: the question remains as to why some were and others were not. A combination of practicality and prototypicality, however, explains this point.

She then moves on to the borderline cases, which she considers the most problematic. She argues that cleanness is based on two factors: habitat and locomotion. She looks at the threefold order of creation in Genesis, and considers the clean animals to be those that *move correctly within their realm*.<sup>771</sup> She says: “To grasp this scheme we need to go back to Genesis and the creation. Here a three-fold classification unfolds, divided between the earth, the waters and the firmament. Leviticus takes up this scheme and allots to each element its proper kind of animal life. In the firmament two-legged fowls fly with wings. In the water scaly fish swim with fins. On the earth four-legged animals hop, jump or walk. Any class of creatures which is not equipped for the right kind of locomotion in its element is contrary to holiness”.<sup>772</sup>

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<sup>767</sup> Douglas 2001:42.

<sup>768</sup> Douglas 2001:50-52.

<sup>769</sup> Douglas 2001:55.

<sup>770</sup> Douglas 2001:55.

<sup>771</sup> Douglas 2001:56-57.

<sup>772</sup> Douglas 2001:56.

I believe that she is correct in terms of realms, but that her focus on movement or locomotion is a red herring borne out of a misunderstanding about frogs. She considers frogs to be clean, based on a text in the Mishnah and the fact that they are not specifically mentioned as unclean in the Leviticus texts.<sup>773</sup> However, every other piece of evidence points to the frog being unclean. Seth Kunin says:

Professor Douglas' discussion of the frog also reveals problems in her analysis: it is examined in light of the permissibility of eating the locust. While the frog is never specifically mentioned in the texts in either Leviticus or Deuteronomy, Professor Douglas suggests, based on a text from the Mishnah (although without specific citation, I presume she is referring to either Tohorot 5.1 or 5.4), that the frog is both clean and purposefully excluded from the biblical enumerations of animals. Although the frog is considered by the text in the Mishnah to be clean, it is far from clear that this is implied by the biblical text; nor is it clear that the frog was specifically not mentioned. The authors of the biblical text may have assumed that the frog was unclean, included it in the general category and thus saw no need to mention it."<sup>774</sup>

This illustrates the necessity of looking at the entire classificatory system rather than just one text. Without the frog complicating matters, the case of the locust is revealed to be an exemption for practical reasons, and locomotion is shown to be merely one factor among many (diet, size, shape, habits) that together form the generalised image of a creature that is consulted by the brain to decide how closely it fits a prototype. The actual basis of the classification system is realm and realm alone: the reason crawlers and swarmers are generally unclean is not their mode of locomotion but their membership of the realm *surface of the earth*. Douglas does mention the word *prototype* once in this argument, saying "The prototype and model of the swarming things is the worm. As fish belong in the sea so worms belong in the realm of the grave, with death and chaos."<sup>775</sup> More or less the same as the ground surface, in other words, although the thought is never extended further.

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<sup>773</sup> Douglas 2001:57.

<sup>774</sup> Kunin 2004:47.

<sup>775</sup> Douglas 2001:57.

There are two essential points to Douglas' argument here that I consider central to the real systems of animal categorisation used by the ancient Hebrews. The first is the idea of *realms*, and the threefold structure of creation (easily extended to the more complex fivefold model), as the basis of all animal classification. The second is the idea of *conformity to a category* as the basis of cleanness. "But in general the underlying principle of cleanness in animals is that they shall conform fully to their class. Those species are unclean which are imperfect members of their class, or whose class itself confounds the general scheme of the world."<sup>776</sup>

These two points represent the two major conclusions of the current study. Douglas' 2002 retraction of her theory, then, is drastically important, as, if valid, it has the potential to erase this study's conclusions as well. For this reason it is quoted here in its entirety. In the preface to the 2002 edition of *Purity and danger* she says:

This is the place to confess to a major mistake. In Chapter 3, 'The Abominations of Leviticus', I tried to illustrate the theory of pollution by reference to the Mosaic dietary law. I studied the list of prohibited animals in Leviticus XI and found in those rules the same classification of three environments, land, water and air, as found in the Genesis creation story. It seemed that the prohibitions could be explained as a form of taboo on anomalous creatures. Each species has its own particular environment. But some species do not fit neatly with their fellows. The argument was attractive, not the least in the fact that no satisfactory explanation for the dietary laws existed.

Using the biblical term 'clean' to mean proper to its class, suitable, fitting, I took the cloven-hoofed ruminant as the model of the clean class of animal for the land habitat: that would be why the Israelites were allowed to eat the cows, sheep and goats of their flocks and herds. The anomaly theory of taboo would explain that the pig, the camel and the rock badger were unclean and tabooed because of their deviant feet. It was easy to explain the prohibitions on crawling creatures: crawlers defeat the environmental classification by living in all three habitats. The forbidden inhabitants of the water are a residual class. Birds were more difficult because they are not identified, so nothing can be said one way or the other about the prohibited birds.

This analysis attracted more attention than the rest of the book, with most of the criticism focusing on the inadequacy of taboo theory to explain the case of the pig.

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<sup>776</sup> Douglas 2001:56.

Three basic mistakes were not noticed at the time. One was the temptation to circularity, such as supposing that a species must be anomalous because it was forbidden, and then setting up a search for its anomalous features. Anomaly is like similarity: anything may have anomalous features, just as any two things may have similar features. More important was the absence of any positive implications for the social system of the biblical Hebrews for whom the rules were made. The taboos did not seem to be punishing any kind of misbehaviour. Though the implications for social structure were an integral part of the theory of taboo, there are none to be found by scouring through the dietary rules. I ignored this, confident that subsequent historical research on the culture of ancient Israel would uncover the missing parts of the puzzle. But that has never happened. The dietary laws do not warn malefactors of deeds that will bring punishments down on themselves. Breaking the food rules is the sin: the rules are hard to connect indirectly to other sins against God, or other sins against people.

The most serious mistake was to have accepted unquestioningly that the rational, just, compassionate God of the Bible would ever have been so inconsistent as to make abominable creatures. The book said that creatures that crawl on the belly must not be eaten, they must be abominated. Like the Mishnah and the rabbis, I took it for granted that their abominability was the issue, which made it a case for pollution theory. I now question that they are abominable at all, and suggest rather that it is abominable to harm them.<sup>777</sup>

Happily, all three of these points are very thoroughly addressed in the current study. The circularity of her theories, their major shortcoming and a point noted in many of the arguments against them, is caused by the lack of a strong foundation in any established theory. Bring in the correct theoretical foundation – in this case the prototype theory of categories – and suddenly the arguments are no longer circular but firmly rooted in an accepted and well-studied phenomenon in cognitive science.

The second problem, that of a lack of positive implications for following the rules or any implications for social structure, is remedied in chapter 4.4.2, the discussion of cognitive dissonance and its effects on group cohesion. Subsequent historical research on the culture of ancient Israel has perhaps not provided the missing pieces that Douglas was waiting for, but I argue that research on this aspect of our cognition has filled the gap.

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<sup>777</sup> Douglas 2002:xiii-xv.

The third problem, the one that troubled Douglas the most in the years between the original publication of *Purity and Danger* and the 2002 edition, is that of *abominability*, the thought that any living creature could be considered bad or evil in and of itself. This is in fact the easiest point to answer and has been answered many times – it is completely correct that it is not the animals themselves that are abominable but the eating of them – but that has no bearing on the core of her theories and should never have been a reason to abandon them.

Douglas herself, in *Purity and Danger*, writes that dirt is only dirty when it is out of place. “Shoes are not dirty in themselves, but it is dirty to place them on the dining-table; food is not dirty in itself, but it is dirty to leave cooking utensils in the bedroom, or food bespattered on clothing; similarly, bathroom equipment in the drawing room; clothing lying on chairs; outdoor things in-doors; upstairs things downstairs; under-clothing appearing where over-clothing should be, and so on. In short, our pollution behaviour is the reaction which condemns any object or idea likely to confuse or contradict cherished classifications”.<sup>778</sup> In that very same preface to the 2002 edition she repeats it: “They should remember that there is no such thing as dirt; no single item is dirty apart from a particular system of classification in which it does not fit.”<sup>779</sup>

Likewise, these animals are only “abominable” when they are out of place, on the table or dead in the corner of the house rather than alive in their proper spatial realms. This is very easily seen from the affection and reverence shown in many Biblical texts for animals such as lions, eagles/vultures and donkeys, animals that were “unclean” in the sense of being unfit for eating, but this in no way was meant to suggest that they were at all bad or evil in themselves. The reason the pig became particularly abominated, to the point of being seen as bad in itself, is explained in chapter 4.4.2. The aversion that many people have to creeping and crawling animals is not a consequence of the dietary laws, but a common feature of many human cultures.

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<sup>778</sup> Douglas 2001:37.

<sup>779</sup> Douglas 2002:xvii.

The idea that it is rather “abominable to harm them” is well-documented and argued by all the scholars who see an ethical aspect to the dietary laws. Milgrom’s *Ethics and ritual*<sup>780</sup> is a particularly good example of this school of thought, but even if one disagrees with the thesis that inculcating respect for animal life is the fundamental aim of the dietary laws it is still clear that it is the act of eating certain animals that is abominable and not the animals themselves.

The following are some of the major arguments for and against her theories. Houston argues against her on several points, the following being the most important: first her position on borderline examples such as the pig as being particularly abominable;<sup>781</sup> second, her use of modes of locomotion as the major classifying factor under each sphere or habitat realm;<sup>782</sup> and third, that her definitions of uncleanness and anomaly can be seen as tautologous.<sup>783</sup> The latter argument is by far the most important, and he quotes various scholars making it with greater or lesser degrees of vehemence, for example Michael Carroll: “Why are flying insects unclean? Because flying insects have four legs and flying creatures should appropriately have only two legs. Why should flying creatures appropriately have only two legs? Because all other types of flying creatures are defined as unclean in Leviticus!”<sup>784</sup> This is the strongest argument against Douglas’s conclusions, as all the others refer to relatively minor details that can be (and have been) changed without compromising the basic theory. However, this study disproves the argument that Douglas’s definitions of anomaly are tautologous, by grounding the categories, and thus the anomalies, firmly in a corpus analysis and in the theoretical background of prototype category theory.

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<sup>780</sup> Milgrom 1990.

<sup>781</sup> Houston 1993:102-103.

<sup>782</sup> Houston 1993:104-105.

<sup>783</sup> Houston 1993:107.

<sup>784</sup> Houston 1993:107; Carroll 1978:341-342.

Douglas's threefold division of animals according to habitat also falls foul of Houston, who correctly points out that there are in fact five spatially-based categories rather than three,<sup>785</sup> as described and illustrated in chapter 3.3. However I believe this as well to be an incidental problem, not fatal to the main thesis that unclean animals are considered unclean because they are anomalous in terms of a habitat-based system of classification. A large number of other aspects of Douglas's theory are naturally critiqued by Houston and by other scholars as well, but it is my proposal that the only really important stumbling-block is the accusation of tautology (circular reasoning), and once that is removed by this study the other smaller problems are not sufficient to consider Douglas's paradigm a failure.

Prototype theory also clears up some of these smaller problems as well though, as in the case of the following: Houston says "As for the water creatures, it cannot be shown that there is any inherent reason why the group defined by the possession of scales and fins is clean and all others unclean; it is the same problem as with the insects. Certainly there is no reason why it should be said that scaly fish are the only "proper" denizens of the water, other than that all others are defined as unclean."<sup>786</sup> Prototype theory provides the answer. The reason why scaled, finned fish are the "proper" denizens of the water is that they are the prototypical denizens of the water, the first thing any child or adult thinks of when considering animals that live in water. The way the English word *fish* used to refer to all aquatic animals is illustrative of this, as discussed in chapter 3.4.2, with the Caribbean writer describing sea turtles as "so excellent a *fish*",<sup>787</sup> as well as terms such as *starfish* and *shellfish*.

I believe that Douglas's retraction was an overcorrection, in particular a reaction to a facet of her original theory that is not integral to it: the idea that unclean animals were somehow considered bad or inferior in and of themselves. This is of course incorrect, but the theory continues to stand very well without it. It is not the animals themselves that are "abominable",

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<sup>785</sup> Houston 1993:108.

<sup>786</sup> Houston 1993:109-110.

<sup>787</sup> Reitz & Wing 2008:32-33.

but the use of them as food. For this reason I have translated the word *שֶׁקֶץ*, usually translated as *detestable* or something similar, as *taboo* instead. There is nothing wrong or bad about the animals in themselves; they are simply forbidden as food. Other words used in similar contexts are *תועבה*, which is translated as *abominable* because it refers to moral abominations in other contexts,<sup>788</sup> and *טְמֵאָה*, translated *unclean* because it is the usual term for ritual impurity. In every case however, even that of *תועבה*, it can still be argued that it is the use of these animals as food that is abominable and not the animals in themselves. It is very possible for the act of eating something to inspire a feeling of revulsion and abhorrence even though the thing itself is neither revolting nor abhorrent; just consider cannibalism for proof of this.

Of course their forbiddenness sometimes creeps over and taints common perceptions of the animals themselves, particularly in the iconic example of the pig. This became, if one may put it this way, the prototypical forbidden food because unlike many forbidden animals they were commonly used for food by surrounding cultures, and also because they serve no economic or societal purpose other than food, so unlike horses, camels or dogs there was no valid reason for the Hebrews to keep them. However, other forbidden animals such as donkeys were well-loved and esteemed in society. The explanation for the food taboos still lies in categorisation. She also mentions, as a secondary reason for her retraction, the lack of a proper theoretical basis for her idea – she suspects that she may have used circular reasoning in coming up with it. However, this paper replicates those same results, independently, and by applying a particular theoretical framework to the texts. I had never read or heard of Douglas’ idea until after I had begun to see my pattern of circles within circles coming out of the application of the template that is prototype category theory to the corpus of animal words in the Hebrew Bible. This may well represent an oversight in preliminary research on my part, but I am convinced that if two people can independently come up with the same theory decades apart, working from completely different angles, that that is a case of replicability and a strong argument in favour of the theory. Houston says “It will be plain that Douglas’s explanation starts out from the assumption that

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<sup>788</sup> Houston 1993:59.



the classifications in Leviticus and the criteria on which it is based are the primary datum.”<sup>789</sup> My approach does not depend particularly upon Leviticus at all, but rather on a corpus analysis of the entire classificatory system for animals as evidenced in all texts where animal terms occur.

Douglas’ theory of uncleanness as based on anomaly (or to put it another way, cleanness as based on prototypicality) is in fact correct, I believe, because it has proved to be independently replicable by applying the concepts of prototype theory to the relevant texts. Houston’s objections appear to be based primarily on a lack of given reasoning for Douglas’ conclusions, a lack which is now rectified by the use of prototype theory. Her own retraction, apart from the three points already addressed, appears to be based on her adoption of a different, complex theory based on ritual and the sacrificial cult which I will briefly treat here. She says:

...the prohibitions on unclean animals are not based on abhorrence but are part of an elaborate intellectual structure of rules that mirror God’s covenant with his people. The people’s relation to their flocks and herds is implicitly parallel to God’s covenanted relation to them. The land animals belong to God; He cherishes them and forbids their blood to be shed unless they are consecrated for sacrifice (Lev. XVII, 4). Of land animals, the people of Israel may only eat those which are also allowed to be sacrificed on the altar, which restricts them to eating only the species of the land animals which depend on the herdsmen entirely for safety and sustenance. What may be burned on the altar may be burned in the kitchen; what may be consumed by the altar may be consumed by the body. The dietary laws intricately model the body and the altar upon one another.<sup>790</sup>

This may be so but it hardly functions as a replacement for the anomaly theory. Firstly, it is not true that only the animals that were suitable for sacrifice were allowed to be eaten; the edible domestic animals considered suitable for sacrifice were indeed the *prototypes* for the groups that were regarded as clean, but other animals such as antelope were allowed to be eaten but not sacrificed. Isaacs gives an explanation for why they were not accepted as sacrifices: “Wild animals were not permitted to be used in sacrifices because they did not represent wealth, and

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<sup>789</sup> Houston 1993:101.

<sup>790</sup> Douglas 2002:xv-xvi.

killing them would therefore not be a true loss.”<sup>791</sup> The statement that animals allowed for food are the same group as animals allowed for sacrifice also loses accuracy when non-mammals are considered: the same rule applies that only domesticated, owned animals whose loss represents a genuine economic sacrifice are suitable for the altar. The only birds used in the sacrificial cult are doves and pigeons, while many other birds are allowed as food; also no fish are used in sacrifices, but they may be eaten.

It is not only Douglas who has espoused ideas relating to uncleanness being a function of categorical ambiguity or liminality. The idea of boundaries and classification is brought up by Nachmonides: “With regard to the prohibition of eating fish that do not have fins or scales, he asserts that such fish are stationary and are more like earthbound creatures. Thus, they are out of their element in the water and therefore forbidden to be eaten.” They are fish, but not prototypical fish.<sup>792</sup> Houston says “Taboo ideas tend to be concentrated on those animals that are in ambiguous situations as between the categories – this is a familiar idea in social anthropology that goes back to Radcliffe-Brown.”<sup>793</sup> (A. R. Radcliffe-Brown, born in 1881, is considered one of the founding fathers of modern social anthropology.)<sup>794</sup>

Douglas ends her retraction in the 2002 preface by saying “I was way out of my depth when I wrote Chapter 3 of this book nearly forty years ago. I made mistakes about the Bible for which I have been very sorry ever since. Longevity is a blessing in that it gave me time to discover them.”<sup>795</sup> I would argue that rather than being way out of her depth, she was way ahead of her time, and the failings of her theories in chapter 3 were simply that her intuitions about the significance of spatiality led her to conclusions that were correct but as yet unsupported by theory. Cognitive linguistics and cognitive psychology have in the meantime provided the

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<sup>791</sup> Isaacs 2000:4.

<sup>792</sup> Isaacs 2000:197.

<sup>793</sup> Houston 1993:201.

<sup>794</sup> Beattie 1999:193.

<sup>795</sup> Douglas 2002:xvi.

answers that she was waiting for to fill the gaps on the societal payoff for having and obeying these rules, and the theoretical and methodological foundation to make her arguments circular no longer. The last point on “abominability”, the one for which it seems that she is most sorry, is very easily corrected without any loss to the core of her theories. I am only sorry that longevity did not give her time to see them vindicated.

#### **4.4.5. The answers**

*Clean animals* are not a category in the system. The question of cleanness/uncleanness is not in any way the foundation of or a factor in animal categorisation, but rather a side-effect of this categorisation, an artefact of Pinker’s “clumps in the mental spreadsheet.”<sup>796</sup>

CLEAN/UNCLEAN is thus a separate paradigm from the main classification system, not informing named categories but cutting across them. (This is not to say that clean animals do not form categories. It does mean that they do not form a *single* category, but CLEAN LARGE ANIMALS, for example, or CLEAN BIRDS, are ordinary, prototype-based, categories that cluster around the centres of the larger categories of LARGE ANIMALS or BIRDS.)

When I first began this study I imagined that the dichotomy between clean and unclean animals would be the most basic level of categorisation. After all, I thought, classification is based in utility and relevance, and what could be more basically relevant than the question “can we eat it?” I was completely wrong in this assumption. Instead, the base level for classification is habitat and mode of living – sea, flying, swarming, creeping, field – and the clean/unclean dichotomy cuts across these categories without affecting matters of classification or language. Even BEASTS, LIVESTOCK and PROPERTY are categories that may include unclean members, namely horses, donkeys and other riding animals. This was a very surprising finding. When we look at the system through the lens of Lakoff’s category theory, though, we discover something even more surprising. The division between CLEAN and UNCLEAN stops looking like a line and

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<sup>796</sup> Pinker 2002:203.

starts to look like a series of small circles, each one in the middle of a bigger circle denoting a major category. The animals that are clean, for the most part, are Lakoff's "good" members of their respective categories. The less representative members, the peripheral ones, are the ones which are most likely to be unclean.

It turns out, in other words, that the question of suitability or otherwise for eating is not in fact a category division after all, but rather an artefact of centrality within a given category. The cleanness/uncleanness paradigm, when looked at through the lens of the prototype theory of categories, suddenly appears not as a line or dichotomy, but rather as a series of circles within circles, each one enclosing the "best" members of a certain category, the ones closest to the prototype, and excluding those members that are atypical, odd or debatable members of a category. This is a significant finding since, as Houston observes, the important functions of dietary laws – marking boundaries and preserving holiness – could function perfectly well with a completely arbitrary categorisation of permitted versus forbidden species.<sup>797</sup> However, this is not what we find in practice. In fact, the concept of marking boundaries is in itself an act of categorisation, so it makes sense that this act of social categorisation will be analogous in some ways to the linguistic and biological categorisation involved in naming animals.

How was it decided that the prototypical members of the earth-, sea- and air-dwelling categories were the only animals that might be eaten? Houston notes: "If we are seeking to understand the scriptural rules in their original social setting, it may be important to make the distinction between the rules themselves, which may be seen as the work of an educated and reflective class of priests, the customs actually existing at the time, and the popular or unconscious attitudes on which they may have been based."<sup>798</sup> Later he says: "Is there not a strong possibility that the animal taboos that we find systematized in Leviticus 11 and Deuteronomy 14 existed prior to that systematization in a similar way?"<sup>799</sup> In other words, are we looking at a system of

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<sup>797</sup> Houston 1993:15.

<sup>798</sup> Houston 1993:17-18.

<sup>799</sup> Houston 1993:19.

taboos, possibly implicit and unspoken, that developed over a long period and were later codified, or did the Israelites eat anything and everything until the rules were instituted by a priestly elite? As Jacob Milgrom asks, “which came first, the criteria or their application? Were the animals first tabooed and criteria later devised to justify the taboos? Or, the reverse: were criteria drawn up first, which then were used in classifying the animals?”<sup>800</sup>

Houston characterises Douglas as arguing that the “animals are made unclean by criteria arrived at a priori”,<sup>801</sup> which would be both a sweeping generalisation and a statement easily refuted by even one example to the contrary. Did the rules come first, or did the criteria come first? These two alternatives are not mutually exclusive.<sup>802</sup> Houston answers Milgrom’s question as follows: “At least for the beasts the answer is that some ‘taboos’, or rather a general pattern of cultic and dietary custom, came first.”<sup>803</sup>

The rules did not simply appear without context: many of the animals that were forbidden in Leviticus and Deuteronomy were probably already the subject of unspoken taboos that were simply formalised in these texts. This hypothesis is based on the observations of Pinker and others that food taboos are a universal feature of human cultures. It is impossible that the pre-law Israelites were the single exception to this rule. The hypothesis is also bolstered by the fact that archaeological evidence shows that many of the animals that were used and sacrificed by the Israelites were the same as the ones used and sacrificed by surrounding cultures.

All kinds of social factors would have contributed to these tacit taboos, including creeping things being generally considered frightening or disgusting, as well as practical issues such as the fact that beasts of burden such as camels and donkeys are worth more alive than dead, and that certain horned ruminants, particularly cattle, sheep and goats, had proved amenable to

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<sup>800</sup> Milgrom 1990:184.

<sup>801</sup> Houston 1993:65.

<sup>802</sup> Houston 1993:65.

<sup>803</sup> Houston 1993:234.

domestication and useful for the production of milk and other products such as wool as well as meat. Wright says:

Preexistent taboos probably had multiple reasons. Perhaps certain animals were rejected and considered unclean since it was just not the custom to eat them (here I note many people's aversion to eating things like brains, kidney, horse man, etc.). Perhaps some were rejected because they were dirty and smelly or connected with dirty things like carcasses (birds of prey, pigs, etc.) Maybe some were rejected since they were economically detrimental. (Here I am thinking about Marvin Harris's argument that pigs competed with humans for the same food, while bovines, sheep and goats did not.) Some animals might have been rejected on nationalistic grounds ("we do not eat this animal since those other people do"). What I emphasize here is that in the stage before the criteria were determined there were probably several animals that were considered abominable, and they were considered such for several diverse reasons.<sup>804</sup>

These factors do not make the social results inevitable, however: it could as easily have been decided, as it was in India and to a large extent in Africa, that cattle were more useful alive (and milkable, but more importantly as draught animals)<sup>805</sup> than dead, or, as it was in some parts of Asia, that dogs provide good meat. Pigs, for instance, were eaten by other nations in the region, and camels are acceptable to eat under Islamic law. It is likely that the rules did not merely codify existing taboos, but that they also introduced criteria that may have disallowed some animals that may otherwise have been considered edible.

In other words, unspoken taboos came first, then rules were made that modified them in various ways, and criteria were drawn up to distinguish clean animals from unclean ones, which in turn changed folk perceptions of certain animals. Houston says:

In the cases of the camel and the locusts, at least, it seems safe to conclude that the criterion has been respectively bent and constructed to fit them. On the other hand, it seems fairly plain that the double criterion for beasts has been derived from the characteristics of the common food animals, and is therefore itself the source of the comprehensive prohibition of the others, even if some restrictions existed already; moreover, the equally sweeping prohibitions of all water creatures without fins and scales, and of all the

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<sup>804</sup> Wright 1990:195.

<sup>805</sup> Houston 1993:84.

creeping things on the ground, must be derived from the general formulations of the text, even if it was not in fact customary to eat any such creatures.<sup>806</sup>

Again he says: “We have to attribute once again to the impulse for comprehensiveness the inclusion of a prohibition of flying insects. In this case the impulse overreached itself, and the original form of the prohibition as found in Deut. 14.19 excluded a very popular supplement to the country diet. The concession of locusts was inevitable, and clearly illustrates the limits to priestly systematizing. As I have already emphasized, the text is not concerned to impose a system on the populace in defiance of current custom, but rather to integrate custom into its system.”<sup>807</sup>

The fact that concessions were made for the locust proves that the laws were not simply drawn around whatever happened to be considered edible at the time. If this were the case, there would have been no need for concessions. There are two factors at work: the early folk taboos and customs, and the priestly systematising impulse (as Houston puts it). The interplay between these two factors is not so simple as to be defined by saying “the taboos came first” or “the rules came first”. The taboos came first in many cases, that is certain, and they influenced the rules, and then the rules influenced the taboos, and the taboos influenced the rules again, and we end up with the system as it stands in the current text.

David Wright describes this process in his response to Milgrom’s paper. “I think that a compromise must be made between the view that the food prohibitions (in particular, the four anomalous animals of Lev 11:4-8) represent what was already considered taboo in Israel and the view that the criteria were more abstractly developed without custom in mind. It seems that the then current culinary custom and tradition provided a certain impetus to the development of criteria. These criteria were then used in a search of animal life and further animals were

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<sup>806</sup>Houston 1993:66.

<sup>807</sup> Houston 1993:236.

specifically prohibited (on the basis of the criteria, and not on the basis of preexistent tradition).<sup>808</sup>

Where do prototype effects come in, then? (The priestly systems are based on a different, classical system (see below in 4.4.6.) Prototype effects are the basis of the original folk taboos and implicit assumptions about which things are edible and which are not. They provide a general basis for explaining and describing the original taboos that has up to this point (apart from by Douglas, and even then without this basis in cognitive-linguistic theory) not been provided. These original taboos are the source of the broader outlines of the clean/unclean system: the taboos against eating insects or any small animals, predators, scavengers and unusual birds, for example.

These older, unwritten taboos led to general custom, and then certain parts of general custom were changed and clarified according to written law. The priestly system is responsible for marginal cases and exceptions to the general rules, and this can be seen by the fact that these cases are defined according to classical categorisation, for example the concession on locusts and the taboo on hares, hyraxes, pigs and camels. However, even the priestly systematisation is based in many places on prototype effects as well, even when the rules are laid out classically – for example, shellfish are forbidden because they are not prototypical fish, and hares, hyraxes, camels and pigs are forbidden because they are not prototypical grazing animals.

The application of the prototype theory of categories thus provides a general framework that explains and describes the broad outlines of the food taboos of the ancient Hebrews, with edge cases and exceptions sometimes being explicable or partially explicable by other factors such as economic pragmatism. This unifying theoretical basis is what has up till now been missing from the various arguments and theories about clean versus unclean animals.

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<sup>808</sup> Wright 1990:195.



Finally, I propose that most scholars have been asking the wrong question in “why are some animals considered unclean?” It is more reasonable to ask “why are some animals considered clean?” Most animals are not allowed to be eaten; it is cleanness that is the anomaly, with only a few, carefully defined, categories of animals included in the definition. Uncleanness is the default state: humans are also unclean animals, we may not be eaten, and touching a dead human also confers uncleanness. When we look at the question this way we no longer have to find an explanation for every animal that is excluded from being potential food, we only have to find an explanation for the ones that may be eaten – and that explanation is close adherence to habitat-based prototypes.

#### ***4.4.6. The limited use of a classical categorisation system***

While unclean animals are an artefact of the main, prototype-based, classificatory system, the texts where these animals are actually proscribed use a completely different, classical, rule-based classificatory system to explain exactly what is allowed and what is not – a system that does not appear in any other texts. For example, the camel, which is placed together with the hare, hyrax and pig in Leviticus 11: 4-7 on the grounds of its digestion and feet, is placed most often next to the donkey in the rest of the texts where it is mentioned,<sup>809</sup> sometimes along with mules and horses, and less often with cattle and sheep. It is never again seen in a context anywhere near pigs, hyraxes or hares. The texts thus clearly show two separate classification systems, one widely used and prototype-based, and the other rule-based, confined to very specific texts, and artificial in a way that the usual prototype-based classification system is not.

This is noteworthy because it means that the categorisation process that lies behind the text of Leviticus 11:4-8, a text that is widely studied when investigating or arguing points about categorisation of clean versus unclean animals or categorisation in general, is in fact an

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<sup>809</sup> 14 times, including 3 of the 4 words meaning *camel*. One of these instances includes horses and mules but not donkeys; I believe it still counts towards the argument that this is where camels were usually placed in the general scheme of things.

anomalous example of that process and conclusions reached from this text may be misleading in terms of the ways that classification was normally or usually done. For example, Milgrom argues on the grounds of this text that the criteria for uncleanness preceded the taboos, which is the natural conclusion that this passage suggests, but Wright in his reply to Milgrom's paper argues for a more complex diachronic development as discussed in chapter 4.4.5.<sup>810</sup> The method used in this study, a corpus analysis of all the occurrences of words for animals both clean and unclean (and not necessarily focusing on texts where categorisation is explicitly discussed), has led to the same conclusion.

Pinker notes the existence of the two systems and the difficulty, even unnaturalness to our brains, of using a classical, rule-based category system: "A final elusive talent is our ability to engage in categorical, as opposed to fuzzy, reasoning: to understand that Bob Dylan is a grandfather, even though he is not very grandfatherly, or that shrews are not rodents, though they look just like mice. With nothing but a soup of neurons to stand for an object's properties, and no provision for rules, variables, and definitions, the networks fall back on stereotypes and are bamboozled by atypical examples."<sup>811</sup> What this means in our context is that the Ancient Hebrews were capable of formulating classical categories and used them occasionally for a specific purpose, while using prototypical categorisation, which comes much more naturally to the human mind, the vast majority of the time. Pinker again, continuing his earlier, duck-centric train of thought:

Most cognitive psychologists believe that conceptual categories come from two mental processes. One of them notices clumps of entries in the mental spreadsheet and treats them as categories with fuzzy boundaries, prototypical members, and overlapping similarities, like members of a family. That's why our mental category "duck" can embrace odd ducks that don't match the prototypical duck, such as lame ducks, who cannot swim or fly, Muscovy ducks, which have claws and spurs on their feet, and Donald Duck, who talks and wears clothing. The other mental process looks for crisp rules and definitions and enters them into chains of reasoning. The second system can learn that true ducks molt twice a season and have overlapping scales on their legs and hence that certain birds that look like geese and are called geese are really ducks.

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<sup>810</sup> Wright 1990:194.

<sup>811</sup> Pinker 2002:80.

Even when people don't know these facts from academic biology, they have a strong intuition that species are defined by an internal essence or hidden trait that lawfully gives rise to its visible features.<sup>812</sup>

This type of classical categorisation system is associated with the emergence of literacy and the learned classes, and Houston believes that the two classification systems may help us distinguish between the parts of the food laws that had existed as traditions for a long time before formal codification and those that were instituted by the writers of Leviticus and Deuteronomy.<sup>813</sup>

The ability to switch back and forth between a more natural, prototype-based classification system corresponding with experiential realism, and a more artificial, classical categorisation system corresponding with objectivism, brings to mind the work of Keith Stanovich and Richard West on dual-process thinking. They explain this concept as follows:

System 1 is characterized as automatic, largely unconscious, and relatively undemanding of computational capacity. Thus, it conjoins properties of automaticity and heuristic processing as these constructs have been variously discussed in the literature. These properties characterize what Levinson (1995) has termed interactional intelligence – a system composed of the mechanisms that support a Gricean theory of communication that relies on intention-attribution. This system has as its goal the ability to model other minds in order to read intention and to make rapid interactional moves based on those modeled intentions. System 2 conjoins the various characteristics that have been viewed as typifying controlled processing. System 2 encompasses the processes of analytic intelligence that have traditionally been studied by information processing theorists trying to uncover the computational components underlying intelligence.<sup>814</sup>

System 1 thinking is intuitive, automatic and unconscious, while System 2 thinking is conscious and rational and requires purposeful concentration. Western culture tends to identify with System 2 thinking: Daniel Kahneman says “When we think of ourselves, we identify with System 2, the conscious, reasoning self that has beliefs, makes choices, and decides what to think about and what to do. Although System 2 believes itself to be where the action is, the

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<sup>812</sup> Pinker 2002:203-204.

<sup>813</sup> Houston 1993:19-20.

<sup>814</sup> Stanovich & West 2000:658.

automatic System 1 is the hero of the book. I describe System 1 as effortlessly originating impressions and feelings that are the main sources of the explicit beliefs and deliberate choices of System 2. The automatic operations of System 1 generate surprisingly complex patterns of ideas, but only the slower System 2 can construct thoughts in an orderly series of steps.”<sup>815</sup>

System 1 and System 2 thinking correspond very closely to Lakoff’s experiential realism versus objectivism, and to prototypical categorisation versus classical categorisation. Lakoff thinks of the two theories as competing, but System 1 and System 2 quite obviously work together in individuals. Stanovich and West say “It is hypothesized that the features of System 1 are designed to very closely track increases in the reproduction probability of genes. System 2, while also clearly an evolutionary product, is also primarily a control system focused on the interests of the whole person. It is the primary maximizer of an individual’s personal utility”.<sup>816</sup> This strongly suggests that System 2 is built on and grows out of System 1, just as Lakoff sees reason as being built on and growing out of embodied experience. Do we then function as a three-tiered system, with embodied experience at the bottom, System 1 thinking, including prototypical categorisation, emerging from that, and System 2 thinking, including classical categorisation, emerging from System 1?

An identification of System 2 thinking with objectivism and System 1 thinking with experiential realism could lead to other interesting possibilities, for example: Do Lakoff’s strong arguments for the *correctness* of experiential realism as opposed to objectivism imply that System 2 thinking, with which we tend to identify our selves, is really only a useful fiction, and the genuine work of thinking is being done under the surface of consciousness? Or is it an emergent system that allows us to think in ways that System 1 alone does not support? This train of thought leads into an entirely different academic field, and to follow it any further is outside the scope of this thesis.

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<sup>815</sup> Kahneman 2011:21.

<sup>816</sup> Stanovich & West 2000:660-661.

## 4.5. Conclusion

In this chapter, various findings that were too broad to fit properly within the analyses of particular words and individual texts in chapter 3 were discussed, and others that were begun there were further developed and expanded. The key point was repeated that animal taxonomy as seen in the Biblical texts is based on habitat and upon the threefold (or fivefold) view of creation as comprising the realms of earth, sky and sea. As an aside, one more “realm” was examined: the landscape of desolation often found in poetic texts and inhabited by its own characteristic collection of animals, particularly scavenging canids and unclean birds. Another brief digression gave attention to the creatures that are sometimes or usually considered to be legendary, mythical or supernatural.

After this came the meat of the chapter: an in-depth examination of the paradigm of cleanness versus uncleanness, comprising the reasons for the existence of food taboos in the first place, cognitive dissonance as a proposed mechanism for producing religious commitment and social cohesion through adherence to apparently arbitrary rules such as food taboos, the numerous attempted explanations for why the taboos allow and forbid the animals that they do, and finally my attempt to give definitive answers to these questions, using spatiality, prototype theory and the work of Mary Douglas, who anticipated all my most interesting conclusions but later recanted them on grounds that I argue to be insufficient. I propose that her ideas on realm-based taxonomy (though not her arguments based on locomotion) and on uncleanness as a function of anomaly have, in this study, been vindicated and given the sound theoretical grounding that they previously lacked.

Finally, as this is the only place where all the necessary information comes together, the limited use of a classical categorisation system in Leviticus 11 is discussed. This text, grouping hares, hyraxes and pigs together, uses a completely different system of categorisation from the usual, prototype-based one. Instead it is typical of classical categorisation, where sets are defined by necessary and sufficient conditions for membership (in this case the lack of either one of cud

chewing / cloven hooves). The simultaneous use in different contexts in the same culture of prototypical categorisation, a feature of Lakoff's experiential realism, and classical categorisation, a feature of objectivism, parallels on a cultural level the theory of System 1 and System 2 cognition working together in a complementary way in the brains of individuals.

## Chapter 5

### Conclusion

This study started with a method and open-ended curiosity. Rather than a more conventional research problem along the lines of “if we do X, which will occur: Y or Z?” the starting point was “if X theory is applied to Y corpus, what will happen?” The exercise of applying cognitive linguistics, and in particular the prototype theory of categories, to all the animal names in the Hebrew Bible has produced a number of significant results, some more unexpected than others.

Here is the problem statement again:

- i) What is meant by the various problematic animal names in the Hebrew Bible?
- ii) What cognitive paradigm was used by the ancient Hebrews to classify the animals they came into contact with? What happens when we take prototype theory as described by Eleanor Rosch and George Lakoff,<sup>817</sup> among others, and apply it to the naming of animals in the Hebrew Bible?
- iii) What new insights does this information then produce when taken and applied to the original texts in which the problematic words occur, and to the translation and identification of disputed terms?
- iv) What new points of theory arise from this whole exercise? Where point iii) asks what the application of the theory tells us about the texts; point iv) asks what the application to the texts tells us about the theory. Are certain theories challenged by the findings? Are others bolstered?

The first result is Appendix A, a comprehensive list of animal names in the Hebrew Bible in order of number of occurrences, with each verse in which they appear, and an original translation for each informed by the application of the theory to the analysis of the texts. This answers point i, and further expansion of the answers to point i are found along with the answers to point iii in chapter 3.

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<sup>817</sup> Lakoff 1990:39.

The second result, and the answer to point ii, is a clear picture of the way the ancient Hebrews approached animal categorisation, and the discovery that their taxonomy is based upon their spatial worldview of a three-tiered cosmos (sometimes expanded into three main domains and two more subdomains). The best way to get an overview of the whole structure of categorisation is probably to study the structure of chapter 3 in the table of contents. When prototype theory is applied to the digitised corpus of animal names in the Hebrew Bible, the most exciting finding is that the various categories, centred around their prototypes, cluster within particular spatial domains. The finding of habitat/spatiality as determinant of taxonomy was then applied to both the terms and the texts in which they were found, and more interesting findings appeared, not only providing new insights into texts and translations, but also vindicating the spatial approach used. This finding informs all the rest of the thesis, and references to it and examples of its implications being applied to other problems are found throughout chapters 3 and 4.

From the discovery that categories map onto spatial realms comes the finding that centrality within these categories is associated strongly with cleanness or edibility. This completely unexpected insight into the cleanness/uncleanness paradigm then leads to a great deal of work on point iv: using the findings to evaluate, and propose changes to, the existing body of theory on the topic of cleanness/uncleanness. The idea that this paradigm is based upon prototype effects of centrality that can be seen once the animals are viewed in terms of spatiality-based taxonomy – that the division of animals into clean and unclean is an artefact of the habitat- or realm-based, prototypical classificatory system used by the ancient Hebrews – has great potential to generate completely new insights on the topic. It led to the discovery of the theories put forward by Mary Douglas proposing more or less the same conclusions, but which (while they were highly influential and viewed as important) were criticised, and later retracted by Douglas herself, to a large extent because they could be seen as circular, not resting on any firm theoretical foundation. However, this work provides that foundation, in the form of prototype theory and spatial taxonomy, and thus argues for the rehabilitation and further study of Douglas' original proposals. This is one of the most important results relating to point iv.



Applying this spatial paradigm to the category of words used to denote snakes results in some intriguing findings. Snakes are among the most symbolically significant animals in the Hebrew Bible and in human society as a whole, and looking at all the different words for them in terms of the three- or fivefold realm model of the cosmos reveals an important aspect of that symbolic significance: that they inhabit all three of the major realms (the only one from which they are absent is the human realm populated by domestic animals) in a way that no other creatures are ever portrayed as doing. This attribute of snakes exists solely within the worldview being studied (and likely other ancient cultures), as a contemporary scientist would point out that biologically speaking snakes do not fly and that the duck, for example, would be a better example of an animal that inhabits all three realms. For this reason the concept of the snake as uniquely inhabiting all cosmic domains represents a valuable insight into the worldview of the ancient Hebrews and that of the Ancient Near East in general.

Spatial or realm-based taxonomy, and the clean/unclean paradigm as a function of prototypicality within this taxonomy, are the two most important theoretical findings of this study. However, they are not the only ones. The results achieved when applying the principle that *Larger numbers of names, as well as larger numbers of instances of individual names, will apply to animals that are one or more of the following:*

- *economically important to humans*
- *dangerous to humans*
- *ideologically or symbolically important to humans*

to the Biblical texts, are useful and consistent enough to constitute a validation of this approach. Moreover, certain qualifications of and corollaries to this principle become apparent. They are the following:

1) To some extent a larger number of names for one animal and a larger number of instances of a particular name cancel each other out. For example, **סוס**, *horse*, appears surprisingly high on the list of most-used terms, and this is because it has really no significant synonyms. Goats, on

the other hand, appear only later on this list despite being more economically significant, because their mentions are divided among a number of different terms.

2) Large numbers of synonyms for a single animal, used interchangeably and in close proximity, and without any apparent specificity of meaning, correlate with symbolic significance and also with use in poetic texts. One set of the terms for locusts, as well as snakes and particularly lions are given this treatment.

On the other hand, a large number of synonyms for a single animal, each having a particular and different meaning which clearly distinguishes one subgroup of the given animal from another, is correlated with economic significance. Cattle, sheep and goats are treated this way, and a separate set of locust terms also fits these criteria.

The terms in the former scenario will generally all be on the same level, even if one is more common than the rest, while the words in the latter scenario usually consist of one basic-level term and a number of lower-level ones. An important consequence of this finding is the realisation that it is a mistake to try and determine biologically significant lower-level categories for all the synonyms used for a symbolically-important animal in a poetic text. In these cases, euphony and avoidance of repetition should be higher priorities for translators. These ideas were applied to a number of texts in chapter 3 (answering point iii again); resulting in useful clues to the proper translations of a number of words, in particular terms for locusts and lions, and also new insights into the texts themselves, in particular Nahum 3:15-17, an extremely striking poetic text that uses locust metaphors in a number of innovative ways. One avenue for further research would be to analyse more poetic texts including animal words with the results of this research in mind. Texts involving repeated synonyms for animals of symbolic significance used for poetic effect, in particular, are difficult to translate well while conveying their poetic nature. Using the principles set out here as a theoretical basis, arguments for better poetic translations and interpretations could be made.

3) Dangerousness to people as a predictor of many different terms and a large number of mentions is for the most part mediated by symbolic significance rather than being a factor on its own. For example, lions and bears are both dangerous, but with lions that danger is translated into enormous symbolic significance and they are given many different names and occur in a large number of texts, but bears, which have less symbolic significance, have only one name and a handful of mentions. This means that danger to humans from animals is by this point in the culture more of a symbolic issue than a practical one.

Prototype theory can also help to resolve translation difficulties in a very simple and straightforward way. One example of this is the case of the many words that are interpreted by various sources as referring to different kinds of owls. According to the basic principles of prototype category theory, this interpretation is highly improbable. OWL is a basic-level category. Among people who live close to nature, EAGLE OWL, BARN OWL and LITTLE OWL could possibly be basic-level categories. The existence of eleven different terms for owls, animals that do not have any specific practical or economic importance that would necessitate a large number of subordinate categories, in texts that are not poetic, in the context of a culture that does not accord them massive symbolical significance, is simply not linguistically realistic. What would be realistic would be approximately three or four terms for owls. Conveniently, there are three terms that have better reasons than the rest to be considered to refer to owls, covering all three of the proposed basic-level categories, and so these were chosen as owl terms and alternative translations were found for all the others. This example, though small in terms of historical relevance or religious significance, serves as a proof of concept for the usefulness of the principles of prototype category theory in resolving translation difficulties involving animal categories.

Moving from a minor point to a very important one, the analysis of superordinate category names for animals revealed surprising insights into the ways the ancient Hebrews understood

their own existence in relation to other living things. Contrary to popular belief,<sup>818</sup> they did not see humankind as being essentially separate from the rest of the animal kingdom: instead, examination of the system in Hebrew of high-level category words for living creatures reveals that they had no category that includes all animals while excluding humankind, and that various words that usually denote categories of animals may include humans, heavenly beings, and even in one case God himself. It is impossible, from a linguistic point of view, to draw definite boundaries between natural animals, legendary animals, mythological animals, and angelic beings. As an aside, many authorities, in particular Milgrom, emphasise the functions of various parts of the ritual law as being intended, at least in part, to inculcate compassion and respect for animals (even though my research argues that this is not in fact the primary motivation).

A shortcoming of this work is simply that it did not have the time and space to address every issue in the relevant texts. A selection had to be made, and this selection was subject to all kinds of bias and unexamined factors. An attempt was made to look at texts involving most of the major animal groupings and also texts that illustrated or led to the most salient points made in the theoretical portions of the work, but there are a huge number of texts that simply could not be examined, or were subject to only a very cursory examination. Perhaps a more scientific sampling method should have been devised, possibly involving random sampling, to augment the texts chosen on the grounds of difficulty or interest.

Possibly the biggest failure of this study involves the grouping of large land animals that are either edible or domestic but not both. I was not able to come up with a system for arranging them in chapter 3.4.3 that I could consider perfectly satisfactory. Several different classification systems are in play when it comes to these creatures, and it is difficult to translate them into the linear format necessary to place them one after the other in a meaningful order. Camels, when

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<sup>818</sup> E.g. Pinker 2002:1.

they are mentioned together with other animals, are usually placed with donkeys.<sup>819</sup> This makes sense as both are domestic, used for riding and carrying goods but not for eating. However, the classical categorisation in Leviticus places them with pigs, hares and hyraxes as anomalies according to the rule of cud/cloven hooves. When camels are placed next to donkeys, that leaves hyraxes, pigs and hares on their own at the end of the section.

In the same way, when I chose to place wild ruminants directly after sheep due to their classification as edible placing them in a category of which the domestic ruminants are prototypical, was I ignoring the claims of the more important spatially based category of domestic animals? Should the aurochs go with cattle or with wild ruminants? Everything works very nicely in figure 11 where category members have space to radiate out in all directions from their prototypes, but much is lost in translating what works well in two dimensions to what is essentially a one-dimensional format. There must be some better way to achieve it, but I have been unable to do so.

A direction for further research that could be fascinating, though completely outside the field of ancient languages, is the correspondence between Lakoff's experiential realism versus objectivism – as typified by the processes of prototypical categorisation versus classical categorisation – and Stanovich and West's, and more recently Kahneman's, work on System (or Process) 1 and 2 thinking.

These connections raise all sorts of interesting questions about thinking on an individual scale versus thinking done by entire societies and cultures, and to what extent they may be considered to function in similar ways. Thinking about dual-process cognition may be enriched by comparison with Lakoff's ideas about the nature of meaning and reality, while cognitive-linguistic theories could benefit from the idea that experientialism and objectivism may not be

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<sup>819</sup> Gen 24:35; 30:43; Exod 9:3; 1 Sam 15:3; 27:9; 1 Chr 12:41; 27:30; Ezra 2:67; Neh 7:68; Isa 21:7; 30:6; 66:20 (בְּרִכְרִה, with horses and mules) Jer 2:23 (בְּרִכְרִה); Zech 14:15, but next to other animals, (cattle; sheep) in Gen 32:8; 32:16; 1 Chr 5:21; 2 Chr 14:15; Job 1:3; 42:12; Jer 49:32 and Ezek 25:5.

mutually exclusive but rather are capable of working together in different contexts, even within a single brain. Arguments in favour of experiential realism may be strengthened by the possible implication that System 2 thinking may be more or less a veneer of rationalisation on top of a mind full of mainly subconscious cognition.

The two theories, if thoroughly mixed together, have the potential to precipitate out any number of intriguing possibilities. Is it possible that the human mind functions as three-tiered system, with embodied experience at the bottom, System 1 thinking, including prototypical categorisation, emerging from that, and System 2 thinking, including classical categorisation, emerging from System 1? Do Lakoff's convincing arguments in favour of experiential realism as opposed to objectivism imply that System 2 thinking, with which we tend to identify ourselves, is really only a useful fiction, and the genuine work of thinking is being done under the surface of consciousness? Or is it an emergent system that allows us to think in ways that System 1 alone does not support?

The impression given by many writers in the field is that they believe that one type of thinking is superior to another, or at least that one or the other is not given the attention it deserves. An ideological battle between objectivists and experientialists on the respective merits of System 1 and System 2 thinking could result in some very interesting research.

There is also a great deal of room for further study stemming from the proposal that Mary Douglas' 2002 retraction of her realm-and-anomaly-based theories of cleanness and uncleanness was unjustified, representing an overreaction to a combination of shortcomings that have been remedied by the conclusions of this study and problems that may easily be fixed without damage to the core of her theory.

The thing she regrets most, it seems, is the problem that was never really a problem: the issue of creeping things being abominable in and of themselves. It was at no point a particularly important facet of her theories; many scholars have pointed out that uncleanness does not need

to mean anything negative about the unclean animal itself; and in her own work she repeatedly alludes to the often-nonexistent distinction between the sacred and the unclean (both described by the concept of taboo), as well as the principle that there is no such thing as dirt without context, that any form of dirt or pollution is only dirty when and insofar as it is out of place. The revulsion caused by the idea of eating human flesh is enough to prove that a taboo on the consumption of an animal does not necessarily cast any aspersions on the animal as a being in its own right. So this reason for her rejection of her own theories is invalid.

The remaining objections, which were also raised by critics of her work when it was first published, are much more relevant and cannot be set aside so easily. Fortunately, this study goes some way towards filling in the missing pieces. The first problem is the fact that as written her ideas, while important and innovative, lacked a strong foundation in any established theory. For this reason it was easy for them to be dismissed as circular: “These animals are unclean because they are anomalous, and they are anomalous because they are unclean”. Bring in the correct theoretical foundation – in this case the prototype theory of categories – and suddenly the arguments are no longer circular but firmly rooted in an accepted and well-studied phenomenon in cognitive science. The animals are anomalous because they are peripheral, non-central members of the prototype-based categories formed by the spatial taxonomy by which animals were organised in the minds of the ancient Israelites. Also, this study functions as an independent replication of her work, as I noticed this structure and theorised that CLEANNESS/UNCLEANNESS was a function of it before I became aware of her writings on the subject.

The second problem, that of a lack of positive outcomes for following the rules or any implications for social structure, is remedied by application of the concept of cognitive dissonance and its effects on group cohesion. Douglas says in her 2002 preface that she had been “confident that subsequent historical research on the culture of ancient Israel would

uncover the missing parts of the puzzle”,<sup>820</sup> but that it had not done so and that for this reason she was no longer confident of her conclusions. While the cognitive dissonance hypothesis does not come from historical research but from a different field altogether, it has nevertheless filled the gap she was worried about by proposing a concrete mechanism whereby positive social outcomes are effected by the following of rules that have no obvious practical utility.

As a result, I propose that her theories on the topic should be reexamined by scholars with an interest in cognitive linguistics and particularly prototype category theory. I am not arguing for the acceptance of her every point. For example, I disagree with her emphasis on locomotion which leads to her claim that locusts are a particularly good example of the effects she describes, whereas I consider them to be a uniquely bad example, a concession made for practical reasons alone and not fitting into the system in any way. But her ideas are so important and made such an impact, even upon those commentators who disagreed with them, that they merit further attention in the light of the new information gained from this study.

In conclusion, this thesis has answered all the parts of its research problem, some of them many times over. It has resulted in a set of the best translations currently possible for all the animal names in the Hebrew Bible, and a definitive list of the contexts in which each one is found. It has positively answered the hypothesis that the application of the prototype theory of categories to this body of information would result in a coherent system of categorisation and new insights into the texts involved. The paradigm of categorisation thus identified is a spatiality-based model in which animals are primarily classified according to the cosmic realms they inhabit, and this discovery has resulted in the theory that the paradigm of cleanness versus uncleanness of animals is a prototype effect, based on the nearness of a given animal to the most central members of its realm-based category. This also shows that *cleanness* is the marked member of this pair of attributes, with uncleanness as the default. This is contrary to the assumptions of much of the literature on the topic.

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<sup>820</sup> Douglas 2002:xv.



The prototype theory of categories has proved useful in evaluating difficult translations, as in the case of owls, and in interpreting texts, such as the poetic texts involving lions and locusts. The evidence from the corpus analysis has borne out the hypothesis that the animals with the largest number of different names are those that are economically or symbolically important and/or dangerous to humans, and has also resulted in a number of qualifications and corollaries to this heuristic.

Finally, and perhaps most importantly, the study has proposed revised understandings of, and amendments to, a number of theoretical points in the current literature. In particular, a reevaluation of Mary Douglas' theory of uncleanness as anomaly is recommended.

## Appendix A

**Table of all words for animals in the Hebrew Bible, including Aramaic,  
ordered by number of occurrences.**

<p>אֵשׁ</p>	<p>sheep/goats coll.</p>	<p>274</p>	<p>Gen 4:2; 4:4; 12:16; 13:5; 20:14; 21:27; 21:28; 24:35; 26:14; 27:9; 29:2; 29:3; 29:6; 29:7; 29:8; 29:9; 29:10 (x2); 30:31; 30:32; 30:36; 30:38(x2); 30:39(x2); 30:40(x3); 30:41(x2); 30:42; 30:43; 31:4; 31:8(x2); 31:10(x2); 31:12; 31:19; 31:38; 31:41; 31:43(x2); 32:6; 32:8; 33:13; 34:28; 37:2; 37:12; 37:14; 38:12; 38:13; 38:17; 45:10; 46:32(x2); 46:34; 47:1; 47:3; 47:4; 47:17; 50:8; Exod 2:16; 2:17; 2:19; 3:1(x2); 9:3; 10:9; 10:24; 12:21; 12:32; 12:38; 20:24; 21:37; 22:29; 34:3; Lev 1:2; 1:10; 3:6; 5:6; 5:15; 5:18; 5:25; 22:21; 27:32; Num 11:22; 15:3; 22:40; 27:17; 31:28; 31:30; 31:32; 31:36; 31:37; 31:43; 32:16; 32:36; Deut 7:13; 8:13; 12:6; 12:17; 12:21; 14:23; 14:26; 15:14; 15:19(x2); 16:2; 18:4; 28:4; 28:18; 28:31; 28:51; 32:14; Josh 7:24; 1 Sam 8:17; 14:32; 15:9; 15:14; 15:15; 15:21; 16:11; 16:19; 17:15; 17:20; 17:28; 17:34; 24:4; 25:2(x2); 25:4; 25:16; 25:18; 27:9; 30:20; 2 Sam 7:8; 12:2; 12:4; 17:29; 24:17; 1 Kgs 1:9; 1:19; 1:25; 5:3; 8:63; 22:17; 2 Kgs 5:26; 1 Chr 4:39; 4:41; 5:21; 12:41; 17:7; 21:17; 27:31; 2 Chr 5:6; 7:5; 14:14; 15:11; 17:11; 18:2; 18:16; 29:33; 30:24(x2); 31:6; 32:29; 35:7; Ezra 10:19; Neh 3:1; 3:32; 5:18; 10:37; 12:39; Job 1:3; 1:16; 21:11; 30:1; 42:12; Ps 44:12; 44:23; 49:15; 65:14; 74:1; 77:21; 78:52; 78:70;</p>
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			79:13; 80:2; 95:7; 100:3; 107:41; 114:4; 114:6; 144:13; Prov 27:23; Eccl 2:7; Song 1:8; Isa 7:21; 13:14; 22:13; 53:6; 60:7; 61:5; 63:11; 65:10; Jer 3:24; 5:17; 12:3; 13:20; 23:1; 23:2; 23:3; 25:34; 25:35; 25:36; 31:12; 33:12; 33:13; 49:20; 49:29; 50:6; 50:8; 50:45; Ezek 24:5; 25:5; 34:2; 34:3; 34:6(x2); 34:8(x4); 34:10(x3); 34:11; 34:12(x2); 34:15; 34:17; 34:19; 34:22; 34:31(x2); 36:37; 36:38(x3); 43:23; 43:25; 45:15; Hos 5:6; Joel 1:18; Amos 6:4; 7:15; Jonah 3:7; Mic 2:12; 5:7; 7:14; Hab 3:17; Zeph 2:6; Zech 9:16; 10:2; 11:4; 11:7(x3); 11:11; 11:17; 13:7
בְּהֵמָה	animal	190	Gen 1:24; 1:25; 1:26; 2:20; 3:14; 6:7; 6:20; 7:2(x2); 7:8(x2); 7:14; 7:21; 7:23; 8:1; 8:17; 8:20; 9:10; 34:23; 36:6; 47:18; Exod 8:13; 8:14; 9:9; 9:10; 9:19; 9:22; 9:25; 11:5; 11:7; 12:12; 12:29; 13:2; 13:12; 13:15; 19:13; 20:10; 22:9; 22:18; Lev 1:2; 5:2; 7:21; 7:25; 7:26; 11:2; 11:3; 11:26; 11:39; 11:46; 18:23(x2); 19:19; 20:15(x2); 20:16(x2); 20:25(x2); 24:18; 24:21; 25:7; 26:22; 27:9; 27:10(x2); 27:11(x2); 27:26; 27:27; 27:28; Num 3:13; 3:41(x2); 3:45(x2); 8:17; 18:15(x2); 31:9; 31:11; 31:26; 31:30; 31:47; 32:26; 35:3; Deut 2:35; 3:7; 4:17; 5:14; 7:14; 11:15; 13:16; 14:4; 14:6(x2); 20:14; 27:21; 28:4; 28:11; 28:26; 28:51; 30:9; 32:24; Josh 8:2; 8:27; 11:14; 21:2; Judg 20:48; 1 Sam 17:44; 1 Kgs 5:13; 18:5; 2 Kgs 3:9; 3:17; 2 Chr 32:28(x2); Ezra 1:4; 1:6; Neh 2:12(x2); 2:14; 9:37; 10:37; Job 12:7; 18:3; 35:11; Ps 8:8; 36:7; 49:13; 49:21; 50:10; 73:22; 104:14;



			107:38; 135:8; 147:9; 148:10; Prov 12:10; 30:30; Eccl 3:18; 3:19(x2); 3:21; Isa 18:6(x2); 30:6; 46:1; 63:14; Jer 7:20; 7:33; 9:9; 12:4; 15:3; 16:4; 19:7; 21:6; 27:5; 31:27; 32:43; 33:10(x2); 33:12; 34:20; 36:29; 50:3; 51:62; Ezek 8:10; 14:13; 14:17; 14:19; 14:21; 25:13; 29:8; 29:11; 32:13(x2); 36:11; 44:31; Joel 1:18; 1:20; 2:22; Jonah 3:7; 3:8; 4:11; Mic 5:7; Hab 2:17; Zeph 1:3; Hag 1:11; Zech 2:8; 8:10; 14:15
בָּקָר	cattle coll.	183	Gen 12:16; 13:5; 18:7(x2); 18:8; 20:14; 21:27; 24:35; 26:14; 32:8; 33:13; 34:28; 45:10; 46:32; 47:1; 47:17; 50:8; Exod 9:3; 10:9; 10:24; 12:32; 12:38; 20:24; 21:37; 29:1; 34:3; Lev 1:2; 1:3; 1:5; 3:1; 4:3; 4:14; 9:2; 16:3; 22:19; 22:21; 23:18; 27:32; Num 7:3; 7:6; 7:7; 7:8; 7:15; 7:17; 7:21; 7:23; 7:27; 7:29; 7:33; 7:35; 7:39; 7:41; 7:45; 7:47; 7:51; 7:53; 7:57; 7:59; 7:63; 7:65; 7:69; 7:71; 7:75; 7:77; 7:81; 7:83; 7:87; 7:88; 8:8(x2); 11:22; 15:3; 15:8; 15:9; 15:24; 22:40; 28:11; 28:19; 28:27; 29:2; 29:8; 29:13; 29:17; 31:28; 31:30; 31:33; 31:38; 31:44; Deut 8:13; 12:6; 12:17; 12:21; 14:23; 14:26; 15:19; 16:2; 21:3; 32:14; Judg 3:31; 1 Sam 11:5; 11:7(x2); 14:32(x2); 15:9; 15:14; 15:15; 15:21; 16:2; 27:9; 30:20; 2 Sam 6:6; 12:2; 12:4; 17:29; 24:22(x2); 24:24; 1 Kgs 1:9; 5:3(x2); 7:25; 7:29(x2); 7:44; 8:5; 8:63; 19:20; 19:21(x2); 2 Kgs 5:26; 16:17; 1 Chr 12:41(x2); 13:9; 21:23; 27:29(x2); 2 Chr 4:3(x2); 4:4; 4:15; 5:6; 7:5; 13:9; 15:11; 18:2; 29:22; 29:32; 29:33;



			31:6; 32:29; 35:7; 35:8; 35:9; 35:12; Neh 10:37; Job 1:3; 1:14; 40:15; 42:12; Ps 66:15; Eccl 2:7; Isa 7:21; 11:7; 22:13; 65:10; 65:25; Jer 3:24; 5:17; 31:12; 52:20; Ezek 4:15; 43:19; 43:23; 43:25; 45:18; 46:6; Hos 5:6; Joel 1:18; Amos 6:12; Jonah 3:7; Hab 3:17.
אֵיל	ram	156	Gen 15:9; 22:13 (x2); 31:38; 32:15; Exod 25:5; 26:14; 29:1; 29:3; 29:15 (x2); 29:16; 29:17; 29:18; 29:19 (x2); 29:20; 29:22 (x2); 29:26; 29:27; 29:31; 29:32; 35:7; 35:23; 36:19; 39:34; Lev 5:15; 5:16; 5:18; 5:25; 8:2; 8:18 (x2); 8:20; 8:21; 8:22 (x3); 8:29; 9:2; 9:4; 9:18; 9:19; 16:3; 16:5; 19:21; 19:22; 23:18; Num 5:8; 6:14; 6:17; 6:19; 7:15; 7:17; 7:21; 7:23; 7:27; 7:29; 7:33; 7:35; 7:39; 7:41; 7:45; 7:47; 7:51; 7:53; 7:57; 7:59; 7:63; 7:65; 7:69; 7:71; 7:75; 7:77; 7:81; 7:83; 7:87; 7:88; 15:6; 15:11; 23:1; 23:2; 23:4; 23:14; 23:29; 23:30; 28:11; 28:12; 28:14; 28:19; 28:20; 28:27; 28:28; 29:2; 29:3; 29:8; 29:9; 29:13; 29:14 (x2); 29:17; 29:18; 29:20; 29:21; 29:23; 29:24; 29:26; 29:27; 29:29; 29:30; 29:32; 29:33; 29:36; 29:37; Deut 32:14; 1 Sam 15:22; 2 Kgs 3:4; 1 Chr 15:26; 29:21; 2 Chr 13:9; 17:11; 29:21; 29:22; 29:32; Ezra 8:35; 10:19; Job 42:8; Ps 66:15; 114:4; 114:6; Isa 1:11; 34:6; 60:7; Jer 51:40; Ezek 17:21; 34:17; 39:18; 43:23; 43:25; 45:23; 45:24; 46:4; 46:5; 46:6; 46:7; 46:11; Dan 8:3; 8:4; 8:6; 8:7 (x4); 8:20; Mic 6:7 <sup>821</sup>

<sup>821</sup> Excluding all uses of the word where trees or architectural features are intended.



סוס	horse	136	<p>Gen 47:17; 49:17; Exod 9:3; 14:9; 14:23; 15:1; 15:19; 15:21; Deut 11:4; 17:16(x2); 20:1; Josh 11:4; 11:6; 11:9; Judg 5:22; 2 Sam 15:1; 1 Kgs 5:6; 5:8; 10:25; 10:28; 10:29; 18:5; 20:1; 20:20; 20:21; 20:25(x2); 22:4(x2); 2 Kgs 2:11; 3:7(x2); 5:9; 6:14; 6:15; 6:17; 7:6; 7:7; 7:10; 7:13; 7:14; 9:18; 9:19; 9:33; 10:2; 11:16; 14:20; 18:23; 23:11; 2 Chr 1:16; 1:17; 9:24; 9:25; 9:28; 23:15; 25:28; Ezra 2:66; Neh 3:28; Esth 6:8; 6:9(x2); 6:10; 6:11; 8:10; Job 39:18; 39:19; Ps 20:8; 32:9; 33:17; 76:7; 147:10; Prov 21:31; 26:3; Eccl 10:7; Isa 2:7; 5:28; 30:16; 31:1; 31:3; 36:8; 43:17; 63:13; 66:20; Jer 4:13; 5:8; 6:23; 8:6; 8:16; 12:5; 17:25; 22:4; 31:40; 46:4; 46:9; 50:37; 50:42; 51:21; 51:27; Ezek 17:15; 23:6; 23:12; 23:20; 23:23; 26:7; 26:10; 26:11; 27:14; 38:4; 38:15; 39:20; Hos 1:7; 14:4; Joel 2:4; Amos 2:15; 4:10; 6:12; Mic 5:9; Nah 3:2; Hab 1:8; 3:8; 3:15; Hag 2:22; Zech 1:8(x2); 6:2(x2); 6:3(x2); 6:6; 9:10; 10:3; 10:5; 12:4; 14:15; 14:20</p>
פר	bullock	133	<p>Gen 32:16; Exod 24:5; 29:1; 29:3; 29:10(x2); 29:11; 29:12; 29:14; 29:36; Lev 4:3; 4:4(x3); 4:5; 4:7; 4:8; 4:11; 4:12; 4:14; 4:15(x2); 4:16; 4:20(x2); 4:21(x2); 8:2; 8:14(x2); 8:17; 16:3; 16:6; 16:11(x2); 16:14; 16:15; 16:18; 16:27; 23:18; Num 7:15; 7:21; 7:27; 7:33; 7:39; 7:45; 7:51; 7:57; 7:63; 7:69; 7:75; 7:81; 7:87; 7:88; 8:8(x2); 8:12; 15:24; 23:1; 23:2; 23:4; 23:14; 23:29; 23:30; 28:11; 28:12; 28:14; 28:19; 28:20; 28:27; 28:28; 29:2; 29:3; 29:8; 29:9; 29:13; 29:14(x2); 29:17; 29:18;</p>



			29:20; 29:21; 29:23; 29:24; 29:26; 29:27; 29:29; 29:30; 29:32; 29:33; 29:36; 29:37; Judg 6:25(x2); 6:26; 6:28; 1 Sam 1:24; 1:25; 1 Kgs 18:23(x3); 18:25; 18:26; 18:33; 1 Chr 15:26; 29:21; 2 Chr 13:9; 29:21; 30:24(x2); Ezra 8:35; Job 42:8; Ps 22:13; 50:9; 51:21; 69:32; Isa 1:11; 34:7; Jer 50:27; Ezek 39:18; 43:19; 43:21; 43:22; 43:23; 43:25; 45:18; 45:22; 45:23; 45:24; 46:6; 46:7; 46:11; Hos 14:3(dub.)
כֶּבֶשׂ	male lamb	107	Exod 12:5; 29:38; 29:39(x2); 29:40; 29:41; Lev 4:32; 9:3; 12:6; 14:10; 14:12; 14:13; 14:21; 14:24; 14:25; 23:12; 23:18; 23:19; 23:20; Num 6:12; 6:14; 7:15; 7:17; 7:21; 7:23; 7:27; 7:29; 7:33; 7:35; 7:39; 7:41; 7:45; 7:47; 7:51; 7:53; 7:57; 7:59; 7:63; 7:65; 7:69; 7:71; 7:75; 7:77; 7:81; 7:83; 7:87; 7:88; 15:5; 15:11; 28:3; 28:4(x2); 28:7; 28:8; 28:9; 28:11; 28:13; 28:14; 28:19; 28:21(x2); 28:27; 28:29(x2); 29:2; 29:4(x2); 29:8; 29:10(x2); 29:13; 29:15; 29:17; 29:18; 29:20; 29:21; 29:23; 29:24; 29:26; 29:27; 29:29; 29:30; 29:32; 29:33; 29:36; 29:37; 1 Chr 29:21; 2 Chr 29:21; 29:22; 29:32; 35:7; Ezra 8:35; Job 31:20; Prov 27:26; Isa 1:11; 5:17; 11:6; Jer 11:19; Ezek 46:4; 46:5; 46:6; 46:7; 46:11; 46:13; 46:15; Hos 4:16
חַיָּה	animal; living thing	96	Gen 1:24; 1:25; 1:28; 1:30; 2:19; 2:20; 3:1; 3:14; 7:14; 7:21; 8:1; 8:17; 8:19; 9:2; 9:5; 9:10(x2); 37:20; 37:33; Exod 23:11; 23:29; Lev 5:2; 11:2; 11:27; 11:47(x2); 17:13; 25:7; 26:6; 26:22; Num 35:3; Deut 7:22; 1 Sam 17:46; 2 Sam 21:10; 2 Kgs 14:9; 2 Chron 25:18; Job



			5:22; 5:23; 37:8; 39:15; 40:20; Ps 50:10; 68:31; 74:19; 79:2; 104:11; 104:20; 104:25; 148:10; Isa 35:9; 40:16; 43:20; 46:1; 56:9(x2); Jer 12:9; 27:6; 28:14; Ezek 1:5; 1:13(x2); 1:14; 1:15(x2); 1:19(x2); 1:20; 1:21; 1:22; 3:13; 5:17; 10:15; 10:17; 10:20; 14:15(x2); 14:21; 29:5; 31:6; 31:13; 32:4; 33:27; 34:5; 34:8; 34:25; 34:28; 38:20; 39:4; 39:17; Dan 8:4; Hos 2:14; 2:20; 4:3; 13:8; Zeph 2:14; 2:15
חֲמֹר	male donkey	96	Gen 12:16; 22:3; 22:5; 24:35; 30:43; 32:6; 34:28; 36:24; 42:26; 42:27; 43:18; 43:24; 44:3; 44:13; 45:23; 47:17; 49:14; Exod 4:20; 9:3; 13:13; 20:17; 21:33; 22:3; 22:8; 22:9; 23:4; 23:5; 23:12; 34:20; Num 16:15; 31:28; 31:30; 31:34; 31:39; 31:45; Deut 5:14; 5:21; 22:3; 22:4; 22:10; 28:31; Josh 6:21; 7:24; 9:4; 15:18; Judg 1:14; 6:4; 15:15; 15:16(x2); 19:3; 19:10; 19:19; 19:21; 19:28; 1 Sam 8:16; 12:3; 15:3; 16:20; 22:19; 25:18; 25:20; 25:23; 25:42; 27:9; 2 Sam 16:1; 16:2; 17:23; 19:27; 1 Kgs 2:40; 13:13(x2); 13:23; 13:24; 13:27; 13:28(x2); 13:29; 2 Kgs 6:25; 7:7; 7:10; 1 Chr 5:21; 12:41; 2 Chr 28:15; Ezra 2:67; Neh 7:68; 13:15; Job 24:3; Prov 26:3; Isa 1:3; 21:7; 32:20; Jer 22:19; Ezek 23:20; Zech 9:9; 14:15 <sup>822</sup>
כְּרוּב	cherub	91	Gen 3:24; Exod 25:18; 25:19(x3); 25:20(x2); 25:22; 26:1; 26:31; 36:8; 36:35; 37:7; 37:8(x3); 37:9(x2); Num 7:89; 1 Sam 4:4; 2 Sam 6:2; 22:11; 1 Kgs 6:23; 6:24(x2); 6:25(x2); 6:26(x2); 6:27(x3); 6:28; 6:29;

<sup>822</sup> Excluding personal name and occurrences with the meaning *heap*.





			6:32(x2); 6:35; 7:29; 7:36; 8:6; 8:7 (x2); 2 Kgs 19:15; 1 Chr 13:6; 28:18; 2 Chr 3:7; 3:10; 3:11(x2); 3:12(x2); 3:13; 3:14; 5:7; 5:8(x2); Ps 18:11; 80:2; 99:1; Isa 37:16; Ezek 9:3; 10:1; 10:2(x2); 10:3; 10:4; 10:5; 10:6; 10:7(x3); 10:8; 10:9(x3); 10:14; 10:15; 10:16(x2); 10:18; 10:19; 10:20; 11:22; 28:14; 28:16; 41:18(x4); 41:20; 41:25.
שׁוֹר	singular of cattle	79	Gen 32:6; 49:6; Exod 20:17; 21:28(x3); 21:29(x2); 21:32(x2); 21:33; 21:35(x3); 21:36(x3); 21:37(x2); 22:3; 22:8; 22:9; 22:29; 23:4; 23:12; 34:19; Lev 4:10; 7:23; 9:4; 9:18; 9:19; 17:3; 22:23; 22:27; 22:28; 27:26; Num 7:3; 15:11; 18:17; 22:4; Deut 5:14; 5:21; 14:4; 15:19; 17:1; 18:3; 22:1; 22:4; 22:10; 25:4; 28:31; 33:17; Josh 6:21; 7:24; Judg 6:4; 6:25; 1 Sam 12:3; 14:34(x2); 15:3; 22:19; 2 Sam 6:13; 1 Kgs 1:19; 1:25; Neh 5:18; Job 6:5; 21:10; 24:3; Ps 69:32; 106:20; Prov 7:22; 14:4; 15:7; Isa 1:3; 7:25; 32:20; 66:3; Ezek 1:10; Hos 12:12
עֵז	goat f.	75	Gen 15:9; 27:9; 27:16; 30:32; 30:33; 30:35; 31:38; 32:15; 37:31; 38:17; 38:20; Exod 12:5; 25:4; 26:7; 35:6; 35:23; 35:26; 36:14; Lev 1:10; 3:12; 4:23; 4:28; 5:6; 7:23; 9:3; 16:5; 17:3; 22:19; 22:27; 23:19; Num 7:16; 7:22; 7:28; 7:34; 7:40; 7:46; 7:52; 7:58; 7:64; 7:70; 7:76; 7:82; 7:87; 15:11; 15:24; 15:27; 18:17; 28:15; 28:30; 29:5; 29:11; 29:16; 29:19; 29:25; 31:20; Deut 14:4; Judg 6:19; 13:15; 13:19; 15:1; 1 Sam 16:20; 19:13; 19:16; 25:2; 1 Kgs 20:27; 2 Chr 29:21; 35:7;



			Ezra 6:17; Prov 27:27; Song 4:1; 6:5; Ezek 43:22; 45:23; Dan 8:5; 8:8 <sup>823</sup>
מִקְנֵה	livestock; property	75	Gen 4:20; 13:2; 13:7(x2); 26:14(x2); 29:7; 30:29; 31:9; 31:18(x2); 33:17; 34:5; 34:23; 36:6; 36:7; 46:6; 46:32; 46:34; 47:6; 47:16(x2); 47:17(x4); 47:18; Exod 9:3; 9:4(x2); 9:6(x2); 9:7; 9:19; 9:20; 9:21; 10:26; 12:38; 17:3; 34:19; Num 20:19; 31:9; 32:1(x2); 32:4(x2); 32:16; 32:26; Deut 3:19(x2); Josh 1:14; 14:4; 22:8; Judg 6:5; 18:21; 1 Sam 23:5; 30:20; 2 Kgs 3:17; 1 Chron 5:9; 5:21; 7:21; 28:1; 2 Chron 14:15; 26:10; 32:29; Job 1:3; 1:10; 36:33; Ps 78:48; Eccl 2:7; Isa 30:23; Jer 9:9; 49:32; Ezek 38:12; 38:13 <sup>824</sup>
עוֹף	flying creatures coll.	73	Gen 1:20; 1:21; 1:22; 1:26; 1:28; 1:30; 2:19; 2:20; 6:7; 6:20; 7:3; 7:8; 7:14; 7:21; 7:23; 8:17; 8:19; 8:20; 9:2; 9:10; 40:17; 40:19; Lev 1:14; 7:26; 11:13; 11:20; 11:21; 11:23; 11:46; 17:13; 20:25(x2); Deut 14:19; 14:20; 28:26; 1 Sam 17:44; 17:46; 2 Sam 21:10; 1 Kgs 5:13; 14:11; 16:4; 21:24; Job 12:7; 28:21; 35:11; Ps 50:11; 78:27; 79:2; 104:12; Eccl 10:20; Isa 16:2; 31:5; Jer 4:25; 5:27; 7:33; 9:9; 12:4; 15:3; 16:4; 19:7; 34:20; Ezek 29:5; 31:6; 31:13; 32:4; 38:20; 44:31; Dan 2:38; 7:6; Hos 2:20; 4:3; 7:12; 9:11; Zeph 1:3 <sup>825</sup>
אַרְיֵה	lion	57	Gen 49:9(x2); Deut 33:22; Judg 14:8(x2); 14:9; 2 Sam 17:10; 23:20; 1 Kgs 13:24(x2); 13:25; 13:26; 13:28(x2); 20:36(x2); 1 Chr 12:9; Job 4:10; Ps 7:3; 10:9; 17:12;

<sup>823</sup> The instance in Ezra is Aramaic.

<sup>824</sup> Excluding 16 instances where it means *price* or *purchase*, usually of slaves or land.

<sup>825</sup> The 2 occurrences in Daniel are Aramaic.



			22:14; 22:22; Eccl 9:4; Isa 11:7; 15:9; 21:8; 31:4; 35:9; 65:25; Jer 2:30; 4:7; 5:6 (with יַעַר , forest); 12:8; 49:19; 50:44; Lam 3:10; Ezek 1:10; 10:14; Dan 6:8; 6:13; 6:17; 6:20; 6:21; 6:23; 6:25(x2); 6:28; 7:4; Hos 11:10; Joel 1:6; Amos 3:4; 3:8; Mic 5:7; Nah 2:12(x2); 2:13 <sup>826</sup>
שָׂעִיר	goat	57	Gen 37:31; Lev 4:23; 4:24; 9:3; 9:15; 10:16; 16:5; 16:7; 16:8; 16:9; 16:10; 16:15; 16:18; 16:20; 16:21(x2); 16:22(x2); 16:26; 16:27; 17:7; 23:19; Num 7:16; 7:22; 7:28; 7:34; 7:40; 7:46; 7:52; 7:58; 7:64; 7:70; 7:76; 7:82; 7:87; 15:24; 28:15; 28:22; 28:30; 29:5; 29:11; 29:16; 29:19; 29:22; 29:25; 29:28; 29:31; 29:34; 29:38; 2 Chr 11:15; 29:23; Isa 13:21; 34:14; Ezek 43:22; 43:25; 45:23; Dan 8:21 <sup>827</sup>
גָּמֵל	camel	54	Gen 12:16; 24:10(x2); 24:11; 24:14; 24:19; 24:20; 24:22; 24:30; 24:31; 24:32(x2); 24:35; 24:44; 24:46(x2); 24:61; 24:63; 24:64; 30:43; 31:17; 31:34; 32:8; 32:16; 37:25; Exod 9:3; Lev 11:4; Deut 14:7; Judg 6:5; 7:12; 8:21; 8:26; 1 Sam 15:3; 27:9; 30:17; 1 Kgs 10:2; 2 Kgs 8:9; 1 Chr 5:21; 12:41; 27:30; 2 Chr 9:1; 14:14; Ezra 2:67; Neh 7:68; Job 1:3; 1:17; 42:12; Isa 21:7; 30:6; 60:6; Jer 49:29; 49:32; Ezek 25:5; Zech 14:15

<sup>826</sup> Excluding personal name. Instances in Daniel are Aramaic.

<sup>827</sup> Excluding the personal and geographical name *Seir* and a single occurrence meaning *rain*. Might sometimes refer to legendary/supernatural creatures.



שֶׁה	sheep; lamb; young of sheep or goat	47	Gen 22:7; 22:8; 30:32 (x2); Exod 12:3 (x2); 12:4 (x2); 12:5; 13:13; 21:37 (x2); 22:3; 22:8; 22:9; 34:19; 34:20; Lev 5:7; 12:8; 22:23; 22:28; 27:26; Num 15:11; Deut 14:4(x2); 17:1; 18:3; 22:1; Josh 6:21; Judg 6:4; 1 Sam 14:34; 15:3; 17:34; 22:19; Ps 119:176; Isa 7:25; 43:23; 53:7; 66:3; Jer 50:17; Ezek 34:17 (x2); 34:20 (x2); 34:22 (x2); 45:15
תּוֹלְעָה	worm; cochineal insect	43	Exod 16:20; 25:4; 26:1; 26:31; 26:36; 27:16; 28:5; 28:6; 28:8; 28:15; 28:33; 35:6; 35:23; 35:25; 35:35; 36:8; 36:35; 36:37; 38:18; 38:23; 39:1; 39:2; 39:3; 39:5; 39:8; 39:24; 39:29; Lev 14:4; 14:6; 14:49; 14:51; 14:52; Num 4:8; 19:6; Deut 28:39; Job 25:6; Ps 22:7; Isa 1:18; 14:11; 41:14; 66:24; Lam 4:5; Jonah 4:7
צִפּוֹר	bird	40	Gen 7:14; 15:10; Lev 14:4; 14:5; 14:6 (x3); 14:7; 14:49; 14:50; 14:51 (x2); 14:52 (x2); 14:53; Deut 4:17; 14:11; 22:6; Neh 5:18; Job 40:29; Ps 8:9; 11:1; 84:4; 102:8; 104:17; 124:7; 148:10; Prov 6:5; 7:23; 26:2; 27:8; Eccl 9:12; 12:4; Isa 31:5; Lam 3:52; Ezek 17:23; 39:4; 39:17; Hos 11:11; Amos 3:5 <sup>828</sup>
כָּל-בָּשָׂר	all flesh	38	Gen 6:12; 6:13; 6:17; 6:19; 7:16; 7:21; 8:17; 9:11; 9:15 (x2); 9:16; 9:17; Lev 7:14 (x3); Num 16:22; 18:15; 27:16; Deut 5:26; Job 12:10; 34:15; Ps 65:3; 136:25; 145:21; Isa 40:5; 49:26; 66:16; 66:23; 66:24; Jer 12:12; 25:31; 32:27; 45:5; Ezek 21:4; 21:9; 21:10; Joel 3:1; Zech 2:17

<sup>828</sup> Not counting its use as a personal name.



עֶדְרָא	flock; herd	38	Gen 29:2 (x2); 29:3; 29:8; 30:40; 32:17 (x4); 32:20; Judg 5:16; 1 Sam 17:34; 2 Chron 32:28; Job 24:2; Ps 78:52; Prov 27:23; Song 1:7; 4:1; 4:2; 6:5; 6:6; Isa 17:2; 32:14; 40:11; Jer 6:3; 13:17; 13:20; 31:10; 31:24; 51:23; Ezek 34:12; Joel 1:18 (x2); Mic 2:12; 5:7; Zeph 2:14; Zech 10:3; Mal 1:14 <sup>829</sup>
עֵגֶל	calf	36	Exod 32:4; 32:8; 32:19; 32:20; 32:24; 32:35; Lev 9:2; Lev 9:3; 9:8; Deut 9:16; 9:21; 1 Sam 28:24; 1 Kgs 10:19; 12:28; 12:32; 2 Kgs 10:29; 17:16; 2 Chr 11:15; 13:8; Neh 9:18; Ps 29:6; 68:30; 106:19; Isa 11:6; 27:10; Jer 31:18; 34:18; 34:19; 46:21; Ezek 1:7; Hos 8:5; 8:6; 13:2; Amos 6:4; Mic 6:6; Mal 4:2
אַרְיֵא	lion	35	Num 23:24; 24:9; Jdg 14:5; 14:18; Sam 17:34; 17:36; 17:37; 2 Sam 1:23; 23:20; 1 Kgs 7:29(x2); 7:36; 10:19; 10:20; 2 Kgs 17:25; 17:26; 1 Chr 11:22; 2 Chr 9:18; 9:19; Ps 22:17(dub.); Prov 22:23; 26:13; 28:15; Song 4:8; Isa 38:13; Jer 50:17; 51:38; Lam 3:10; Ezek 19:2; 19:6; 22:25; Amos 3:12; 5:19; Nah 2:12; Zeph 3:3
אַתּוֹנָא	female donkey	34	Gen 12:16; 32:15; 45:23; 49:11; Num 22:21; 22:22; 22:23(x3); 22:25; 22:27(x2); 22:28; 22:29; 22:30(x2); 22:32; 22:33; Judg 5:10; 1 Sam 9:3(x2); 9:5; 9:20; 10:2(x2); 10:14; 10:16; 2 Kgs 4:22; 4:24; 1 Chr 27:30; Job 1:3; 1:14; 42:12; Zech 9:9
יוֹנָה	dove	33	Gen 8:8; 8:9; 8:10; 8:11; 8:12; Lev 1:14; 5:7; 5:11; 12:6; 12:8; 14:22; 14:30; 15:14; 15:29; Num 6:10; 2 Kgs 6:25; Ps 55:7; 56:1; 68:14; Song 1:15; 2:14; 4:1; 5:2;

<sup>829</sup> Excluding a number of homonyms.



			5:12; 6:9; Isa 38:14; 59:11; 60:8; Jer 48:28; Ezek 7:16; Hos 7:11; 11:11; Nah 2:8 <sup>830</sup>
רִמָּשׁ	small creeping animals <sup>831</sup> coll.	33	Gen 1:21; 1:24; 1:25; 1:26 (2x); 1:28; 1:30; 6:7; 6:20; 7:8; 7:14(x2); 7:21; 7:23; 8:17(x2); 8:19(x2); 9:2; 9:3; Lev 11:44; 11:46; 20:25; Deut 4:18; 1Kgs 5:13; Ps 69:35; 104:25; 148:10; Ezek 8:10; 38:20(x2); Hos 2:20; Hab 1:14 <sup>832</sup>
כָּלָב	dog	32	Exod 11:7; 22:30; Deut 23:18; Judg 7:5; 1 Sam 17:43; 24:15; 2 Sam 3:8; 9:8; 16:9; 1 Kgs 14:11; 16:4; 21:19(x2); 21:23; 21:24; 22:38; 2 Kgs 8:13; 9:10; 9:36; Job 30:1; Ps 22:17; 22:21; 59:7; 59:15; 68:24; Prov 26:11; 26:17; Eccl 9:4; Isa 56:10; 56:11; 66:3; Jer 15:3 <sup>833</sup>
כִּפִּיר	young lion	31	Judg 14:5; Job 4:10; 38:39; Ps 17:12; 34:11; 35:17; 58:7; 91:13; 104:21; Prov 19:12; 20:2; 28:1; Isa 5:29; 11:6; 31:4; Jer 2:15; 25:38; 51:38; Ezek 19:2; 19:3; 19:5; 19:6; 32:2; 38:13; 41:19; Hos 5:14; Amos 3:4; Mic 5:7; Nah 2:12; 2:14; Zech 11:3
עֲתוּד	male goat	29	Gen 31:10; 31:12; Num 7:17; 7:23; 7:29; 7:35; 7:41; 7:47; 7:53; 7:59; 7:65; 7:71; 7:77; 7:83; 7:88; Deut 32:14; Ps 50:9; 50:13; 66:15; Prov 27:26; Isa 1:11; Isa

<sup>830</sup> Excluding the personal name Jonah.

<sup>831</sup> In one instance refers to all living things including humans.

<sup>832</sup> Including most instances of the verb רִמָּשׁ to *crawl/swarm or teem*, as it is used adjectivally and sometimes in the imperfect as a name or as part of a name for a type of animal. Its occurrence in Ps 104:20 is excluded as in this case it is used simply as a verb, with no naming or descriptive function.

<sup>833</sup> Excluding personal name.



			14:9; 34:6; Jer 50:8; 51:40; Ezek 27:21; 34:17; 39:18; Zech 10:3 <sup>834</sup>
חַי כָּל-חַי	living adj.	27	Gen 3:20; 6:19; 8:21; 9:3; Job 12:10; 28:21; 30:23; Ps 145:16; Eccl 7:2; 9:4; Isa 8:19; 38:11; 38:19(x2); 53:8; Jer 11:19; Ezek 26:20; 32:23; 32:24; 32:25; 32:26; 32:27; 32:32; Dan 2:30; 4:17; 4:31; 12:7 <sup>835</sup>
נֶשֶׁר	eagle; vulture	26	Ex 19:4; Lev 11:13; Deut 14:12; 28:49; 32:11; 2 Sam 1:23; Job 9:26; 39:27; Ps 103:5; Prov 23:5; 30:17; 30:19; Isa 40:31; Jer 4:13; 48:40; 49:16; 49:22; Lam 4:19; Ezek 1:10; 10:14; 17:3; 17:7; Hos 8:1; Obad 1:4; Micah 1:16; Hab 1:8
פָּרָה	cow	25	Gen 32:16; 41:2; 41:3(x2); 41:4(x2); 41:18; 41:19; 41:20(x2); 41:26; 41:27; Num 19:2; 19:5; 19:6; 19:9; 19:10; 1 Sam 6:7; 6:10; 6:12; 6:14; Job 21:10; Isa 11:7; Hos 4:16; Amos 4:1
אַרְבֵּה	locust	24	Exod 10:4; 10:12; 10:13; 10:14(x2); 10:19(x2); Lev 11:22; Deut 28:38; Judg 6:5; 7:12; 1 Kgs 8:37; 2 Chron 6:28; Job 39:20; Ps 78:46; 105:34; 109:23; Prov 30:27; Jer 46:23; Joel 1:4(x2); 2:25; Nah 3:15; 3:17 <sup>836</sup>

<sup>834</sup> Excluding homonym meaning *ready* or *supplies*. In Isa 14:9 and Zech 10:3 the word is used as a metaphor for leaders.

<sup>835</sup> In Dan 12:7 the term is used for God. At other times it refers specifically to animals, specifically to humans, or to both. All the occurrences in Daniel are Aramaic. Only the instances where the adjective is used substantively have been counted.

<sup>836</sup> Adult, sociable phase. Excluding homonyms meaning *lattice* and *skill*.



נָחָשׁ	snake	22	Gen 3:1; 3:2; 3.4; 3.13; 3:14; 49:17; Ex 4:3; 7:15; Num 21:6; 21:7; 21:9 (x3); Deut 8:15; 2 Kgs 18:4; Job 26:13; Ps 58:5; 140:4; Prov 30:19; Ecc 10:8; Isa 14:29; 27:1 <sup>837</sup>
חַיָּוָה	animal; living thing, Aram.	20	Dan 2:38; 4:9; 4:11; 4:12; 4:13; 4:18; 4:20; 4:22; 4:29; 5:21; 7:3; 7:5; 7:6; 7:7(x2); 7:11; 7:12; 7:17; 7:19; 7:23
שָׂרָץ	small swarming animals coll.	20	Gen 1:20; 7:21(x2); Lev 5:2; 11:10; 11:20; 11:21; 11:23; 11:29(x2); 11:31; 11:41(x2); 11:42(x2); 11:43(x2); 11:44; Lev 22:5; Deut 14:19 <sup>838</sup>
דָּג	fish m.	19	Gen 9:2; Num 11:22; 1 Kgs 5:13; 2 Chron 33:14; Neh 3:3; 12:39; 13:16; Job 12:8; 40:31; Ps 8:9; Ecc 9:12; Ezek 38:20; Hos 4:3; Jon 2:1 (x2); 2:11; Hab 1:14; Zeph 1:3; 1:10
גָּדִי	kid	16	Gen 27:9; 27:16; 38:17; 38:20; 38:23; Exod 23:19; 34:26; Deut 14:21; Judg 6:19; 13:15; 13:19; 14:6; 15:1; 1 Sam 10:3; 16:20; Isa 11:6 <sup>839</sup>
דָּגָה	fish f.	15	Gen 1:26; 1:28; Ex 7:18; 7:21; Num 11:5; Deut 4:18; Ps 105:29; Isa 50:2; Ezek 29:4 (x2); 29:5; 47:9; 47:10 (x2); Jon 2:2 <sup>840</sup>
פָּרָד	mule	14	2 Sam 13:29; 18:9(x3); 1 Kgs 10:25; 18:5; 2 Kgs 5:17; 1 Chr 12:41; 2 Chr 9:24; Ezra 2:66; Ps 32:9; Isa 66:20; Ezek 27:14; Zech 14:15

<sup>837</sup> Excluding the use of the word as a personal name, and the verb meaning *to divine*.

<sup>838</sup> Counting only the noun and participles, excluding finite verbs.

<sup>839</sup> Excluding personal name Gadi and ethnonym meaning Gadites.

<sup>840</sup> Not counting the single use of a homonym which is a verb *to multiply*.





תֹּר	turtledove	14	Gen 15:9; Lev 1:14; 5:7; 5:11; 12:6; 12:8; 14:22; 14:30; 15:14; 15:29; Num 6:10; Ps 74:19; Song 2:12; Jer 8:7 841
תַּחֲשׁ	dolphin	14	Exod 25:5; 26:14; 35:7; 35:23; 36:19; 39:34; Num 4:6; 4:8; 4:10; 4:11; 4:12; 4:14; 4:25; Ezek 16:10 <sup>842</sup>
תָּן	jackal	14	Job 30:29; Ps 44:20; Isa 13:22; 34:13; 35:7; 43:20; Jer 9:10; 10:22; 14:6; 49:33; 51:37; Lam 4:3; Mic 1:8; Mal 1:3
תַּנִּין	snake; dragon; sea serpent; chaos monster	14	Gen 1:21; Ex 7:9; 7:10; 7:12; Deut 32:33; Job 7:12; Ps 74:13; 91:13; 148:7; Isa 27:1; 51:9; Jer 51:34; Ezek 29:3; 32:2
דָּב	bear	13	1 Sam 17:34; 17:36; 17:37; 2 Sam 17:8; 2 Kgs 2:24; Prov 17:12; 28:15; Isa 11:7; 59:11; Lam 3:10; Dan 7:5; Hos 13:8; Amos 5:19 <sup>843</sup>
כֶּשֶׁב	sheep	13	Gen 30:32; 30:33; 30:35; 30:40; Lev 1:10; 3:7; 4:35; 7:23; 17:3; 22:19; 22:27; Num 18:17; Deut 14:4
לָבִיא	lion	13	Gen 49:9; Num 23:24; 24:9; Deut 33:20; Job 4:11; 38:39; Isa 5:29; 30:6; Ezek 19:2; Hos 13:8; Joel 1:6; Nah 2:12; 2:13
נֶפֶשׁ חַיָּה נֶפֶשׁ הַחַיָּה	living being	13	Gen 1:20; 1:21; 1:24; 1:30; 2:7; 2:19; 9:10; 9:12; 9:15; 9:16; Lev 11:10; 11:46; Ezek 47:9
צְפַרְדֵּי	frog	13	Ex 7:27; 7:28; 7:29; 8:1; 8:2; 8:3; 8:4; 8:5; 8:7; 8:8; 8:9; Ps 78:45; 105:30

<sup>841</sup> Excluding the homonym meaning *turn* as well as *plait* or *chain/string* (jewellery). See also homonym meaning *bullock*.

<sup>842</sup> Excluding personal name in Gen 22:24.

<sup>843</sup> The instance in Daniel is Aramaic.



עֵגְלָה	heifer	12	Gen 15:9; Deut 21:3; 21:4 (x2); 21:6; Judg 14:18; 1 Sam 16:2; Isa 7:21; Jer 46:20; 50:11; Hos 10:5; 10:11
צִבִּי	gazelle	12	Deut 12:15; 12:22; 14:5; 15:22; 2 Sam 2:18; 1 Kgs 5:3; 1 Chr 12:9; Prov 6:5; Song 2:9; 2:17; 8:14; Isa 13:14 <sup>844</sup>
אֵיל	stag; fallow deer	11	Deut 12:15; 12:22; 14:5; 15:22; 1 Kgs 5:3; Ps 42:2; Song 2:9; 2:17; 8:14; Isa 35:6; Lam 1:6
אֵיִלָּה	doe; fallow deer	11	Gen 49:21; 2 Sam 22:34; Job 39:1; Ps 18:34; 22:1; 29:9; Prov 5:19; Song 2:7; 3:5; Jer 14:5; Hab 3:19
פָּרָשׁ	horse	11	1 Sam 8:11; 2 Chr 1:14(x2); 9:25; Isa 21:7; 21:9; 28:28; Jer 46:4; Ezek 26:10; 27:14; Joel 2:4 <sup>845</sup>
כֶּרֶם	young ram	10	Deut 32:14; 1 Sam 15:9; 2 Kgs 3:4; Ps 37:20; Isa 16:1; 34:6; Jer 51:40; Ezek 27:21; 39:18; Amos 6:4 <sup>846</sup>
עֵרָב	raven; corvid	10	Gen 8:7; Lev 11:15; Deut 14:14; 1 Kgs 17:4; 17:6; Job 38:41; Ps 147:9; Prov 30:17; Song 5:11; Isa 34:11 <sup>847</sup>
פָּרָא	onager	10	Gen 16:12; Job 6:5; 11:12; 24:5; 39:5; Ps 104:11; Isa 32:14; Jer 2:24; 14:6; Hos 8:9
אֲבִיר	bull; horse	9	Judg 5:22; Ps 22:12; 50:13; 68:31; Isa 34:7; Jer 8:16; 47:3; 50:11 <sup>848</sup>
יִלְק	young locust (hopper) <sup>849</sup>	9	Ps 105:34; Jer 51:14; 51:27; Joel 1:4(x2); 2:25; Nah 3:15(x2); 3:16

<sup>844</sup> Excluding occurrences of the sense of the word that means *beauty; honour; glory*, as none of the instances seem to shed light on the *gazelle* sense (except perhaps to say that the gazelle was considered particularly beautiful). Aramaic טְבִיחָא (Deut 12:15 (TAR), translated in Greek as δορκας (Deut 12:15 (LXX); Acts 9:36).

<sup>845</sup> Only counting instances where it is used to mean *horse* rather than *horseman*. Definitely synonym of sus in Joel 2:4. The others are more dubious. As *horsemen*, it refers to charioteers as well as mounted fighters.

<sup>846</sup> Excluding where it means *pasture, camel's saddlebag, or battering-ram*.

<sup>847</sup> Excluding personal name Oreb (but see in discussion the association with Zeeb *wolf*).

<sup>848</sup> Generally an adjective meaning *strong*. Only its use as a term for an animal is counted. Otherwise used, usually substantively, to refer to strong men (warriors), God, or in one case (Ps 78:25) most likely angels.

<sup>849</sup> Immature and non-flying; sociable phase.



עָרָב	swarm (of flies)	9	Ex 8:17 (2x); 8:18; 8:20 (x2); 8:25; 8:27; Ps 78:45; 105:31 <sup>850</sup>
רְאוּם	aurochs	9	Num 23:22; 24:8; Deut 33:17; Job 39:9; 39:10; Ps 22:22; 29:6; 92:11; Isa 34:7
יַעֲנָה	female ostrich	8	Lev 11:16; Deut 14:15; Job 30:29; Isa 13:21; 34:13; 43:20; Jer 50:39; Mic 1:8 <sup>851</sup>
כְּבִשָּׂה	female lamb	8	Gen 21:28; 21:29; 21:30; Lev 14:10; Num 6:14; 2 Sam 12:3; 12:4; 12:6
כַּנָּף	wing	8	Gen 7:14; Prov 1:17; Eccl 10:20 (x2); Isa 10:14; Ezek 17:23; 39:4; 39:17 <sup>852</sup>
עֵיט	bird of prey	8	Gen 15:11; Job 28:7; Isa 18:6(x2); 46:11; Jer 12:9 (x2); Ezek 39:4
עִיר	young donkey	8	Gen 32:16; 49:11; Judg 10:4; 12:14; Job 11:12; Isa 30:6; 30:24; Zech 9:9
מְרִיא	fattened calf	8	2 Sam 6:13; 1 Kgs 1:9; 1:19; 1:25; Isa 1:11; 11:6; Ezek 39:18; Amos 5:22
אֶלֶף	cattle	7	Deut 7:13; 28:4; 28:18; 28:51; Ps 8:8; Prov 14:4; Isa 30:24 <sup>853</sup>
גֹּר	cub	7	Gen 49:9; Deut 33:22; Lam 4:3; Ezek 19:2; 19:3; 19:5; Nah 2:12 <sup>854</sup>
זָאב	wolf	7	Gen 49:27; Isa 11:6; 65:25; Jer 5:6; Ezek 22:27; Hab 1:8; Zeph 3:3 <sup>855</sup>

<sup>850</sup> Only found in reference to the Egyptian plague.

<sup>851</sup> More properly *בַּת יַעֲנָה*. Always used with *בַּת* – daughter of the *יַעֲנָה*, not alone.

<sup>852</sup> Sometimes used *pars pro toto* (synechdochically) for birds. Only counting this sense.

<sup>853</sup> Also a thousand.

<sup>854</sup> Mostly of lions; once of a jackal.

<sup>855</sup> Excluding personal name.



חֲזִיר	pig; boar	7	Lev 11:7; Deut 14:8; Ps 80:14; Prov 11:22; Isa 65:4; 66:3; 66:17 <sup>856</sup>
עֵשׂ	clothesmoth	7	Job 4:19; 13:28; 27:18; Ps 39:12; Isa 50:9; 51:8; Hos 5:12 <sup>857</sup>
צִפִּיר	male goat	7	2 Chr 29:21; Ezra 6:17; 8:35; Dan 8:5(x2); 8:8; 8:21 <sup>858</sup>
רָפָה	maggot	7	Exod 16:24; Job 7:5; 17:14; 21:26; 24:20; 25:6; Isa 14:11
שׁוּעָל	fox; jackal	7	Jdg 15:4; Neh 4:3; Ps 63:10; Song 2:15(x2); Lam 5:18; Ezek 13:4 <sup>859</sup>
שִׁחַל	lion	7	Job 4:10; 10:16; 28:8; Ps 91:13; Prov 26:13; Hos 5:14; 13:7
שָׂרָף	flying or fiery serpent; seraph	7	Num 21:6; 21:8; Deut 8:15; Isa 6:2; 6:6; 14:29; 30:6 <sup>860</sup>
תּוֹר	bull, Aram.	7	Ezra 6:9; 6:17; 7:17; Dan 4:22; 4:29; 4:30; 5:21
בְּעִיר	livestock	6	Gen 45:17; Exod 22:4; Num 20:4; 20:8; 20:11; Ps 78:48
חֲסִידָה	stork	6	Lev 11:19; Deut 14:18; Job 39:13; Ps 104:17; Jer 8:7; Zech 5:9
חֲסִיל	locust (destroyer)	6	1 Kgs 8:37; 2 Chr 6:28; Ps 78:46; Isa 33:4; Joel 1:4; 2:25 <sup>861</sup>
לְוִיָּתָן	Leviathan	6	Job 3:8; 40:25; Ps 74:14; 104:26; Isa 27:1(x2)
עֶכְבָּר	mouse	6	Lev 11:29; 1 Sam 6:4; 6:5; 6:11; 6:18; Isa 66:17

<sup>856</sup> Excluding two instances of the personal name חֲזִיר; which some sources consider to be חֲזִיר with the pointing changed to avoid offence, but others to be a word meaning pomegranate (Brown-Driver-Briggs 2000:306).

<sup>857</sup> Excluding use as the name of a constellation in Job 9:9.

<sup>858</sup> The occurrence in Ezra 6:17 is Aramaic.

<sup>859</sup> Excluding the use of the word as a personal and place name.

<sup>860</sup> Excluding one instance of the word as a personal name as well as the root used as the verb *to burn*.

<sup>861</sup> Immature; non-flying.



עֲקָרָב	scorpion	6	Deut 8:15; 1 Kgs 12:11; 12:14; 2 Chr 10:11; 10:14; Ezek 2:6 <sup>862</sup>
פֶּתֶן	cobra	6	Deut 32:33; Job 20:14; 20:16; Ps 58:5; 91:13; Isa 11:8
צִי	desert-dweller	6	Ps 72:9; 74:14; Isa 13:21; 23:13; 34:14; Jer 50:39 <sup>863</sup>
נִמְרֹד	leopard; cheetah	6	Song 4:8; Isa 11:6; Jer 5:6; 13:23; Hos 13:7; Hab 1:8
רַהַב	Rahab; sea-monster	6	Job 9:13; 26:12; Ps 87:4; 89:11; Isa 30:7; 51:9 <sup>864</sup>
חֲגָב	grasshopper	5	Lev 11:22; Num 13:33; 2 Chr 7:13; Eccl 12:5; Isa 40:22 <sup>865</sup>
כֹּן	louse	5	Ex 8:12; 8:13; 8:14; Ps 105:31; Isa 51:6
עֲפָר	fawn	5	Song 2:9; 2:17; 4:5; 7:4; 8:14 <sup>866</sup>
קִאֵת	sandgrouse	5	Lev 11:18; Deut 14:17; Ps 102:7; Isa 34:11; Zeph 2:14
רְחֵל	ewe	5	Gen 29:6; 31:38; 32:15; Song 6:6; Isa 53:7 <sup>867</sup>
שֹׁנֵר	offspring; calves	5	Exod 13:12; Deut 7:13; 28:4; 28:18; 28:51 <sup>868</sup>
אֶפְרָח	young bird	4	Deut 22:6(x2); Job 39:30; Ps 84:4.
דְּבוּרָה	bee	4	Deut 1:44; Judg 14:8; Ps 118:12; Isa 7:18 <sup>869</sup>

<sup>862</sup> Excluding place name.

<sup>863</sup> Excluding homonym meaning *ship*. Could denote wild animals, humans or legendary creatures.

<sup>864</sup> Sometimes used metaphorically for Egypt. Excluding many homonyms.

<sup>865</sup> Small in size but adult. Solitary phase. Excluding personal name.

<sup>866</sup> Young of various wild ruminants; at least אֵיל and צִבִי.

<sup>867</sup> Excluding the personal name Rachel.

<sup>868</sup> A term for offspring used exclusively for the young of אֵלֶּף (and in one case בְּהֵמָה). The more usual terms for the offspring of animals are the same ones used for human children. (see Gen 32:15 and Zech 9:9 for examples).

<sup>869</sup> Excluding personal name.



עֲשָׂתָרַת	offspring; lambs	4	Deut 7:13; 28:4; 28:18; 28:51 <sup>870</sup>
זְבִיָּה	female gazelle	4	Song 2:7; 3:5; 4:5; 7:4 <sup>871</sup>
צִפּוֹר	bird, Aram.	4	Dan 4:9; 4:11; 4:18; 4:30
רֶכֶשׁ	horse	4	1 Kgs 5:8; Esth 8:10; 8:14; Mic 1:13
שָׁלוּ	quail	4	Exod 16:13; Num 11:31; 11:32; Ps 105:40
שָׁפָן	hyrax	4	Lev 11:5; Deut 14:7; Ps 104:18; Prov 30:26 <sup>872</sup>
תִּישׁ	male goat	4	Gen 30:35; 32:15; 2 Chr 17:11; Prov 30:31
אֵי	jackal	3	Isa 13:22; 34:14; Jer 50:39 <sup>873</sup>
אֵיָהּ	kite	3	Lev 11:14; Deut 14:13; Job 28:7 <sup>874</sup>
אִמֹּר	lamb, Aram.	3	Ezra 6:9; 6:17; 7:17
אֲפַעָה	adder	3	Job 20:16; Isa 30:6; 59:5
גָּזָם	locust (cutter)	3	Joel 1:4; 2:25; Amos 4:9 <sup>875</sup>
דָּכַר	ram, Aram.	3	Ezra 6:9; 6:17; 7:17
זְבוּב	flies coll.	3	2 Kgs 1:2; Eccl 10:1; Isa 7:18
טֹלָה	lamb	3	1 Sam 7:9; Isa 40:11; 65:25

<sup>870</sup> Excluding the use of the word for the deity Ashtaroth. All four instances of the word are used for the offspring of צֵאן, and all are in parallel to שָׁגֵר / אֶלְיָהּ.)

<sup>871</sup> Excluding personal name

<sup>872</sup> Excluding personal name.

<sup>873</sup> There are many homonyms, but the noun is thought to derive from the verb root אָוַי, *howl* (BDB 2000:17), or else, less likely, from אֵי, *shore* (as inhabitants of) (Holladay 2000:12).

<sup>874</sup> Excluding use as personal name.

<sup>875</sup> Excluding personal name.



יַעֲל	ibex	3	1 Sam 24:3; Job 39:1; Ps 104:18 <sup>876</sup>
יִנְשׁוּף	eagle owl	3	Lev 11:17; Deut 14:16; Isa 34:11
כּוֹס	little owl	3	Lev 11:17; Deut 14:16; Ps 102:7 <sup>877</sup>
לִישׁ	lion	3	Job 4:11; Prov 30:30; Isa 30:6 <sup>878</sup>
נֵיז	falcon	3	Lev 11:16; Deut 14:15; Job 39:26 <sup>879</sup>
עֵטְלָף	bat	3	Lev 11:19; Deut 14:18; Isa 2:20
פְּרָדָה	female mule	3	1 Kgs 1:33; 1:38; 1:44
צַפְעָנִי	viper	3	Isa 14:29; 59:5; Jer 8:17 <sup>880</sup>
צִרְעָה	wasp; hornet	3	Exod 23:28; Deut 7:20; Josh 24:12 <sup>881</sup>
קַפְד	bittern; hedgehog	3	Isa 14:23; 34:11; Zeph 2:14
תַּנְשֵׁמֶת	chameleon; barn owl	3	Lev 11:18; 11:30; Deut 14:16
אַנְפָּה	flamingo	2	Lev 11:19; Deut 14:18
אַרְנַבַּת	hare	2	Lev 11:6; Deut 14:7
גְּבִי	locust	2	Amos 7:1; Nah 3:17 <sup>882</sup>
גּוֹזַל	young bird	2	Gen 15:9; Deut 32:11 <sup>883</sup>
גּוֹר	cub	2	Jer 51:38; Nah 2:13 <sup>884</sup>
דּוֹכִיפַת	hoopoe	2	Lev 11:19; Deut 14:18

<sup>876</sup> Excluding the use of the word as a personal name.

<sup>877</sup> Excluding instances where the word means *cup*.

<sup>878</sup> Excluding place name and personal name.

<sup>879</sup> Excluding homonym meaning *flower*.

<sup>880</sup> Alternative form of צַפֵּעַ.

<sup>881</sup> Excluding personal and place name.

<sup>882</sup> Excluding personal name.

<sup>883</sup> The young of a dove in Gen 15:9 and the young of an eagle in Deut 32:11.

<sup>884</sup> The young of a lion.



דִּיהַ	hawk	2	Deut 14:13; Isa 34:15
דְּרוֹר	swallow	2	Ps 84:4; Prov 26:2 <sup>885</sup>
זַחְלֵי עֶפֶר זַחְלֵי אֲרֶז	snakes	2	Deut 32:24; Mic 7:17 <sup>886</sup>
זִי	animals	2	Ps 50:11; 80:14
יַחְמוֹר	roe deer	2	Deut 14:5; 1 Kgs 5:3
כָּנָם	lice coll.	2	Ex 8:13; 8:14
סוּס	swift	2	Isa 38:14; Jer 8:7 <sup>887</sup>
עֲגוּר	crane	2	Isa 38:14; Jer 8:7
עֲזוּנְיָה	osprey	2	Lev 11:13; Deut 14:12
עֲכָבִישׁ	spider	2	Job 8:14; Isa 59:5
מִזַּח	fattened sheep	2	Ps 66:15; Isa 5:17 <sup>888</sup>
נַמְלָה	ant	2	Prov 6:6; 30:25
נֶשֶׁר	eagle; vulture, Aram.	2	Dan 4:30; 7:4
פָּרָס	lammergeier	2	Lev 11:13; Deut 14:12.
פְּרָעֵשׁ	flea	2	1 Sam 24:15; 26:20 <sup>889</sup>
צִלְצַל	locust (whirrer)	2	Deut 28:42; Isa 18:1 <sup>890</sup>
קוֹף	monkey	2	1 Kgs 10:22; 2 Chr 9:21
קָרָא	partridge	2	1 Sam 26:20; Jer 17:11

<sup>885</sup> Excluding the use of the word to mean *freedom*.

<sup>886</sup> The participle of the verb *זחל* to crawl; *be afraid* used substantively with *עפר* dust or *ארץ* ground to denote snakes.

<sup>887</sup> Q for *סוס* which is highly unlikely, if entertaining.

<sup>888</sup> In Isa 5:17 it is probably a metaphor for rich people.

<sup>889</sup> Excluding personal name.

<sup>890</sup> The occurrence in Isaiah is dubious; it probably means *whirring* here. Also *fishing spear* in Job 40:31.





שַׁחַף	seagull	2	Lev 11:16; Deut 14:15
שָׁלַף	cormorant	2	Lev 11:17; Deut 14:17 <sup>891</sup>
שְׂעִירָה	female goat	2	Lev 4:28; 5:6 <sup>892</sup>
תָּאוֹ	hartebeest	2	Deut 14:5; Isa 51:20
תַּחֲמוֹס	male ostrich	2	Lev 11:16; Deut 14:15
תְּכֵי	peacock	2	1 Kgs 10:22; 2 Chr 9:21
אֶחָ	howling creature	1	Isa 13:21
אַלּוֹף	tame; a cow or ox adj.	1	Ps 144:14 <sup>893</sup>
אַנְקָה	gecko	1	Lev 11:30
אֶקֶוּ	oryx	1	Deut 14:5
בְּהֵמוֹת	Behemoth; hippopotamus	1	Job 40:15 <sup>894</sup>
בָּכָר	camel	1	Isa 60:6 <sup>895</sup>
בְּכֵרָה	camel f.	1	Jer 2:23
בְּרֵבֶר	chicken	1	1 Kgs 5:3
גְּבָה	locust swarm	1	Isa 33:4
גִּבּוֹר	rooster	1	Isa 22:17 <sup>896</sup>
גְּדִיָּה	female kid	1	Song 1:8
גּוֹב	locust swarm	1	Nah 3:17 <sup>897</sup>

<sup>891</sup> From the verb שָׁלַף, meaning *throw down*.

<sup>892</sup> Excluding place name.

<sup>893</sup> Also possibly found in Jer 11:19, but very dubious – KJV has *or an ox*; more likely *tame*. Most sources translate *oxen* – it could mean domestic animals in general.

<sup>894</sup> Grammatically the plural of בְּהֵמָה.

<sup>895</sup> Excluding personal name.

<sup>896</sup> Very dubious; only DRA. Most translations prefer *strong young man*.

<sup>897</sup> Excluding place name. Probably means a swarm, but only in terms of גְּבֵי.



דָּאָה	hawk	1	Lev 11:14 <sup>898</sup>
דִּישׁוֹן	addax	1	Deut 14:5 <sup>899</sup>
זֶמֶר	mouflon	1	Deut 14:5
זְרִיר	corvid; saluki	1	Prov 30:31 <sup>900</sup>
חֹל	phoenix	1	Job 29:18 <sup>901</sup>
חֶלְדַּי	weasel	1	Lev 11:29
חֲמַט	agama	1	Lev 11:30
חֲפָרָה חֲפֵר פָּרָה	molerat	1	Isa 2:20
חַרְגָּל	katydid	1	Lev 11:22 <sup>902</sup>
חֲשָׂף	small flock; premature kid	1	1 Kgs 20:27 <sup>903</sup>
יָמִים	mules (very dubious)	1	Gen 36:24 <sup>904</sup>
יַעֲלָה	ibex f.	1	Prov 5:19
יַעֲנָן	ostrich	1	Lam 4:3 <sup>905</sup>
כֹּחַ	monitor	1	Lev 11:30 <sup>906</sup>
כַּרְבָּה	female camel	1	Isa 66:20
כַּשְׂבָּה	female lamb	1	Lev 5:6
לֵבָא	lion	1	Ps 57:5

<sup>898</sup> Probably related to verb דָּאָה *fly*.

<sup>899</sup> Excluding 7 instances of the word as a personal name.

<sup>900</sup> Or possibly *rooster*.

<sup>901</sup> Very dubious. Should probably be *sand*.

<sup>902</sup> Edible; thus winged.

<sup>903</sup> Of goats.

<sup>904</sup> Most likely *hot springs*, but some translate *mules*.

<sup>905</sup> Excluding the much more common homonym meaning *because*.

<sup>906</sup> Homonym of *power*.



לְטֹאֵה	lizard	1	Lev 11:30
לִילִית	Lilith; night bird	1	Isa 34:14
בְּזֵשֶׁנָה	fattened calf	1	1 Sam 15:9 <sup>907</sup>
נְחֹשְׁתָן	bronze serpent image	1	2 Kgs 18:4
נִמְר	leopard; cheetah, Aram.	1	Dan 7:6
סַלְעָם	cricket	1	Lev 11:22 <sup>908</sup>
סָס	clothesmoth	1	Isa 51:8
עֶכְשׂוּב	viper	1	Ps 140:4
עֵלוּקָה	leech	1	Prov 30:15
עֶרְד	onager, Aram.	1	Dan 5:21
עֶרֹד	onager	1	Job 39:5
פְּרִיץ	ravenous one or robber; lion	1	Isa 35:9 <sup>909</sup>
צָב	tortoise	1	Lev 11:29 <sup>910</sup>
צְבוּעַ	speckled; hyaena	1	Jer 12:9 <sup>911</sup>

<sup>907</sup> Means second or *double*, but translated as *fatlings* (KJV; RSV) or *fat calves* (ESV; NIV) in this single verse. JPS has “young of the second birth”.

<sup>908</sup> Edible, winged.

<sup>909</sup> Used to mean *lion* in construct state with **לְיָדָה** in this verse.

<sup>910</sup> Excluding homonym meaning *covered wagon*.

<sup>911</sup> Refers to a bird in context, but some sources translate *hyaena*. Drawing on cognates, it almost certainly did mean *hyaena*, just not in this context.



צִמְאוֹן	snake (spurious)	1	Deut 8:15 <sup>912</sup>
צִפִּיר	male goat, Aram.	1	Ezra 6:17
צִפֵּעַ	viper	1	Isa 11:8
קָל	fast	1	Isa 30:16 <sup>913</sup>
קַפּוּז	bittern; hedgehog	1	Isa 34:15
רֶאָה	hawk	1	Deut 14:13 <sup>914</sup>
רְחָם	vulture	1	Lev 11:18
רְחֻמָּה	vulture	1	Deut 14:17 <sup>915</sup>
רִמְכָּה	mare	1	Esth 8:10
רִנְנִים	ostriches	1	Job 39:13 <sup>916</sup>
שְׂכוּי	rooster (dubious)	1	Job 38:36 <sup>917</sup>
שִׁבְלִיל	snail	1	Ps 58:9
שְׂמַמִּית	gecko	1	Prov 30:28
שִׁפִּיפֹן	viper	1	Gen 49:17

<sup>912</sup> DRA, following a misunderstanding of the word  $\delta\psi\alpha$  in the Septuagint, wrongly translates this word, meaning *dry ground*, as *dipsas*, thinking it to mean a kind of snake whose venom causes thirst (only in one place where it occurs: Deut 8:15).

<sup>913</sup> Used to mean “horses” in this verse.

<sup>914</sup> Probably a miscopying of רֶאָה (Brown-Driver-Briggs 2000:906).

<sup>915</sup> Alternative form of רְחָם.

<sup>916</sup> Only exists as a plural.

<sup>917</sup> Very dubious. More likely *mind* or *soul*. Only DRA and some rabbinical sources.

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### **Abbreviations of Bible translations:**

ASV: American Standard Version (1901)

BBE: The Bible in Basic English (1949/64)

CSB: Holman Christian Standard Bible (1999)

CJB: Complete Jewish Bible (1998)

DBY: English Darby Bible (1884)

DRA: Douay-Rheims American edition (1899)

DRB: French Version Darby (1885)

ERV: English Revised Version (1885)

ESV: English Standard Version (2001)

GNV: Geneva Bible (1599)

GW: *God's Word* translation (1995)

JPS: Jewish Publication Society Holy Scriptures (1917)

KJV: King James Version (1611)

LXE: English translation of the Septuagint (1844)

LXX: Septuagint (c. 3<sup>rd</sup> century BC)

NASB: New American Standard Bible (1995)

NET: The NET Bible (1996) (New English Translation)

NIV: New International Version (1984)

NLT: New Living Translation (1996)

TNK: Jewish Publication Society Tanakh in English (1985)

## Abstract

The subject matter of this study is animal names in the Hebrew Bible. Centring on a corpus-linguistic analysis of every word for an animal or type of animal used within the text, it sheds light on the methods and paradigms of categorisation used by the ancient Hebrews and thus on previously unknown aspects of their worldview. The discipline of cognitive linguistics, in particular the prototype theory of categories, is used to interpret the various types and levels of animal classification; a theory on spatiality as the main basis for classification is developed, and new light is shed on a wrongly undervalued theory of cleanness/uncleanness. This theoretical work is also applied to certain texts to prove its usefulness in helping with the translation and interpretation of problematic words and passages.

### **Key words:**

Cognitive linguistics, animals, Bible, Hebrew, archaeozoology, ethnozoology, ethnobotany, categorisation, classification, translation, prototypes.