Mentoring Meaning: Bridging the Cognitive Gap between Biblical and Receptor Worldviews

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ABSTRACT
Frame theory offers useful solutions to problematic practices in Bible translation, such as word-to-word approaches. They may be replaced by teaching a four-step method involving a new proposal for a purely semantic unit of language, defined in relation to the conceptual frame that it triggers.

When we consider what the content of training should be, where does meaning come in? What is it that we translate, if not meaning? What is the highest goal in translation, if not the faithful preservation of the original meaning and message?

This article proposes a new linguistic unit – the ‘frameme’ – to work in tandem with an already established concept within cognitive semantics – the ‘frame’. Together, they open the way for fresh ways of thinking about lexical meaning and an improved procedure for the lexical component of exegesis and translation. This four-step method will be sketched in outline form (section 5) after introducing the two main concepts on which it is based – frames (section 3) and framemes (section 4). But, first we must establish the need for such innovations by pointing out some of the problems with many of the current practices in Bible translation (section 1) and show how cognitive semantics offer some solutions (section 2). Section 6 argues for the need for a mentoring approach to help others understand the new concepts and methodology. Section 7 concludes the article.

Five appendices present more background information and some Hebrew examples. Appendix A summarizes five problems that cognitive semanticists see in a dictionary view of lexical meaning, while Appendix B crystallizes five solutions offered by an encyclopaedic view. Appendix C offers an example of a biblical frame description: the Levirate marriage frame. Appendix D gives a more formal definition of ‘frameme’ and then elaborates on each phrase in the definition. Appendix E presents an example of six distinct biblical framemes that are all based on a single Hebrew expression.

1. Five problems with translator training and practice
In addition to the five problems listed in Appendix A, it is possible to identify the following five problems with translator training and practices concerning word meaning. Indeed, the problems are far more widespread than the world of Bible translation. To a large extent, common exegetical practices concerning word meaning, including much of what is found in commentaries and other Bible resources, are susceptible to many of the same allegations.

1. **Source worldview**: Western trainers of mother-tongue translators sometimes lack an adequate understanding of the cognitive environments shared by the biblical authors and their original audiences.
   a. The cognitive gap between many aspects of Biblical cultures and their counterparts in Western worldviews is considerably greater than is often realized.
   b. Failing to recognize the extent of this gap in many areas, we unconsciously filter the Scriptures through our own cultural grids and then unintentionally pass on our less than accurate understanding to mother-tongue translators.
   c. The gap is especially large for those conceptual complexes that are culture-specific.

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1 This article was presented as a paper at the 2007 Bible Translation Conference in Dallas (October 15-17, 2007).
2 I am very grateful to Andy Clark, a conference participant, for suggesting this label to me. Reasons for my acceptance of it are given in section 4.5.
3 There are various kinds of meaning, including grammatical meaning, but I will focus on lexical meaning. My approach is not incompatible with discourse analysis. Rather, it comes along side it with a different focus.
2. **Receptor worldview**: Western trainers of mother-tongue translators will often also lack adequate understanding of the cognitive environments pertinent to the receptor cultures.
   a. The cognitive gap between receptor cultures and the cultures of the Bible is often considerably smaller than the gap between either of these cultures and Western worldviews and cultural biases.
   b. Without a correct understanding of the receptor worldview, even our best interpretations of the source culture will be inadequately explained.

3. **Lexicons for biblical languages** are the source of a number of common misconceptions about lexical meaning.¹
   a. Because they offer no more than the briefest of glosses in Western languages, they promote the myth that a word in one language can be defined in terms of a gloss in a foreign language despite the cultural gap. Glosses are not meanings!
   b. Even definitions are usually inadequate for describing complex concepts that are specific to a community of language users. Such descriptions require information that is encyclopaedic in scope and the relationships among related concepts must be made explicit.
   c. Because of the point made in 1a above, the Western concepts triggered by the glosses and brief definitions in lexicons and dictionaries may hinder more than they help.
   d. In the case of several biblical words, the standard lexicons and theological dictionaries differ from one another with respect to the references they list for each meaning or use. This is because pigeon-holing biblical occurrences of words into distinct categories of meanings and uses can often be difficult and sometimes impossible. On occasion, such categorizations must be forced in an artificial or arbitrary way.²
   e. Any lexicon of a dead language with a closed and limited corpus should not be viewed as an absolute authority in all cases of lexical meaning. In the case of some rare Hebrew words, lexicographers can do no better than to make educated guesses as to their meanings based on the co-text, the ancient Versions, and on an imperfect knowledge of cognate languages with similarly limited corpora.

4. **Word-based methods**: Despite offering lessons in translation theory and in discourse analysis, it has been an uphill battle for us to get translators away from a word-to-word approach to translating the Scriptures.
   a. Words are not the best units for semantic analysis because they are not purely semantic constructs. Rather, they function at an awkward mixture of linguistic levels – morphological, syntactic, semantic, phonological and orthographical.
   b. In practice, the default procedure for many projects involves finding a receptor word with the same presumed meaning as a word in a language of wider communication – either a word used in translation or a gloss in a lexicon.
   c. Unless translators have received hands-on mentoring by trainers committed to a workable alternative procedure, they will tend to resort to a default method of translating one word (or phrase) at a time.

5. **Perpetuating erroneous ideas**: All too often, we trainers and consultants are unwittingly aiding and abetting such inadvisable practices by our modelling, by the questions we ask, and by the language we use.
   a. Translator training and practice in many parts of the world still focuses on words (see point 4 above).
   b. Some of the problems we inadvertantly perpetuate derive from our penchant for using inter-lingual dictionaries. Unless knowledge of the Biblical languages is extraordinarily

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¹ Appendix A summarizes the main problems with a dictionary view of meaning, while Appendix B shows how the encyclopaedic view taken by cognitive semanticists provides answers to each of these in turn. The following points are more specific to the biblical context.
² Even when ignoring the deliberate use of rhetorical devices such as double entendre, the ways in which the authors use some instances of words sometimes seem to require us to embrace more than one node and link in the schematic network of meanings and uses.
high, the use of lexicons will continue to be a necessary evil, but the practice creates a number of false impressions (see the third point above).

c. In some cases, there has been little or no conscious training to counter the false ideas about word meaning that are commonly held.

d. In many cases, there has been little or no systematic incorporation of recent insights offered by cognitive semantics – even though it is now widely regarded as offering many essential insights into how lexical meaning works.

2. Five solutions

1. **Source culture ‘frame’ descriptions** of the relevant encyclopaedic knowledge will potentially provide trainers and mother-tongue translators with a better understanding of the cognitive environments shared by the biblical authors and their original audiences. For key concepts in the Old Testament, the Key Terms in Biblical Hebrew project (**KTBH**) aims to provide the information that is most needed by translators. Meanwhile, much of the relevant information can be gleaned from Bible dictionaries and other such resources. Access to this knowledge, and the skills needed to acquire it, must be passed on to the translation team.⁶ [See section 3 below for an explanation of ‘frames’.]

2. **Receptor culture ‘frame’ descriptions** of the nearest equivalent concepts must also be made (at least orally) by the translation team. See Hill (2003), Hill (2006), Katan (1999), van der Jagt (2002), Wendland (1987), and Wilt (2003, especially Bascom’s chapter on ‘The Role of Culture in Translation’).⁷ [Again, the next section of this article explains the concept of ‘frames’.]

3. **Framemes**: This new proposal for a purely semantic unit avoids many of the problems associated with words, glosses, and word-based approaches to exegesis and translation. [See section 4 for a description of ‘framemes’.]

4. **A new procedure** based on ‘frames’ and ‘framemes’ offers a viable alternative to word-based approaches. [See section 5 for an outline of the new approach.]

5. **Mentoring** is required to pro-actively counter faulty views of lexical meaning and to replace them with sounder ideas and more reliable practices. [See section 6 for a few reflections on the need for a mentoring approach.]

Before outlining the new procedure, the next section introduces the first of two essential concepts – the one that is already established.

3. Introducing frames

Since the 1970s the concept of ‘frame’ has been developed in a variety of disciplines and under an assortment of names, including ‘domain’ (see section 3.5).⁸

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⁶ See also the papers presented at this conference by Kathy Bruce (“Biblical backgrounds training for translators”) and by Gilles Gravelle (“Theological training and mother-tongue translators”).

⁷ For example, Wendland (in his book *The Cultural Factor in Bible Translation*) points out that a correct understanding of the cultural context is needed to predict “where the major bridges as well as barriers are likely to develop in the transmission of the Scriptures” (Wendland 1987:39). See also the paper given at this conference by Carol McKinney and Elinor Abbot (“What place does cultural anthropology have in translation in the 21st Century?”).

⁸ See also the paper presented at this conference by Ivan Lowe (“Domain Theory in Language”). This is how Langacker (1987:488) defines a domain (which we are calling a frame):

A coherent area of conceptualisation relative to which semantic units may be characterised. Three-dimensional space, smell, colour, touch sensation, etc. are basic domains. A concept or conceptual complex of any degree of complexity can function as a … domain (e.g. the human body, the rules of chess, a kinship network).

Taylor (1995:84) summarised Langacker’s concept of a domain:

In principle, any conceptualization or knowledge configuration, no matter how simple or complex, can serve as the cognitive domain for the characterization of meanings.

Lakoff (1987:289) credits Fillmore’s work as one of the foundations for what he calls ‘idealised cognitive models’ (or ‘ICM’s). Ten years earlier, van Dijk (1977:159) had explained the concept in this way:

A frame denotes a conceptual structure in semantic memory and represents a part of our knowledge of the world. In this respect a frame is an ORGANIZATIONAL PRINCIPLE, relating a number of concepts which by CONVENTION and EXPERIENCE
3.1 Conceptual networks

A frame may be defined as a coherent structure of concepts that relate to each other in such a way that knowledge of any part of the conceptual structure is dependent on a degree of familiarity with the whole structure. Each frame provides encyclopaedic information specifically relevant to that frame – such as the participant roles involved and the kinds of participants that would prototypically fill those roles, where and when events or entities prototypically occur, cause and effect relationships, purpose and intention, time sequences, and so on. A frame also offers links to a wide range of related concepts, such as collocations, synonyms, hyponyms, and antonyms.

A frame may be pictured as a network of linked pieces of information that are stored in the mind together as a ‘unit’. A useful analogy is that of a website home page which is activated when the user clicks on a prompt (a URL) for that site. Once opened the website home page gives certain basic information as well as clickable menus and links not only to related websites but also to other web pages that provide further information about some aspects of the website content.

3.2 Cultural belief networks

I follow Ungerer and Schmid’s (1996:49ff) ‘cultural model’ (which emphasizes the shared conventions and beliefs of a whole community) as opposed to a purely ‘cognitive model’ (which stresses the stored contexts by an individual). Due to their shared real life experiences and cultural conventions, members of the same culture tend to make similar kinds of associations, organizing their lexical concepts into very similar kinds of clusters. As such, these frames are culture-specific, cognitive models of encyclopaedic information.

Taylor (1995:89) also describes frames in a socio-cultural way:

Frames…are configurations of culture-based, conventionalized knowledge…, which is shared, or which is believed to be shared, by at least some segment of the speech community. In principle, any scrap of knowledge, even the most bizarre, can get absorbed into a frame, provided the association is shared by a sufficient number of people.

3.3 An English frame: "Waiter, waiter, there’s a fly in my soup!"

A hearer would not be able to understand the word ‘waiter’ unless s/he also knew something about how people order and obtain their food in a restaurant. The word ‘waiter’ evokes the whole restaurant frame (or script, which is a kind of frame that involves a sequence of events). But it highlights (or ‘profiles’, in Langacker’s terms) just one particular aspect of it. In this case one of the participants is highlighted.9

The formation of the restaurant frame is collated from repeated experiences of going to restaurants – either personal experiences or vicarious experiences derived from observing, hearing about or reading about the experiences of others. Although the elements of a frame are not completely fixed, a frame does incorporate prototypical conceptual categories or “slots”, such as participant roles, along with the memory of the specific kinds of participants which have filled these roles in the past.10

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9 This participant is the ‘waiter’ – a male restaurant employee who receives food orders from the diners in the public dining part of the restaurant, passes the orders on to the food preparers in the kitchen, and then brings the appropriate food from the kitchen to the diners. There are several other ‘bits’ of information that people may associate with the waiter sub-frame as well – such as, tipping, complaining, and certain ‘waiter’ jokes.

10 As van Dijk states (1977:160):

Due to their general conceptual nature, frames may have VARIABLE INSTANTIATIONS, which allows the application or use of frames in concrete cognitive contexts; there are many ways to ‘execute’ the action of going to and eating in a restaurant, but they will all belong to, or be subsumed by, the same RESTAURANT-frame.
3.4 Biblical frames

Examples of key biblical frames include prophet, priest, king, sacrifice, atonement, sin, mercy, righteousness, holiness, purity, glory, faithfulness, wisdom, and worship. Just as hearers cannot understand ‘waiter’ without knowing something of the restaurant frame, so modern interpreters cannot understand many key biblical frames in isolation from the belief systems of ancient Israelites or New Testament Christians. Once the original hearers recognized that a certain frame was intended to be activated, then they would have a number of expectations as to its contents. Some of these may be left implicit without any loss of meaning or fear or misunderstanding.

Various applications of frame theory to the process of translation have already been made. They include: Katan (1999), Hoyle (2001), Snell-Hornby (1988, 1995), and Witt (2003).11

3.5 Why the term?

I adopt the terms ‘frame’ and ‘script’ with the meanings given to them above. But, the theory of frames has been developed in a variety of disciplines, and different theorists use different terminology for frames, even when referring to essentially the same concept.12 Of these, ‘frame’ seems to be the most common designation.13 And, as already stated, this is increasingly becoming the accepted label for a conceptual network of inter-related encyclopaedic knowledge.

Langacker, widely regarded as one of the founding fathers of cognitive linguistics, uses the term ‘domain’. While I espouse Langacker’s concept of domain, I nevertheless reject the label for at least two reasons. Firstly, I want to avoid the confusion arising from the existence of two widely-used, yet quite distinct kinds of ‘domain’ (Langacker’s and the kind that is used by Louw and Nida, for instance).14 Secondly, using ‘frame’ conforms to the convention of most recent writers in the field, including Croft and Cruse (2004) and Evans and Green (2006),15 and this is increasingly becoming the widely accepted solution to the earlier confusion over terminology.

11 See especially Wilt’s chapter on ‘Translation and Communication’ and in Appendix A he applies it to training translators and discussing translation problems.
12 The concept of frames relates closely to what are also called ‘remembered frameworks’ (Minsky 1975), schemata or schemas (Rumelhart and Ortony 1977), ‘scripts’ (Schank and Abelson 1977; Riesbeck and Schank 1978), ‘mental models’ (Johnson-Laird 1983), ‘scenarios’ (Sanford and Garrod 1981), ‘propositional ICMs (idealised cognitive models)’ (Lakoff 1987), ‘cognitive domains’ (Langacker 1987, 1988) and relational frameworks (Callow, 1998). Cf. also Putnam’s (1975) ‘stereotypes’ which correspond approximately to Minsky’s (1975) frames with default values, which define normal cases, but which may be overridden in extraordinary circumstances. Lakoff’s (1987) social stereotypes are a special case of Putnam’s stereotypes. But see Lakoff’s seventh chapter for the differences between his ICMs and Putnam’s stereotypes. Lakoff’s ICMs are much broader than any of the others, each of which roughly corresponds to only one of his five kinds of ICM – to his propositional kind of ICM. Lakoff (1987:116) also makes the point that the various labels given to the concept during the 1970s and 1980s all refer to the same kind of thing:

They are all network structures with labelled branches that can code propositional information... Frames, scripts, and schemas are all attempts to provide a format for representing human knowledge in computational models of the mind. They attempt to do so by providing conventional propositional structures in terms of which situations can be understood. The structures contain empty slots, which can be filled by the individuals occurring in a given situation that is to be structured.

14 There are two distinct kinds of ‘domain’ that are widely used in linguistic and translation circles. (1) Lexical or semantic domains, as used by Louw and Nida (1988) and de Blois (2000), are relatively high-level, semantic categories based on objective logic that have been created for pragmatic and organisational purposes (classifiable according to modern Western categories). (2) Langacker’s meaning-distinguishing ‘domains,’ as used in SDBH and KTBH, are background cognitive contexts that are collectively subjective, culture-dependent, and language-specific. They are socio-cultural conceptual networks, not purely linguistic and not simply cognitive on the level of the individual speaker. In order to avoid the confusion caused by the number of different ways within linguistics that the term ‘domain’ is used, this thesis will use the term ‘frame’ instead. But, the concept corresponds to Langacker’s meaning-distinguishing ‘domain’ as a context “for the characterization of a semantic unit” (Ungerer and Schmid 1996:46).
15 When they are neither describing Fillmore’s work nor that of Langacker, Evans and Green (2006: 11) tend to adopt the use of ‘frame’ rather than ‘domain’. For instance:

Language can be used to create scenes, or frames of experience, indexing and even constructing a particular context (Fillmore 1982). In other words, language use can invoke frames that summon rich knowledge structures, which serve to call up and fill in background knowledge. Nevertheless, the following two quotes from the same page (Evans and Green 2006:21) show that they also use the two terms inter-changeably: (1) “Language can also be used to create scenes or contexts; hence, language has the ability to invoke experiential frames.” (2) “Conceptual domains reflected in language contain and organise related ideas and experiences.”
3.6 Why the concept?
The ultimate goal and driving force behind cognitive linguists differs from that of Bible translators. Indeed, Fillmore and Langacker even have different emphases from each other as well, as Evans and Green (2006:231, bolding theirs) point out:

While Fillmore, particularly in more recent work (e.g., Fillmore and Atkins 1992), views frames as a means of accounting for grammatical behaviour like valence relations..., Langacker’s theory of domains is more concerned with conceptual ontology: the structure and organisation of knowledge, and they way in which concepts are related to and understood in terms of others.

Nevertheless, the concept of a frame offers valuable and useful insights into how lexical meanings work and relate to one another. Here are some of its contributions to lexical semantics:

1. **Frames provide links to encyclopaedic knowledge.** Frame theory offers a theoretical model that can process chunks of related knowledge in encyclopaedic proportions – as opposed to glosses and brief definitions. [See section 1, point 3b. See also Appendix C for the extent of the information that can usefully be provided for the Levirate marriage frame.]

2. **Frames determine the sense of a word.** A word gets its meaning by its relationship to a frame, which is the conceptual background against which that word is defined. An initiated audience is able to determine the contextual sense of a word by identifying the overlaps between the frames associated with that word and other frames that are activated in the co-text.

3. **Frames determine expectations.** Once a particular frame is evoked, cultural insiders will have certain expectations as to its contents as well as its probable connections to other frames. Although most frames do not comprise completely fixed elements, their linked nodes in the network are “slots” (such as participants and location) that are filled by specific kinds of “fillers” based on experiences of what has filled them in the past. These slots and fillers provide parameters for a limited range of expectations. Depending on the frame, encyclopaedic frame contents enable an initiated audience to predict all kinds of details about an event – such as its typical position in any sequence of events, the likely participants involved, its probable locations, the possible time frame involved, the expected outcomes, and so on.

4. **Frames provide the basis for implicatures and for inference.** Prototypical frame elements and the inter-relationships that are believed to hold between them allow the initiated audience to correctly understand implicatures. As Hoyle (2001:55) says about frames – or ‘scenarios’ as he calls them:

   Since scenarios contain semantically linked information, the explicit mention of only certain items from the scenario enables the hearer to fill in missing implicit information and make the text coherent.

Once the correct frame has been opened, it contains the contextually relevant information required to make correct inferences about the author’s meaning. Inference is based on experience, probabilities and plausible explanations, not logical deduction (Sperber and Wilson 1986:69).
5. **Frames provide a platform for interpreting counter-expectations and irony.** Take the following sentence from Genesis, for example: ""\'and the man and his wife were both naked and [yet] were not ashamed" (GEN.2:25). The existence of such a meaningful sentence in the corpus indicates that nakedness typically relates to the concept of shame. This example could be represented as a contrary version of the **nakedness frame**.

A further example involves the rhetorical questions in Isaiah 10:15, which are loaded with irony because they reverse the expected participant roles for those verbs. The power of the irony derives from the clear separation in the minds of the hearers between the participant roles played by the Agents and by the Instruments for these particular Instruments and verbs. In such cases, frames allow us to explain the deliberate reversal of roles as a rhetorical device. Instead of viewing them as odd exceptions to the analysis, such cases reinforce the frame and illustrate how correct interpretation depends on an appreciation of the irony, which in turn depends on audience knowledge of the relevant frames associated with these events and Instruments.

*Does the axe raise itself above him who swings it, or the saw boast against him who uses it? As if a rod were to wield him who lifts it up, or a club brandish him who is not wood!*

4. **Introducing framemes**

We turn now to a new concept that goes hand in hand with the idea of frames.¹⁹

4.1 **Lexical prompts for frames**

Put simply, a **frameme** is a frame prompt – any lexical trigger that opens, in context, a particular **frame**, which in turn is defined as any circumscribable network of culture-specific concepts. A frameme consists of whatever chunk of text evokes a certain frame. It is an “optimally relevant semantic unit” in terms of exegesis and translation. Often more than one linguistic expression may be used to evoke the same conceptual network. In this case, they are either **variants** of the same frameme²⁰ or **co-framemes** with one another.²¹ In other cases, similar expressions, or even the same expression, may elicit entirely different frames. If the meaning is distinctly different, if a totally separate frame is involved, then, by definition, its linguistic triggers are discrete framemes, not co-framemes and not variants of the same frameme.

I give a more scientific definition and a fuller explication of the concept of frameme in Appendix D. But, at this point, I simply stress that as a purely **semantic concept**, it is defined crucially in terms of its relationship to a distinct frame.

4.2 **An English frameme**: ‘Open the window!’

Let’s turn now to a few English examples. One that is often used in textbooks is the expression ‘**open the window**’.²²

When we hear the request ‘open the window’ we do not reach for a can-opener (or tin-opener). Instead of considering all the meanings of ‘open’ and then choosing the most appropriate one that fits best with ‘window’, we draw on our experiential knowledge of how windows open to interpret the three words together as one **“optimally relevant semantic unit”** (even though it consists of more than one minimal semantic unit).

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¹⁹ Brian Harmelink’s presentation at this conference made reference to a Gourma proverb from Ghana: “One finger will not pick up a stone”.

²⁰ For a Biblical Hebrew example of two variants of the same frameme, see Appendix C.3, expression numbers 12a and 12b.

²¹ These are entirely different expressions that evoke the same frame.

²² For example, Taylor (1995:288) asserts that: “A person does not compute the compositional meaning of open the window from the constant meanings of its component parts; any competent speaker of English already knows the expression, and knows what it means.”
Compare the following sentences:

1. Open the window!
2. Break the window!
3. Paint the window!

We understand each of these commands on the basis of our own personal experiences of opening windows, of breaking them, and of painting them. These personal experiences may have involved our own active participation or we may simply have observed others doing these things. We also draw on our knowledge about windows, and of the materials that each part of the window is typically made of, to interpret each command correctly. In response to these commands, we are no more likely to try to open the glass pane only without its frame, or to endeavour to break the frame around the window, than we would attempt to paint the glass instead of the frame. It does not take much cognitive effort to distinguish the three different spatial regions of focus that are evoked in each case by the use of the single word ‘window’.

In fact, we interpret the whole without consciously thinking about the three different meanings of ‘window’, let alone the several different nuances of ‘open’. If the communicators had had any concerns that these instructions might be misinterpreted, then they could always have added more specific details:

1. Open the whole window – the glass pane together with its immediate frame!
2. Break the glass pane of window only, not its frame as well!
3. Paint the window frame only, not its glass pane as well!

But for most of us, this would be unnecessary, and therefore irrelevant, information. The same principle applies to less concrete examples. In context we are normally given enough information by the communicator to correctly focus on the right region of the potential semantic range evoked by the words used.

In each case, for most of us, the “optimally relevant semantic unit” (or frameme) is not found at the level of the single words involved, but in the three-word linguistic expression as a whole. Unless these sentences are stated very slowly, we do not hastily combine the most appropriate meanings of each of the three words. Rather, we hear the whole sentence together as a single unit of communication and interpret the unit as a whole. Would it not be useful if we had a term for this unit of communication?

Because it is a purely semantic notion it exhibits a variety of grammatical forms. It is not always a complete sentence, nor is it restricted to clauses or phrases. Sometimes it is a single word or even a certain morphological form of a word. None of these linguistic units, by themselves, is in every case the most appropriate kind of linguistic unit for semantic analysis.

I think that we are probably already agreed that in normal communication meaning is typically conveyed by stretches of language that are larger than the single word. Yet, this article does not simply suggest that we move on from word-level to higher levels of analysis – to phrase-level, clause-level or sentence-level – or even to discourse-level, as important as discourse analysis is. Rather it recommends a significant shift in thinking away from a focus on words and their meanings to shining the spotlight instead on the conceptual complexes (the frames, the scenarios, the worlds of ideas) that are evoked in the text and on their linguistic triggers in that text.

4.3 An alternative unit of semantic analysis to ‘word’

Undoubtedly, words are very convenient categories for many kinds of linguistic investigation – such as grammatical and phonological analysis. But words can often be misleading at the semantic or conceptual level of enquiry. The category ‘word’ cannot be clearly defined within a single level of linguistic analysis. It confusingly crosses these boundaries. Most words have a semantic component in that they are meaningful. But, words are also, and I would suggest primarily, grammatical, phonological and orthographical categories. They are not the most helpful units for semantic analysis.

What is needed is a more flexible, but purely semantic unit. Ideally, this semantic unit should be defined in terms of the conceptual networks that the communicator wishes to convey. What is it in what he says
that evokes a particular conceptual network? What is the linguistic prompt for the conceptual complex that he wishes to trigger in the minds of his hearers?

### 4.4 Variable forms of Hebrew framemes

Because the frameme is a purely semantic category, it may take several different grammatical forms. Here are some examples of the variability of form in Biblical Hebrew framemes:

1. A particular **morphological form** of a word: יִצְאִיתָם 'I have sinned', when not negated, evokes the **confession frame**.
2. A single **word**: להי 'the destructive force of evil' triggers the **destructive force of evil frame**.
3. A **phrase**: מצה 'bread of mourners' (HOS.9:4) points to the **ritual impurity frame**.
4. A **clause**: לעשות טוב 'to do evil deeds' (EZE.20:43), activates the **doing evil frame**.
5. A lexical description of a **combination of events or circumstances**. For example, the sequence of events described at the very beginning of the Book of Ruth would undoubtedly have triggered in the minds of the original hearers the **Levirate marriage frame** (see Appendix C.3, expression number 16).23

### 4.5 Why the term?

As is the case with the term ‘frame’, here too there is considerable confusion over terminology. The same cognitive semanticist will inconsistently use a variety of terms for what I am calling a frameme. Each of the alternative terms is also used employed dissimilarly by different authors. Here are some examples, with a representative page or two:

- Langacker uses at least the following terms: “semantic structure” (1987:486); “predication” (1991:5); “lexical item” (1999a:4); “expression” (1999a:5; cf. also Taylor 1995:288).
- Evans and Green (2006) use at least the following terms: “word” (166, etc.); “lexical items” (169, 215, 221); “(linguistic) symbol” (6, 7); “(linguistic) prompt” (21, 214, 386); “semantic structure” (159); “linguistic units” (159, 173, 214; cf. “their associated linguistic units” (207)).
- Other terms include: “word” (Taylor 1995:83); “linguistic form” (Taylor 1995:84, 87); “semantic unit” (Ungerer and Schmid 1996:46).

What is needed is a single label for a semantic unit that is more tightly defined in relation to the particular frame that it evokes. The term ‘frameme’ has the following advantages:

1. Unlike its rivals, the word ‘frameme’ is virtually unknown in the English language, so it can take on a more precise definition.
2. Its meaning is relatively transparent.
3. Like other terms with the same morphological ending (such as ‘morpheme’ and ‘phoneme’), it easily evokes the notion of a linguistic unit of some sort.
4. Its ending also links to the highly relevant cultural perspective of its related term ‘emic’ (an ethnographic term used to describe an insider’s view of cultural concepts).
5. Its beginning links it with ‘frame’, an already established concept.
6. Consequently, not much cognitive effort is required to see a connection between ‘frameme’ and ‘frame’ and to make the correct inference that a frameme is a linguistic unit that relates to a frame.

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23 In addition to framemes, frames may also be activated by non-lexical prompts. These include certain **combinations of events or circumstances**, **gestures** (see Proverbs 6:13), **symbolic actions** (see Appendix C.3, frameme number 12), and **pictures** – for example, in a comic strip (see the second example in the electronic article by Ruth Molitor and Amanda Thomas, 2007:5). As non-lexical frame triggers they are not in and of themselves framemes. But, if they are given lexical descriptions in the corpus, as is the case for the first three examples in this note, then such lexicalizations (regardless of their form or size) constitute biblical framemes.

24 For example, Evans and Green (2006:173) use various terms when explaining that “…words (and other linguistic units) are ‘points of access’ to vast repositories of knowledge concerning a particular lexical concept.” They also write (2006:159, bolding theirs):

Semantic structure relates not just to words but to all **linguistic units**. A linguistic unit might be a word…, a bound morpheme…, or indeed a larger conventional pattern, like the structure of an active sentence or a passive sentence.
4.6 Why the concept?
One of the main claims proposed in this article is that the frameme level of analysis is often of greater practical use for determining meaning than other linguistic constructs. What evidence can I offer in support of this claim?

The need to posit the existence of framemes as a practical tool in lexical analysis arises from a number of observations:

1. **Disambiguation.** In the vast majority of cases, there is significantly less ambiguity at the frameme level than at the word level (as shown by the examples in section 5.4 and in Appendix E and in many other cases yet to be published). For example, rather than understanding הָרִים יַעֲשֵׂה as the literal meaning of its two parts, ‘evil living-thing’, and proposing that one of the ‘meanings’ of ‘evil’ is ‘wild’, there are advantages in understanding the whole phrase (frameme) together as ‘wild animal’ – as a trigger that activates the **wild animal frame**.

It is not claimed that all word-level ambiguities will be eliminated at frameme level. Just as a single polysemous word may point to more than one different meaning, so the same combinations of words may also trigger different meanings. For example, the same expression לְבֵנִי יִרְאֵה may be translated as either ‘an evil heart’ (PRO.26:23) or ‘a sorrowing heart’ (PRO.25:20). Nevertheless, since framemes incorporate other elements of meaning inferable from the context (such as the typical kinds of participants), the number of ambiguous cases is much smaller.

2. **Frame verification.** If it can be shown that the known corpus of a language has several framemes or a number of examples of a frameme triggering a certain frame, then it helps to validate the existence (and nature) of that frame.

3. **Flexibility.** There is a need for an approach to frame activators that is flexible enough to account for the variability typically encountered in terms of their grammar (such as expanded versions or elided versions for discourse reasons). If two expressions evoke the same frame and the only differences between them relate to their grammatical form, then it is both advisable on practical grounds and theoretically reasonable to group them as variants of the same frameme. [For a Biblical Hebrew example of two variants of the same frameme, see Appendix C.3, expression numbers 12a and 12b.] When a key element in a frame is substituted by a synonym, or if the framemes are unrelated, then they are co-framemes of the same frame.

**Flexibility** is needed for at least two further reasons as well:

1. **Combination of framemes.** The approach must allow for the combination of one frameme with another – in various ways and for an assortment of purposes. For instance, the **priestly atonement for sin frameme** sometimes combines with the **forgiveness of sin frameme**: X-לְבֵנִי יִרְאֵה הָבָה וְלָקַח וֹדֵה X וּלְבֵנִי יִרְאֵה X וָרָפָאת (12x).

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25 Cf. יִרְאֵה הָבָה וְלָקַח וֹדֵה ‘and that every intention of the thoughts of his heart was only evil continually’ (GEN.6:5).
26 Cf. יִרְאֵה חֹנֵנָה ‘sadness of the heart’ (NEH.2:2).
27 LEV.4:20, 26, 31, 35; 5:10, 13, 16, 18; 6:7; 19:22; NUM.15:25, 28. The combination of framemes can be said to have a minimal form (LEV.4:20, 31; NUM.15:25, 28) and a range of extended variant forms (8x), which have some (but not all) of the parenthetical elements of the hypothetical, maximal form. The twelve occurrences of the various combinations of these two framemes function as formulaic discourse markers to conclude specific regulations.
2. **Embedding of framemes.** The approach must also allow for the embedding of one frameme within another. Some cases may look like embedding, but are not analyzed as such in this approach, if only a single cognitive frame is activated.28

5. **A new approach**

We are now ready to build a new, four-step (non-word-based) method for translation that can be used in conjunction with other necessary steps, including discourse analysis.

5.1 **The four steps**

1. Start, not with a word in a base text, but with a **source frameme**.29
2. Identify and describe the **source frame** that it evokes. 30
3. Discover the closest **receptor frame** that has sufficient overlap with the source frame.
4. Find the most appropriate **receptor frameme** for the particular co-text.

In practice, the default procedure for many Bible translation projects has focused on trying to find a word in the ‘receptor language’ (RL) with the same presumed meaning as a word in a ‘language of wider communication’ (LWC) – either a word used in translation or a gloss in a lexicon. The new proposal avoids the problems associated with concentrating on words and glosses in an intermediary language. It provokes thought instead about whole networks of meaning in the ‘source language’ (SL). Instead of looking up a word in a lexicon and then finding an RL equivalent word for it, we consider the frame that is being evoked (and what frameme is triggering it) and then we find an equivalent receptor frame and a suitable frameme to prompt it in the minds of the receptor audience.

The differences between the two methods can be shown in a simple diagram:

- **The default method:** LWC word \(\rightarrow\) presumed ‘meaning’ \(\rightarrow\) RL word
- **The new procedure:** SL frameme \(\rightarrow\) SL frame \(\rightarrow\) RL frame \(\rightarrow\) RL frameme

5.2 **Bridging the cognitive gap**

It is the translator’s responsibility to establish an effective bridge over the cognitive gap that exists between the original communicator and the new receptor audience. The above steps for bridging the worldview gap do not limit the focus to words and to a simplistic view of word meaning. A frameme is an “optimally relevant semantic unit” in terms of translation. A source frameme constitutes the original cognitive bridge that the communicator used to signal the intended conceptual network to the addressees. The translator, in turn, must find an equivalent cognitive bridge (a receptor frameme) to evoke in the minds of the new audience the same conceptual network – or one that is as similar as possible.

5.3 **Bridging to the right frame**

Examples abound of literal, word-for-word translations in English that fail to communicate the right frame. Though the phrase ‘bread of mourners’ does not constitute a common expression in English, it would, for most hearers, evoke two separate and largely unrelated frames – the **eating frame** and the **mourning frame**. By contrast, the Biblical Hebrew phrase ללחם אולים \(\text{HOS.9:4}\) ‘bread of mourners’ would most

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28 For instance,יִהְפָּשֵׁר ‘to do evil’ (ECCL.8:12) normally evokes the **doing evil frame**. But in the case of Isaiah 56:2 these two words form part of a larger expression יִישָׁפֵר יַזְרֶךְ מִשָׁמֶךָ כְּלָלָתָא (‘and keeps his hand from doing any evil’), which points to a different frame – the **avoiding evil frame**. Accordingly, this analysis would identify the larger expression as a relatively full version of the **avoiding evil frame**.

No embedding is needed at the frameme level of analysis because the embedded concept of ‘from doing any evil’ would form part of the description of the **avoiding evil frame**.

29 The source frameme consists not only of a certain linguistic expression, but also includes any other relevant information inferable from the context, such as the participants in an event.

30 If the relevant frame is not yet available in KTBH, then this step may involve creating a description based on one’s own research.
strongly evoke the ritual impurity frame, which makes sense of the combination of ideas. Either an explanatory note or an expanded paraphrase is needed in English to convey some of the more significant bits of implicit information evoked by this Biblical Hebrew expression: ‘bread that is kept apart exclusively for those who have corpse contamination due to their current activities as mourners in order to prevent anyone else from becoming contaminated through coming into contact with it’.31

5.4 A single Hebrew verb, but five separate framemes

Many framemes in a language like English entail linguistic expressions larger than the single word. But, let us consider the following Biblical Hebrew framemes that are each restricted to a particular morphological form of the same verb – `to sin’. Although most often this verb activates the sin frame, certain morphological forms of this verb are understood in this new approach to relate primarily to frames that come after the sin event (or a supposed sin event):32

1. The confession frame is invoked by the first person singular qal perfective form (`I have sinned’), when not negated.
2. The corporate confession frame is generated by the first person plural qal perfective form (`we have sinned’), when not negated.
3. The accusation frame is triggered by at least three second person qal forms (`you [singular] have sinned’; `and you [singular] sinned’; `you [plural] have sinned’).
4. The denial of sin frame is activated by the first person singular qal perfective form (`I have not sinned’), when it is negated.
5. The protestation of innocence frame (involving also a request for evidence of sin as a rhetorical device) is stimulated by the first person singular qal perfective form with the question marker `what, how’ (`how have I sinned?’).

The standard lexicons, by contrast, merge each of the above distinctions by placing them all under the entry for the verb `to sin’. For sure, the sin frame is ‘underlying’ (‘behind’, preceding, and connected to) each of these frames. But, instead of looking up the Hebrew lemma in a lexicon (or translating each word of the English expression ‘I have sinned’ from an English translation), the new approach guides the translator to find the relevant frame evoked and then to think of the most appropriate frameme in their language. For example, the Binumariens of PNG express a denial of wrongdoing (number 4 above) as “there’s no dirt under my fingernails” (Oates 1992:253). It seems that Binumariens would most naturally communicate an accusation of wrongdoing (number 3 above) as “you are altogether gone off into another valley” (Oates 1992:253). Such exciting possibilities involving natural phrases or idioms may be missed completely by a word-to-word approach.

6. Mentoring

This section addresses the fifth and final concern expressed in section 1 about current training and translation practice. Translator training and practice in many parts of the world still needs to incorporate recent advances in cognitive semantics. We must pro-actively teach against the default word-to-word approaches and we must provide a viable alternative – such as the one proposed in the preceding section.

Change is always difficult. Even positive changes require effort to overcome the inertia of doing the same things in the same way. Even though the new procedure only has four straightforward steps, at school we were all taught to work with words. Consequently, words are easier for us to work with. But, who said

31 This meaning of defilement is clear in the co-text, even though two other references seem to indicate that the ‘bread of mourners’ amounts to not eating at all (Ezra 10:6 and Ezekiel 24:17).
32 I do not imply a one-to-one match between grammatical form and illocutionary force. Nor do I mean to communicate that frame analysis is limited to illocution, which is only one potential kind of frame. But one helpful question to ask regularly is “What is the communicative intention?”
Bible translation was easy? Framemes may be harder to work with initially, but they are significantly more appropriate as a linguistic unit for semantic analysis in translation and exegesis.

We can expect resistance. So, passing on the skills involved in this kind of analysis will require a mentoring approach. Whether in a pre-field course, an on-the-field workshop, a translation session, or a translation checking session, mentoring will surely be the most successful way of changing the way people think about lexical meaning. Such changes must start with the trainers and consultants who will otherwise unwittingly continue to perpetuate the problems outlined above.

Here are some quotes from a reprinted article (“On Being A Mentor”) in Notes On Translation (NOT 10(3): 1-6):

- “A mentor is someone who is committed to the success of another. He or she is at once a coach, a door opener, a way shower, a corrector, an encourager, a guide.”
- “A mentor is a tutor, a guide, a coach, an encourager.”
- “…most people change their minds rather slowly. It's easy to write a new computer program. It's difficult to write a new people program. Help them. Show them the way. Explain how it is done.”

As a consequence of this kind of apprenticing over time, we can expect our trainees to begin to skilfully use the approach themselves without prompting or help from us.

7. Conclusion

This article has explored a non-word-based, non-dictionary approach for understanding and teaching lexical meaning that will potentially help to (1) avoid the longer, more hazardous route through Western cultural filters and (2) wean translators away from ‘word-to-word’ translation techniques. It has proposed a new way of looking at lexical meaning based on **two key concepts**: frames, already widely used, and framemes, my own innovation. I have sought to describe the need for such a new approach, to illustrate the kinds of insights and connections that may be generated by taking such a perspective, and to demonstrate that it has the potential to solve many of the problems deriving from word-based approaches to translation.

I do not claim that a frame-frameme approach will ever completely replace the various word-meaning paradigms, for it seems most likely that there will always be a need for lexicons. I only dare to propose that it might usefully expand the exegete’s toolbox by adding another practical tool to it. Looking at the same thing from an entirely different perspective makes some of its aspects more apparent. Although this has not yet been tested, it might also have the potential of getting translators out of the rut of thinking exclusively in terms of finding a RL word equivalent for each LWC word in the text.

References


33 See also the other papers presented at this conference such as the one by Carl Follingstad: “Some Reflections on Mentoring in Consultant Training”.

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Appendix A: Five problems with the dictionary view of meaning

Evans and Green (2006:207-213) list the following problems with the dictionary view of word meaning.

It assumes that:

1. Words contain (or carry) intrinsic or non-contextual meanings “in neatly packaged self-contained units” (Evans and Green 2006:214).

2. Words can, therefore, “be defined in a context-independent way” (Evans and Green 2006:211). These intrinsic or ‘core’ “word meanings … can be defined, much as they appear in a dictionary” (Evans and Green 2006:208).

3. This ‘semantic ‘core’, the ‘essential’ aspect of a word’s meaning” can be “distinguished from other non-essential aspects of a word’s meaning, such as the associations a word brings with it” (Evans and Green 2006:210).

4. A word’s sense (or coded meaning) can be distinguished from its reference and a “word’s meaning or sense is primary and determines how it can be used” (Evans and Green 2006:211).

5. The principle of compositionality operates – “word meanings combine, together with the grammatical structure of the sentence, to produce sentence meaning” (Evans and Green 2006:213).

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34 Some versions of the dictionary view also claim that word meanings can be decomposed into semantic components. This is known as the componential analysis (or semantic decomposition) approach. One version (Anna Wierzbicka 1996) even claims that words can be defined in terms of universal semantic primitives.
Appendix B: Five solutions from the encyclopaedic view of meaning

Cognitive semanticists favour an encyclopaedic view of lexical meaning, whereby encyclopaedic knowledge is structured and organised as networks (‘frames’). In contrast to each of the above five assumptions made in the dictionary view of word meaning, Evans and Green (2006:211-221) argue that:

1. Words do not have meanings, people do. “Words are not containers that present neat pre-packaged bundles of information. Instead, they provide access to a vast network of encyclopaedic knowledge” found in the minds of the language users (Evans and Green 2006:221). “Words are prompts for meaning construction rather than ‘containers’ that carry meaning” (Evans and Green 2006:214, bolding theirs).35

2. Word meaning is always a function of (pragmatic) context; words “are never represented independently of context. Instead, ...words are always understood with respect to frames or domains of experience” (Evans and Green 2006:211, bolding theirs). 36

3. The “decision to exclude certain kinds of information from the ‘core’ meaning or denotation of a word, while including other kinds of information, is arbitrary” (Evans and Green 2006:211).37

4. No such dichotomy between sense and reference is valid and a “word only becomes meaningful as a consequence of use” (Evans and Green 2006:211).

5. The constructional view of sentence meaning better reflects how language works (Evans and Green 2006:171, 208, 213-214).

In addition, Evans and Green (2006:215-222) make the following five inter-related points concerning the encyclopaedic view of lexical meaning:

1. There is no principled distinction between semantics and pragmatics.

2. Encyclopaedic meaning is structured.

3. There is no distinction between encyclopaedic meaning and contextual meaning.

4. Lexical items are points of access to encyclopaedic knowledge.

5. Encyclopaedic knowledge is dynamic.

35 “Fully-specified, pre-assembled word meanings do not exist, but are selected and formed from encyclopaedic knowledge, which is called the meaning potential (Allwood 2003) or purport (Cruse 2000) of a lexical item” (Evans and Green 2006:221, bolding theirs).

36 Though “words do have relatively well-entrenched meanings stored in long-term memory (the coded meaning), word meaning ... is prone to shift depending on the exact context of use” and it is “constructed ‘on line’ in the context in which it is being used” (Evans and Green 2006:213-214). “Coded meaning, the stored mental representation of a lexical concept, is a schema: a skeletal representation of meaning abstracted from recurrent experience of language use” (Evans and Green 2006:216).

37 That is not to say that some aspects of knowledge associated with a word are not more central than others to the meaning of that word (Evans and Green 2006:216-217). Indeed, “while the central meaning associated with a word is relatively stable, the encyclopaedic knowledge that each word provides access to is dynamic” (Evans and Green 2006:221). That is, it is constantly being added to, updated and modified by further experiences and by making new inferences and connections (Evans and Green 2006:223).
Appendix C: The Levirate Marriage Frame

Encyclopaedic explanations of certain biblical terms are needed for a proper understanding of the whole conceptual network involved. Descriptions of different frames will have different elements, but it would be helpful for all kinds of frames to list the main framemes that are used to evoke the frame.

In each of the following expressions, X is the בָּנְיָן ‘husband’s brother’ – or, more specifically, ‘the brother of the widow’s deceased husband’, who is under obligation to perform the duty of a levirate marriage in relation to the widow on behalf of his deceased brother.

C.1 The Israelite custom of levirate marriage

Although the levirate marriage frame is not frequently evoked in the corpus, it is notably complex, since it relates to many other conceptual networks in the belief system of ancient Israel. According to the cultural custom of levirate marriage 38 (still widely practised in parts of Asia and Africa), a dead husband’s brother is to marry the widow, if the husband has died childless. The levirate marriage frame is triggered in three biblical pericopes – Genesis 38 (see especially verses 8-10, 14, 26), Deuteronomy 25:5-10, and the whole Book of Ruth (see particularly 1:15; 2:20; 3:2, 9, 10, 12; 4:4, 5).

C.2 The purpose of levirate marriage

The purpose of this custom is one of the most pertinent pieces of information needed for its correct understanding. It was to raise up for the dead brother a first-born heir, who, though not his physical descendant, would legally take his name for posterity, maintaining his line of descent and his property rights:

1. Y שֵׁם הָדוּר X ‘X is to perpetuate (literally, raise up) the name of Y’, where Y is the deceased brother, the widow’s first husband, who has died without heir (DEU.25:7; RUT.4:5, 10). This can be achieved by entering into a levirate marriage with the dead brother’s widow and then devoting the first-born son of that marriage to the ‘name’ of his dead brother. This would also entail keeping the property of the dead man within his own family and line of descent.
   a. שֵׁם הָדוּר לַאֲחֹוָיו שֵׁם בָּשָׂר שָׁם X ‘X is to perpetuate the name of the deceased concerning his inheritance’ (RUT.4:5, 10).
   b. שֵׁם הָדוּר לַאֲחֹוָיו שֵׁם בָּשָׂר X ‘X is to perpetuate a name for his brother in Israel’ (DEU.25:7).

2. X הביא את אבר הטה X ‘X is to build up the house of his brother’ (DEU.25:9).

3. Z אָבִא הָדוּר שֵׁם אָבְרָהָם X ‘Z is to succeed to (literally, to rise up upon) the name of X’s dead brother’, where Z is the בָּנוֹ X ‘first-born son’ of the levirate marriage and X is the בָּנְיָן ‘deceased man’s brother’ (DEU.25:6).

From another perspective, the purpose of levirate marriage was also to avoid the highly undesirable consequences of a childless death:

4. כָּל אֲבָלֵי אָבוֹת שֵׁם אֲבָלֵי אֲבָלֵי X ‘so that (literally, and) his name may not be blotted out of Israel’ (DEU.25:6).

5. כָּל אֲבָלֵי אָבוֹת שֵׁם אֲבָלֵי אֲבָלֵי X ‘so that (literally, and) the name of the deceased may not be cut off from among his kinsmen (literally, his brothers) and from his rights as a citizen in his home town (literally, from the gate of his place)’ (RUT.4:10).

The consequent shame for the childless couple (their late brother and his widow) fell also upon the whole extended family as a corporate shame until a proper solution is enacted. Because the stakes are so high,

38 See also Wendland 1987:179-182.
39 The same vocabulary is used in the response of the elders and witnesses in the gate when Boaz announced that he has ‘bought’ Ruth as his wife in keeping with the purposes of levirate marriage. They say concerning Rachel and Leah that the two of them ‘had built up the house of Israel’ (בָּנוּ את אֲבָלֵי אֲבָלֵי RUT.4:11).
although the law (DEU.25:5-10) allows the brother (but not the woman) the option of refusing, such a refusal is meant to result in great shame. Accordingly, the widow is instructed to undertake certain **symbolic actions** with the purpose of shaming him publicly (DEU.25:9):

6. ‘his sister-in-law is to come to him in the presence of the elders’
7. ‘and she is to remove his sandal from off his foot’
8. ‘and she is to spit in his face’
9. ‘and she is to answer and say, “So shall it be done to the man who will not build up his brother’s house”.’

The result of this public humiliation is to be that the defaulter should continue to have a blighted reputation among the whole community of Israel:

10. ‘And his name shall be called in Israel, “The house of the one who had his sandal removed”!’ (DEU.25:10).

Although there happens to be no known Biblical Hebrew term for this particular form of marriage40, the conceptual complex was known and practised in biblical times. It was, therefore, understood even if there was no such cover term in the language.

**C.3 Levirate marriage framemes**

Expressions 1 to 3 above along with expressions 11 to 17 below can be said to be the ten framemes in the available corpus of the Hebrew Bible that evoke the **levirate marriage frame**.41 The most unambiguous **levirate marriage frameme** is a rare verb (with only three occurrences – see number 11 below). But, according to meanings inferable from the available corpus, 42 the **levirate marriage frame** additionally seems to be also evoked by the verb’s two cognate nouns (totalling five occurrences – see numbers 6, 13 and 14). Each of the remaining expressions listed in this appendix (1-21) can be said to at least weakly evoke or recall this frame – especially in combination with other framemes.

Here are the five clearest **levirate marriage framemes**:

11. ‘to perform the duty of a dead husband’s brother by means of a levirate marriage’ (GEN.38:8; DEU.25:5, 7).
12. Y ‘is to remove the sandal of X from off his foot’, where Y is the ‘brother’s widow who is in need of a levirate marriage’ and X is the ‘deceased husband’s brother’ (under some obligation to perform the duty of a levirate marriage).43 The purpose of this

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40 The word ‘levirate’ is derived from the Latin levir, meaning ‘husband’s brother’. Cf. Mishnaic Hebrew לבריה, but this refers rather to the ‘ceremony to confirm one’s refusal to undertake the Levirate marriage’ (HALOT).

41 Expressions 4, 5 and 8 above do not trigger this frame on their own account, so they are not included as **levirate marriage framemes**. Rather, they are relatively common idioms that evoke undesirable consequences – either shame (expression 8) or the capital punishment of a wicked person and all of that person’s descendants (expressions 4 and 5). In addition, expression 6 contains a frameme (see expression 14 below) as does expression 9 (see expression 15 below). Furthermore, expressions 7 and 10 above have been abstracted into frameme form in 12 below.

42 The corpus contains no examples of the two nouns pointing to the same kinship relationships (‘husband’s brother’ and ‘brother’s wife’) when the said brother is still alive. But, although not attested in the corpus, it may be reasonably inferred on the basis of general knowledge of kinship terms not only that this more general meaning also existed in the language, but also that it was the more common usage in ordinary speech. Even so, it seems that these culturally rich terms cannot avoid at least a weak link to the **levirate marriage frame**, because they are related to the cognate verb (باب ‘to perform the duty of a dead husband’s brother by means of a levirate marriage’) and because shared knowledge of the cultural custom relates specifically to these two relationships. To be in such a relationship carries the potential that the custom might need to be invoked.

43 This idiom is to be distinguished from a very similar one, where the verb is a synonym and where the agent is the same participant as the owner of the sandal – that is, the owner of the sandal removes it from his own foot. The latter idiom evokes a related, yet distinctly different conceptual network – namely, the public renunciation of ownership rights. Here is the expression: X ינעל Y ‘X is to remove the sandal of X, where X is the ‘close relative who is to act as kinsman redeemer’ (LEV.25:25; RUT.2:20; 3:12). The purpose of this symbolic action is to demonstrate X’s renunciation of Y’s right of priority to claim ownership of a dead relative’s property, redeeming it for the continuing posterity of the wider family (RUT.4:7, 8). As a symbolic act for renouncing ownership, this expression, in turn, stands in contrast to yet another symbolic
symbolic action is to shame X for his refusal to undertake the duty of levirate marriage (DEU.25:9, 10). It takes two variant forms in the corpus: 44

a. יפל משמו (DEU.25:9) ‘Y is to remove the sandal of X from off his foot’.
b. התחילה (DEU.25:10) ‘the house of the one who had his sandal pulled off’.

13. הבן ‘husband’s brother’ or, more specifically in the available corpus: ‘widow’s late husband’s brother (who is under obligation to perform the duty of a levirate marriage in relation to the widow on behalf of his deceased brother)’ (DEU.25:5, 7).

14. הבת ‘brother’s wife’ or, more specifically in the corpus: ‘(childless) brother’s widow (who stands in need of a levirate marriage)’ (DEU.25:5, 9) or ‘(deceased) husband’s (childless) brother’s widow (who also stands in need of a levirate marriage)’ (RUT.1:15).

15. הבנה את ביתו ‘to build up his brother’s house’ (DEU.25:9).

Thus far, we have eight levirate marriage framemes (expressions 1-3 and 11-15 above). But, how else is this conceptual network evoked in the Book of Ruth? Expression 14 is the only frameme from the above list that can be found in Ruth (RUT.1:15), but its use merely recalls the already evoked frame, while the main focus is elsewhere. The levirate marriage frame had already been triggered right from the very start of the story and it remains activated in the minds of the original hearers, influencing how they interpret the rest of the book. In the case of this narrative, a collection of more general terms combine together to trigger the frame:

16. First of all, it is indirectly suggested by a course of events that seemingly disallows levirate marriage as a solution – namely, the death without heir, far from their nearest relatives, of the only two sons of the already widowed Naomi (RUT.1:1-4).

17. It is then more explicitly activated in verse 11 of the first chapter, when she asks the other two widows (her daughters-in-law): ‘have I yet sons in my womb that they may become your husbands?’

So then, of the seventeen expressions listed above, ten of them (numbers 1-3 and 11-17 (especially 11-15) may be considered levirate marriage framemes. The idea of framemes will be more fully developed in Appendix D.

C.4 Related framemes in the context

In the context of Naomi’s seemingly hopeless condition of childlessness (clearly outlined in RUT.1:1-4, 11), the following expressions, for instance, also seem to recall the already evoked frame:

18. אנה ‘kinsman redeemer’ as the one who is to act on behalf of the deceased (and his widow) in order to preserve his lineage and his property under his name (10x).46

a. אנה קריב (RUT.2:20; 3:12).

19. ‘our own kith and kin’ (RUT.3:2) – from the hapax מְדִינָה ‘kindred, kinship’ (BDB); ‘(distant) relative’ (HALOT).

44 The symbolic action itself is not a frameme, but a non-lexical frame prompt. Nevertheless, the symbolic action has been lexicalized and so this expression constitutes a frameme. The symbolic action is seemingly limited to this single situation (as one of the steps in the humiliation of the man who refuses to perform the duty of levirate marriage). This is only weakly indicated by the fact that it is exclusively used in the corpus in this way, for absence of other uses in the limited corpus available is not proof of absence in the spoken language. But, its status as a levirate marriage frameme is also signalled by the particular words that are to accompany it (DEU.25:9 – see expression 9 above).
45 See the very first condition in DEU.25:5 “If brothers dwell together, and one of them dies and has no son…”
46 RUT.2:20; 3:9, 12, 13; 4:1, 3, 4, 6, 8, 14.
20. ‘an act of loyal love’ – in this case, family loyalty to both the living and the heirless dead – both the childless widow, Naomi, and her heirless dead sons (and husband):

b. ‘(with the same) loyal love as you [Ruth] have effected towards the dead and towards me!’ (RUT.1:8).

c. ‘[Boaz] has not forsaken his loyal love to the living or the dead!’ (RUT.2:20).

d. ‘this latest act of loyal love [towards your late husband by seeking to raise up an heir for him through a near relative] that you [Ruth] have effected is even greater than your first [act of loyalty towards Naomi by returning with her to her homeland in order to look after her here]’ (RUT.3:10).

Later in the narrative, just in case the reader (or the closer relative!) is starting to miss the plot, the narrator has Boaz unambiguously spell out the significance of the closer relative’s prior claim. By incorporating frame number 1, he unambiguously invokes the levirate marriage frame (RUT.4:5):

21. ‘Then Boaz said, “The day you buy (םָנ) the field from the hand of Naomi, you also acquire (םָנ) Ruth the Moabitess, who is the widow of the deceased, in order to perpetuate (literally, raise up) the name of the deceased concerning his inheritance.”’

That is, if the un-named relative is to act as יהֵנ ‘kinsman redeemer’ concerning the acquisition of the field that had belonged to Naomi’s late husband and late sons, then he must also enter into a levirate marriage with the widow (Ruth) and this entails keeping both the offspring of the marriage and the acquired property within the family line of Ruth’s first husband.

C.5 Related frames

The main point of this illustration is to show the need for frame-like conceptual structures to link a particular key concept to other conceptual complexes that are pertinent to the correct understanding of that concept. From the above brief outline of this custom (see sections C.1 and C.2) as well as its associated framemes (see sections C.3 and C.4), we can see that for a complete appreciation we must make a number of links to other highly complex and culture-specific beliefs and practices in ancient Israel. For instance:

1. יהֵנ ‘kinsman redeemer’. The Mosaic laws prescribe that members of the same patrilineal family (clan) had to take care of each other. The different responsibilities and duties of a יהֵנ ‘kinsman redeemer’ are laid down in detail in several laws.

2. הלָшение: ‘inheritance’. Levirate marriage is related to the socio-economic structure of Israelite society which involved several laws aimed at preserving the land ownership and other property and citizenship rights of a family throughout the generations.

3. ‘first-born male’ and his importance as the primary heir.

4. ‘brother, (close) male relative – specifically, on the father’s side (but not necessarily of the same generation)’. As the account in Ruth 4:1-12 makes clear, the Hebrew word for brother (בָּר) should be understood in broader terms than its English equivalent. Some laws regarding the redemption of property are, however, more specific: בָּר or his father’s brother, or the son of his father’s brother’ (LEV.25:49).

5. ‘name’, which may also evoke some or all of the following concepts: (good or bad) reputation, including reputation after death: commemoration, continuation (in their descendants who continue to bear the family name).

6. ‘house’, which in other contexts may refer to a dwelling-place, a building, a temple, a palace, a home, or a household (made up of the extended family, and possibly including servants also). Here, it rather calls to mind the blood relations on the father’s side – paternal lineage, including descendants yet unborn.
7. Public witness in the ‘gate’ (שער) of the city is necessary when important agreements and exchanges are made (DEU.25:7; RUT. 3:11; 4:1, 10, 11).
8. Symbolic action involving the removal of a sandal and spitting in the face for the purpose of public shaming.
9. The unbearable shame associated with childlessness⁴⁷ and a kind of transfer of shame through the public humiliation of those who default on their family obligations to deal appropriately with the corporate family shame.
10. Family solidarity and continuity; family obligations to the recent dead (and community obligations to widows and the childless).

This example serves to illustrate how one conceptual network links to several others. There is, therefore, a need for a theoretical model that can process chunks of related knowledge in encyclopaedic proportions. Ideally, in order to avoid repeating the same information in several separate frames descriptions, the model should comprise nodes (concepts and conceptual networks) as well as links to other concepts and to other conceptual networks.

⁴⁷ Witness the desperate responses of Sarah (GEN.16:1-3), Rachel (GEN.30:1-4) and Hannah (1SA.1:1-16).
Appendix D: Formal Definition of a Frameme

The concept of frameme was described in section 4 of the article. A more precise definition follows:

A **frameme** is any linguistic expression, or grouping of grammatical or stylistic variants of semantically similar linguistic expressions, that seems to be used in the available corpus, along with any other relevant information in the co-text or context, with the purpose of activating in the minds of the audience a distinct conceptual network (frame); any stylized representation of variants of the same frameme; any particular instance of such an expression.

In order to add further clarification of this concept, I will now elucidate each phrase of the above definition:

- **any linguistic expression**: A linguistic expression is a generic term for any meaningful stretch of language. It may be a word, a particular grammatical form of a word, a phrase, a clause, or a sentence (see section 4.4 for Hebrew examples).

- **or grouping of grammatical ... variants**: These are expressions that differ only in terms of their grammatical form, not in relation to the frame that they typically activate. In most cases, it matters not what grammatical form the linguistic expression takes. Provided there is no change in meaning, the collection of grammatical variants may, for instance, entail the use of a different preposition, or instead of a verb a related variant might employ an event noun from the same root. In addition, grammatical ellipsis may be involved, or the utilization of a pronoun instead of a noun. [For a Biblical Hebrew example of two variants of the same frameme, see Appendix C.3, expression numbers 12a and 12b.]

- **or stylistic variants**: The variation may be stylistic, or for literary purposes, rather than for purely grammatical reasons at the sentence level or below. This study does not, however, differentiate between the two in any systematic way. The word **stylistic** is used here to cover a broad range of linguistic and literary variations in the text. It includes what some analysts may interpret as instances of discourse grammar variation. For example, a communicator may make use of lexical variation, substituting a synonym, in order to avoid unnecessary lexical repetition, which may be regarded as undesirable from a literary, or discourse grammar, point of view. It also includes diverse ways of referring to the same referent, such as הוהי ‘the LORD’ and בָּרוּךְ הַלֵּבַע ‘God’ (when the latter is used with this most common of its meanings). An important delimitation is that the variants remain semantically similar.

- **of semantically similar linguistic expressions**: Some expressions that differ in grammatical form may point to the same meaning, or at least to closely related meanings in that they relate to the same frame. A frameme is primarily a semantic entity – a basic unit of form-meaning pairing – that part of a linguistic structure that is sufficiently meaningful in context to evoke a particular frame. A frameme is a linguistic unit of optimum usefulness in terms of semantic analysis in relation to the conceptual network that it is used to activate.

- **that seems to be used**: This part of the definition is necessarily less precise due to the nature of the available corpus, which embodies a non-representative subset of the language as a whole. If the expression is used repeatedly in the available corpus to trigger the same frame, then it is secure in its status as a frameme for that frame. If, on the other hand, a particular frameme only occurs once or only a very few times, it may sometimes be included as a frameme for a particular frame, provided that the existence of the frame is not in doubt and provided that there are clues that indicate the relationship, such as a clear relationship to other framemes connected with the same frame. For instance, one part of an established frameme may be substituted by a synonym once only (perhaps as a literary innovation). If the related frameme is well-established, and if the relationship is clear, then it will usually be appropriate to include the rarer expression – either as a variant or as a co-frameme.

- **in the available corpus**: We only have access to a corpus that is limited in terms of both its size and its subject matter. In terms of the present study, the available corpus is limited to the canon of the Hebrew Bible as it stands in the Masoretic Text. All attempts at quantification and all statistics with reference to
the number of occurrences of a frameme relate to this corpus. No claims are being made about relative frequencies in the actual language of that time.

along with any other relevant information in the co-text: It is usually necessary to look at the wider literary context (co-text) to find any other relevant information. For instance, the disambiguation of otherwise identical framemes sometimes depends on the nature of the participants involved in the event. (See Appendix E for a BH example.)

or context: At times, the investigator may need to look beyond the co-text of the occurrences of framemes, and even outside the available corpus to other sources of information about the cultural context for particular frames. For instance, archaeology has something to contribute to our understanding of household utensils and several ancient Near Eastern texts provide a broader context for the covenant frame. By drawing on the rest of the corpus as well as on extra-corporeal evidence it is sometimes possible to make reasonable inferences to fill in any gaps in the text under discussion.

with the purpose of activating in the minds of the audience: A frameme is that part of a linguistic communication that triggers a specific frame. It is not seen as ‘containing’ or as ‘having’ meaning. Rather it points to, activates, or evokes a certain meaning in the mind of the hearer, providing an access point for the hearer to make the right connection to the appropriate conceptual network that was intended by the communicator.

a distinct conceptual network (frame): A frameme is defined crucially in terms of its relationship to a particular frame. A frameme is any stretch of linguistic structure that, along with any other relevant information, is able to function, in context, as a reliable stimulus for the particular conceptual network intended by the communicator.

any stylized representation of a group of variants: In addition to using the term frameme to refer to the abstract concept, it may also refer to a label that represents and integrates each of its variant forms in a single category. This representation may or may not exist in the corpus in the exact same form. But it takes a form that aims to embrace all of the instantiations of each of its variant forms, with parentheses indicating those parts that are optionally explicit.

any particular instance of such an expression: In addition to using the term frameme to refer to the abstract concept, it may also refer to any specific occurrence of a frameme in the corpus.
Appendix E: Six Biblical Framemes, But One Hebrew Expression

By definition, even if the lexical expressions involved are identical, they constitute separate framemes if they relate to different frames. The following example involves 35 occurrences of a single polysemous linguistic expression נָכַּלָת ‘to bear iniquity’ and yet it functions in the corpus as six distinct framemes because six different frames are evoked.48

For each of the following six Hebrew framemes there is a Hebrew form, an English gloss, and an explanation of the participants. In square brackets I list the frame that is generated by each of the framemes and in normal parentheses (round brackets) I provide either the biblical reference(s) (if there are fewer than five) or the number of occurrences with the references in a footnote. Finally, for each frameme, there is an expanded paraphrase in English to reveal the metaphorical and conceptual background of the idiom:

1. X נָכַּלָת (נים, נָכַּלָת) X נָכַּלָת ‘X is subject to X’s own punishment’, where X is a guilty offender (both the agent of נָכַּלָת ‘culpable offence’ and the agent of נָכַּלָת ‘to bear’). [The culpability frame.] (15x).49

X carries around with him the metaphorical load of the culpability for his own culpable offence as well as the sentence of divine punishment until such time as he undergoes that divine punishment for his culpable offence.

2. X נָכַּלָת יֶאֶשׁ (ינש, נָכַּלָת) Y נָכַּלָת ‘Y takes on X’s punishment’, where X (the agent of נָכַּלָת ‘iniquity’) is a guilty offender and Y (the agent of נָכַּלָת ‘to bear’) is a close relative or national representative of X. [The vicarious punishment frame.] (7x).50

Y [a close relative or national representative] takes on the metaphorical load of someone else’s [X’s] culpability and accordingly suffers its harmful consequences.

3. X נָכַּלָת יֶאֶשׁ Y נָכַּלָת ‘Y expiates X’s guilt’, where X (the agent of נָכַּלָת ‘iniquity’) is a guilty offender and Y (the agent of נָכַּלָת ‘to bear’) is either a priest or a scapegoat in the service of X as an agent of expiation. [The expiation frame.] (6x).51

Y [a priest or a scapegoat] pays the penalty and make amends for someone else’s [X’s] guilt and culpability by carrying away the metaphorical load of the culpability or by performing the necessary rituals.

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49 GEN.4:13; EXO.28:43; LEV.5:1, 17; 7:18; 17:16; 19:8; 20:17, 19; 22:16; NUM.5:31; 14:34; EZE.14:10; 44:10, 12. Cf. the coframeme X נָכַּלָת יֶאֶשׁ (ינש, נָכַּלָת) X נָכַּלָת ‘X is subject to X’s own punishment’, employing a synonymous term (נָכַּלָת ‘guilt, culpability’) for נָכַּלָת ‘guilt, punishment’ in LEV.19:17; 20:20; 22:9; 24:15; NUM.9:13; 18:22, 32; EZE.23:49. According to Brichtho (1976:24, note 11), both of these expressions refer to “an indeterminate penalty/punishment” and there is general agreement in favour of this interpretation. One notable exception is Schwartz (1995:3-21), whose view is countered by Sklar (2005:22-23, note 42). Cf. also נָכַּלָת יֶאֶשׁ ‘and it shall be guilt against you’ (or ‘and you would become culpable’) in DEU.24:15.

50 NUM.30:16; EZE.4:4; 5, 6; 18:19, 20, 20. Ezekiel’s bearing of Israel’s and Judah’s punishment is (prophetically) symbolic, not actual (EZE.4:4, 5, 6). A husband who fails to nullify his wife’s vow promptly enough will bear the punishment due to his wife (NUM.30:16). But a son will not bear the punishment due to his father (EZE.18:19, 20), nor will a father bear the punishment due to his son (EZE.18:20). In each of the three occurrences in EZE.18, the preposition (-) replaces the direct object marker (ְלָה).

51 EXO.28:38; LEV.10:17; 16:22; and probably also NUM.18:1, 1, 23. In NUM.18:1 (twice) the priests are to expiate any future encroachments on the sanctuary – answering the fears of the people expressed in the previous verse (NUM.17:28). The frameme in NUM.18:25 may also be interpreted in this way (cf. 8:19 for the same sense with different vocabulary). See Jacob Milgrom, “The Encourager and the Levite,” in Studies in Levitical Terminology, 1:5–59 (especially 22–33) and JPST, pages 155, 423–24. While essentially agreeing with Milgrom, Timothy R. Ashley (The book of Numbers; NICOT) also discusses other options for interpreting these occurrences in NUM.18.
4. X נָשַׁה לֵעָל Y 'Y forgives X’s guilt’, where X (the agent of נָשַׁה ‘iniquity’) is a guilty offender and Y (the patient of נָשַׁה ‘to bear’ and the agent of לֵעָל ‘to bear’) is the offended party [God, in each of these cases]. [The forgiveness frame.] (6x).52

Y [the offended party: God, in each of these cases] forgives someone else’s [X’s] guilt and culpability, seemingly by taking on the metaphorical load of the guilt of X.

5. X נָשַׁה לֵעָל Y is to forgive X’s guilt’, where the verb form of נָשַׁה ‘to bear’ is hortative (in this case, imperative), X (the agent of נָשַׁה ‘iniquity’) is a guilty offender and Y ([God] the agent of לֵעָל ‘to bear’) is able to pardon the offender. [The plea for forgiveness frame, a sub-type of the forgiveness frame.] (HOS.14:3).53

(Y [God] is asked to) forgive someone else’s [X’s] guilt and culpability, seemingly by taking on the metaphorical load of the guilt of X.

6. X(אָנָו) X נָשַׁה לֵעָל [in VSO order54] ‘X’s iniquities are carrying X away’, where X (the agent of נָשַׁה ‘iniquity’) is a guilty offender and Y (אָנָו ‘iniquity’) is the agent of לֵעָל ‘to bear’). [The reaping evil frame.] (ISA.64:6).

X has already committed culpable offences and as a result these culpable offences are carrying X away (as the wind carries away a faded leaf).

Although each of the above framemes involves a single lexical expression: נָשַׁה ‘to bear iniquity’, yet they may be differentiated at the frame level because this level of semantic analysis incorporates a description of the participants. The reaping evil frame (number 6 above) may be distinguished from each of the others in that the noun נָשַׁה ‘iniquity’ is the agent of the event (and the subject of the verb), while for each of the remaining framemes (numbers 1 to 5 above) נָשַׁה ‘iniquity’ is a non-agent (and the object of the verb). This distinction is also seen at the level of syntax, but discriminating numbers 1 to 5 from each other requires the semantic level of analysis, including the differing kinds of participants. In the case of the culpability frame (number 1 above) the agent bears his own (X’s) נָשַׁה ‘iniquity’, while for numbers 2 to 5 the agent bears someone else’s (Y’s) נָשַׁה ‘iniquity’. In each case of numbers 2 to 5, the kinds of participants that fill the Y slots are distinct. So, an examination of the co-text is needed to disambiguate these four cases.

For an example of how the proposed approach would handle a frame description, see Appendix C.

52 EXO.34:7; NUM.14:18; PSA.32:5; 85:3; ISA.33:24; MIC.7:18. Cf. also the following co-framemes, employing synonymous terms for נָשַׁה ‘guilt, punishment’: (1) X אָנָו נָשַׁה Y נָשַׁה ‘Y forgives X’s guilt’ in ISA.53:12 (in which case, Y is God’s servant); (2) X אָנָו נָשַׁה Y נָשַׁה ‘Y forgives X’s sin/ guilt’ in JOS.24:19; PSA.32:5; 85:2 as well as the cognate noun נָשַׁה ‘sin’ in EXO.34:7; (3) X אָנָו נָשַׁה Y נָשַׁה ‘Y forgives X’s transgression/ guilt’ in EXO.23:21; 34:7; NUM.14:18; JOS.24:19; JOB.7:21 (cf. מִצְרָה נָשַׁה ‘to pass over transgression’ MIC.7:18).

53 Cf. also the following plea for forgiveness co-framemes, employing synonymous terms for נָשַׁה ‘guilt, punishment’: (1) X אָנָו נָשַׁה Y נָשַׁה ‘Y forgives X’s sin/ guilt’ in GEN.50:17; EXO.10:17; 32:32; PSA.25:18; (2) X אָנָו נָשַׁה Y נָשַׁה ‘Y forgives X’s transgression/ guilt’ in GEN.50:17, 17; ISA.25:28; PSA.32:1. As noted by Sklar (2005: 90-91), sometimes the request for pardon comes in the midst of the experience of the penalty (EXO.10:17; PSA.25:18), while at other times it comes beforehand (GEN.50:17; ISA.25:28). (There is evidence that the culpability is carried until the penalty is experienced.) There are also several other plea for forgiveness co-framemes involving completely different linguistic expressions, such as X לֹא רָאֶה יְהוָה נָשַׁה בָּעַל ‘may the good LORD provide atonement for X’ and לֹא רָאֶה יְהוָה נָשַׁה ‘may my lord not impute guilt to X’.

54 In this case, the VSO (verb-subject-object) word order that we set as the representational norm is awkward. The actual text makes better sense: לֹא רָאֶה יְהוָה נָשַׁה ‘our iniquities have carried us away like the wind’ (ISA.64:6).
This essay is aimed at establishing the link between language and cognition. Language is the human ability to acquire and use complex systems of communication, and a language is any specific example of such a system; cognition is the set of all mental abilities and processes related to knowledge: attention, memory and working memory, judgment and evaluation, reasoning and "computation", problem solving, etc. It may purely describe behavior in terms of information flow or function. Relatively recent fields of study such as cognitive science and neuropsychology aim to bridge this gap, using cognitive paradigms to understand how the brain implements these information-processing functions or how pure information-processing systems (e.g., computers) can simulate.

@inproceedings{Salisbury2008MentoringMB, title={Mentoring Meaning: Bridging the Cognitive Gap between Biblical and Receptor Worldviews}, author={Murray Salisbury}, year={2008} }. Murray Salisbury. Frame theory offers useful solutions to problematic practices in Bible translation, such as word-to-word approaches. They may be replaced by teaching a four-step method involving a new proposal for a purely semantic unit of language, defined in relation to the conceptual frame that it triggers. When we consider what the content of training should be, where does meaning come in? What is it that we tra