

# SHEBANQ/EMDROS MQL-tutorial v1.2

## 1 Basic introduction: Tool preparation

### 1) Introduction

### 2) Database architecture

#### a) Selection of popular data categories (see Gen 20:1-4 CTT):

Level	object types	Feature	Value
text section			
	verse	book	Genesis, etc.
		chapter	1, 2, etc.
		verse	1, 2, etc.
syntax			
	sentence	sentence	
	clause	typ	WayX, Way0, etc.
		rela	Attr, Objc, etc.
		domain	N, Q, etc.
	phrase	typ	VP, NP, etc.
		function	Pred, Subj, Objc, etc.
lexeme/morphology			
	word	lex	">BRHM/"
		lex_utf8	"אברהם/"
		gn	m, f
		nu	sg, pl, du
		ps	p1, p2, p3
		st	a, c
		vs	qal, nif, etc.
		vt	perf, impf, etc.

Query samples:

Finding Gen 1:1

```
=> [verse book IN (Genesis) AND chapter IN (1) AND verse IN (1)]
```

Finding attributive clauses

```
=> [clause rela IN (Attr)]
```

Finding the word "Abraham"

```
=> [word lex_utf8 = "אברהם/"]
```

Finding "Abraham" as subject of an attributive clause in Genesis chapter 25-35:

```
=>
```

```
[verse book IN (Genesis) AND chapter IN (25,26,27,29,30,31,32,33,34,35)
 [clause rela IN (Attr)
  [phrase function = Subj
   [word FOCUS lex = ">BRHM/"]
  ]
 ]
]
```

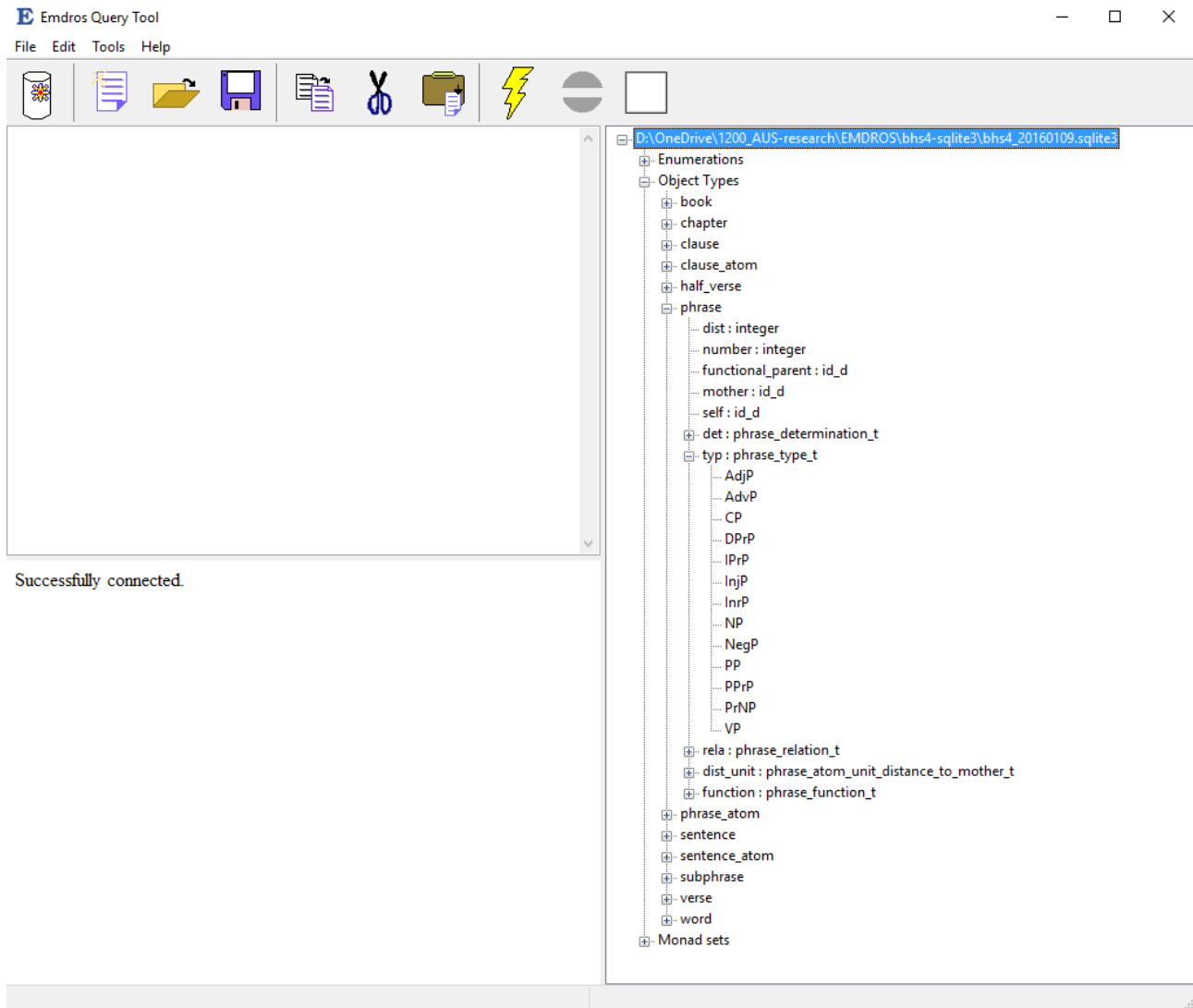
#### b) find all available object types, features and values here

##### i) SHEBANQ Documentation (Features by category):

(1) Full documentation: [https://shebanq.ancient-data.org/shebanq/static/docs/featuredoc/features/comments/0\\_overview.html](https://shebanq.ancient-data.org/shebanq/static/docs/featuredoc/features/comments/0_overview.html)

(2) Quick reference: <https://shebanq.ancient-data.org/shebanq/static/docs/MQL-QuickRef.pdf>

##### ii) EMDROS Query Tool: right pane



c) In case you want to use transcription instead of the Hebrew fonts you can find the transcription table here: <http://shebanq.ancient-data.org/shebanq/static/docs/ETCBC4-transcription.pdf>

3) Learning the MQL query language:

- Read the Emdros Query Guide: <https://shebanq.ancient-data.org/shebanq/static/docs/MQL-Query-Guide.pdf>
- Now you can build the most advanced queries. See: <https://shebanq.ancient-data.org/hebrew/query?version=4b&id=491>

This query, for example, finds all cases in which the same direct speech introduction (same subject [e.g. Abraham] speaks to the same complement [e.g. to Abimelech]) is repeated after the initial direct speech has been heard. The query finds the following pattern:

X speaks to Y: "bla bla bla"

X speaks to Y: "bla bla bla"

In the default Hebrew text-grammar one would expect after the initial

X speaks to Y: "bla bla bla"

that

Y speaks/answers to X: "bla bla bla"

is following.

We are therefore searching for a rather uncommon pattern. The query was inspired by Genesis 20:9-10 where Abimelech initiated a direct speech twice without Abraham responding to Abimelech's first speech.

#### 4) Looking at the text in SHEBANQ: Visualizing syntactic structure

← → ↻ Koninklijke Nederlandse Akademie van Wetenschappen [NL] <https://shebanq.ancient-text.org/hebrew/text> Log In

#! SHEBANQ The Text Words Queries Notes Tools Help News Sources

show words show queries show notes

etcbc 4 4b 4s Genesis 20 hebrew phonetic text Notes (1/3) legend

18 verses

<p>אַבְרָהָם ʔavrah.ām</p> <p>אַבְרָהָם &gt;BRHM/ Abraham</p> <p>pers nmpr m sg NA a NA NA</p> <p>det Subj PrNP NA N WayX NA 1</p>	<p>שָׁם šš'ām</p> <p>שָׁם CM there</p> <p>advb NA NA NA NA NA NA</p> <p>NA Cmpl PP NA N WayX NA 1</p>	<p>מִן mi</p> <p>מִן MN from</p> <p>prep NA NA NA NA NA NA</p> <p>NA Cmpl PP NA N WayX NA 1</p>	<p>יָסַע yyiss,aʃ</p> <p>יָסַע NS&lt;[ pull out</p> <p>verb m sg p3 NA wayq qal</p> <p>NA Pred VP NA N WayX NA 1</p>	<p>וַ wa</p> <p>וַ W and</p> <p>conj NA NA NA NA NA NA</p> <p>NA Conj CP NA N WayX NA 1</p>
<p>יָשַׁב yy.ēšev</p> <p>יָשַׁב JCB[ sit</p> <p>verb m sg p3 NA wayq qal</p> <p>NA Pred VP NA N Way0 NA 1</p>	<p>וַ wa</p> <p>וַ W and</p> <p>conj NA NA NA NA NA NA</p> <p>NA Conj CP NA N Way0 NA 1</p>	<p>נָנַב nn'egev</p> <p>נָנַב NGB/ south</p> <p>subs m sg NA a NA NA</p> <p>rec 2 NA Loca AdvP NA N WayX NA 1</p>	<p>הָ ha</p> <p>הָ H the</p> <p>art NA NA NA NA NA NA</p> <p>rec 2 NA Loca AdvP NA N WayX NA 1</p>	<p>אֶרֶץ ʔaršā</p> <p>אֶרֶץ &gt;RY/ earth</p> <p>subs unknown sg NA c NA NA</p> <p>NA 1 NA Loca AdvP NA N WayX NA 1</p>

## 5) Relation between SHEBANQ and EMDROS Query Tool

- a) “userfriendly” Offline vs all-powerful Online
- b) Installing Emdros

## 2 Building Simple Queries

- a) Searching on the word-level: Searching for the word “Abraham” in the book of Genesis in the chapter 17-22.

```
select all objects where
[chapter book = Genesis AND chapter IN (17,18,19,20,21,22)
      [word FOCUS lex = ">BRHM/"] //or write: [word FOCUS lex_utf8 = "אברהם/"]
]
```

=> When you search for nouns you have to add "/" behind the word: "DBR/" (word)

=> When you search for verbs you have to add "[ " behind the word. "DBR[ " (to speak)

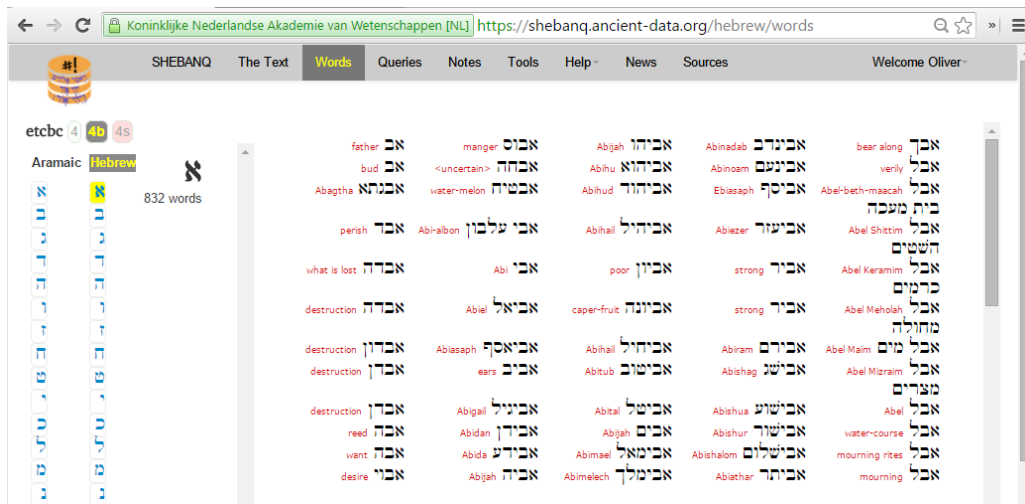
If you want to save time with typing Hebrew words or transliterated words, you can just copy/paste them from a concrete text. For example:

Genesis 17: 7				
וְאֵת	קִיד	יִקְרָא	לֹא־	וְ
אֶת	עוֹד /	קָרָא	לֹא	וְ
>T	<WD/	QR>[	L>	W
<object marker>	duration	call	not	and
NA NA NA NA NA NA	m sg NA a NA NA	m sg p3 NA Impf nif	NA NA NA NA NA NA	NA NA NA NA NA NA
n/a n/a	n/a n/a	J	n/a n/a	n/a n/a
Subj NA	Modi NA	Pred NA	Nega NA	Conj NA
NQ WxYX NA	NQ WxYX NA	NQ WxYX NA	NQ WxYX NA	NQ WxYX NA

- For the `lex_utf8` entry

- For the `lex` entry.

You can also go to the dictionary on SHEBANQ and copy past from there:



b) Word advanced: Searching “Abraham” in clauses that contain a predicate in Way tense in the book of Genesis.

```
select all objects where
[book book = Genesis
  [clause
    [word FOCUS vt = wayq]
    ..
    [word FOCUS lex_utf8 = "אברהם/"] //or write [word FOCUS lex = ">BRHM/"]
  ]
]
```

The full list of verbal tenses can be found in the ETCBC feature doc (go to “Help”):

1.1

Welcome

Mother

Word grammar

Context

Features with *hints*

Features (by category)

Features (by name)

Features (by code)

Feature Values

Features with *cautions*

- Clause kind `clause_kind`
- Clause atom relation `code`
- Distance to mother `dist`
- Domain `domain`
- Text type `txt`
- Phrase function `function`
- Is root is `root`
- Ketiv
- Lexical set is
- Mother object type

Docs » Features with *cautions* » Verbal tense `vt`

[View page source](#)

## Verbal tense `vt`

[frequency table of values](#)

Form of the verb that indicates tense or mood.

This feature is present on objects of type *word*.

The Hebrew verb has multiple stems, and each of these stems can be marked with tense/mood. For the possible stems, see *vs*. Not all words have verbal tense (e.g. nouns) and these are marked as `NA`.

Here is the list of possible values:

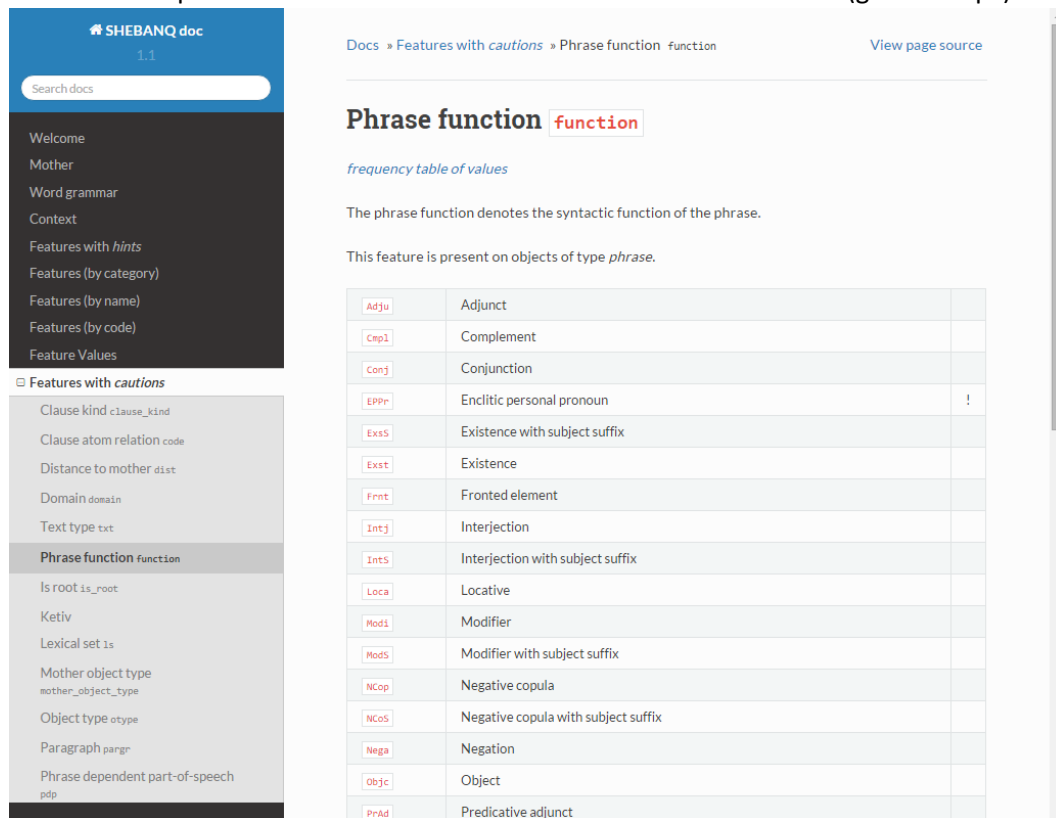
<code>perf</code>	perfect
<code>impf</code>	imperfect
<code>wayq</code>	wayyiqtol
<code>impv</code>	imperative
<code>infa</code>	infinitive (absolute)
<code>infc</code>	infinitive (construct)
<code>ptca</code>	participle
<code>ptcp</code>	participle (passive)

**Caution**

c) Phrase: Searching “Abraham” as a subject

```
select all objects where
[book book = Genesis
  [clause
    [phrase FOCUS function = Subj
      [word lex = ">BRHM/"]
    ]
  ]
]
```

The full list of phrase functions can be found in the ETCBC feature doc (go to “Help”):



The screenshot shows the SHEBANQ doc interface. The left sidebar has a search bar and a navigation menu. The 'Features with cautions' section is expanded, showing a list of features. The main content area displays the 'Phrase function' page, which includes a table of phrase functions.

Phrase function	function
Adjunct	Adjunct
Complement	Complement
Conjunction	Conjunction
Enclitic personal pronoun	Enclitic personal pronoun
Existence with subject suffix	Existence with subject suffix
Existence	Existence
Fronted element	Fronted element
Interjection	Interjection
Interjection with subject suffix	Interjection with subject suffix
Locative	Locative
Modifier	Modifier
Modifier with subject suffix	Modifier with subject suffix
Negative copula	Negative copula
Negative copula with subject suffix	Negative copula with subject suffix
Negation	Negation
Object	Object
Predicative adjunct	Predicative adjunct

d) Phrase advanced: Searching for the predicates that have Abraham as subject.

```
select all objects where
[book book = Genesis
  [clause
    [phrase FOCUS function = Subj
      [word FOCUS lex_utf8 = "אברהם/"]
    ]
    ..
    [phrase FOCUS function = Pred]
  ]
OR
[clause
  [phrase FOCUS function = Pred]
  ..
  [phrase FOCUS function = Subj
    [word FOCUS lex_utf8 = "אברהם/"]
  ]
]
]
```

e) Complex Sentence: Searching for a sentence that contains two clauses in Genesis 20

```
select all objects where
[chapter book = Genesis AND chapter IN (20)
  [sentence
    [clause FOCUS]
    [clause FOCUS]
  ]
]
```

- f) Complex Sentence advanced: Searching for a sentence that contains an independent clause and a dependent attributive/relative clause.

```
select all objects where
[chapter book = Genesis AND chapter IN (20)
[sentence
[clause FOCUS]
[clause FOCUS rela = Attr]
]
]
```

The full list of rela values can be found in the ETCBC feature doc (go to “Help”):

Domain domain	
Text type txt	
Phrase function function	
Is root is_root	
Ketiv	
Lexical set ls	
Mother object type mother_object_type	
Object type otype	
Paragraph paragr	
Phrase dependent part-of-speech pdp	
<b>Relation rela</b>	
Subphrase	
Phrase_atom	
Phrase	
Clause	
State st	
Tabulation tab	

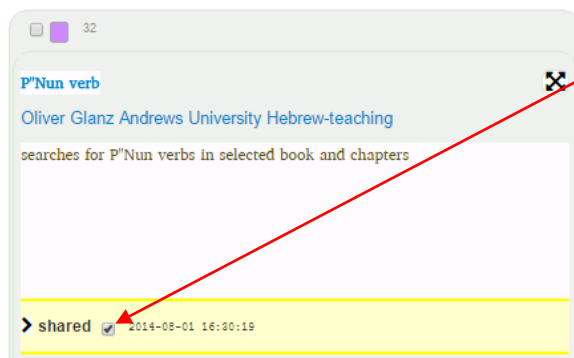
  

Clause	
Adju	Adjective clause
Attr	Attributive clause
Comp	Complement clause
Coord	Coordinated clause
Objc	Object clause
Prad	Predicative adjunct clause
PreC	Predicative complement clause
Relv	Referral to the vocative
Resu	Resumptive clause
Rgfc	Regens/rectum connection
Spec	Specification clause
Subj	Subject clause

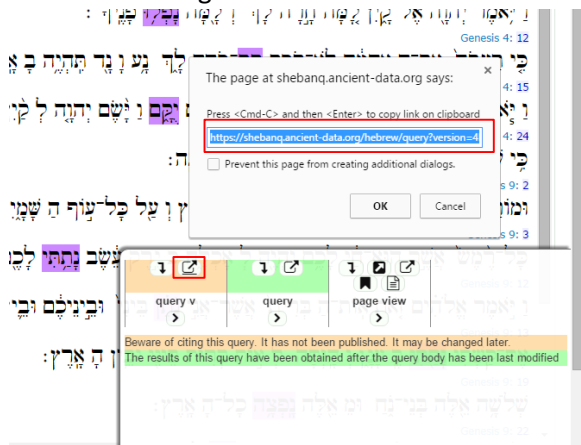
For clause-like objects this feature is also called *clause constituent relation*; it indicates the syntactic function of the clause.

### 3 Publishing your query in an academic paper

- a) Once you have run your query you can publish your query and use a PID for reference purposes in your paper/article/book/etc.
- b) Click the share box under your query description:



- c) In the bottom right corner click on “cite” and chose the right box over “query v”:



d) Now you can copy your PID and use it wherever you wish. I share my query no 491 with you here:

<https://shebanq.ancient-data.org/hebrew/query?version=4b&id=491>

2) Going wild:

a) Using operators: OR, AND, NOTEXIST, First AND Last, etc.

i) Search P"Nun: <https://shebanq.ancient-data.org/hebrew/query?version=4b&id=32>

ii) Search same lexeme in different clauses: <https://shebanq.ancient-data.org/hebrew/query?version=4b&id=36>

b) Check MQL query guide: <http://shebanq.ancient-data.org/shebanq/static/docs/MQL-Query-Guide.pdf>

## 4 Advanced Queries

A couple of advanced queries can be found here. You can study them and learn from them how to translate your exegetical questions into electronic queries.

The concrete phenomenon triggering the exegetical question	The query	The result
<p><b>A. Word level (Jer 1:11-12): Really a rhetoric device?</b></p>	<pre>select all objects where [clause   [word AS gcl     NOTEXIST [word sp IN (art,conj,inrg,prep)]     [word AS samelex]   ] ] [clause]*{1-2} //allows for a any clause to be repeated 3 times [clause   [word FOCUS g_cons = gcl.g_cons     NOTEXIST [word sp IN (art,conj,inrg,prep)]     NOTEXIST [word lex = samelex.lex]   ] ]</pre>	<p>SHEBANQ query <a href="#">no1002</a></p>
<p><b>B. Phrase level (Gen 4:1): Did Eve bore YHWH?</b></p>	<pre>select all objects where [clause   [phrase function = Objc     [phrase_atom FOCUS rela = NA]     [phrase_atom FOCUS rela = Appo       [word lex = "&gt;T"]     ]   ] ]</pre>	<p>SHEBANQ queries <a href="#">no946</a> <a href="#">no947</a> <a href="#">no948</a> <a href="#">no1003</a></p>
<p><b>C. Clause level: To whom does YHWH speak?</b></p> <pre>select all objects where [clause   [phrase function = Subj [word lex_utf8 = "אלהים/"] OR [word lex_utf8 = "יהוה/"] OR [word lex_utf8 = "אל/"] ]   ..   [phrase function = Pred [word lex = "דבר/"] OR [word lex_utf8 = "אמר/"] OR [word lex_utf8 = "ענה/"]]   ..   [phrase FOCUS function = Cmpl] ] OR [clause   [phrase function = Pred [word lex = "דבר/"] OR [word lex_utf8 = "אמר/"] OR [word lex_utf8 = "ענה/"]]   ..   [phrase function = Subj [word lex_utf8 = "אלהים/"] OR [word lex_utf8 = "יהוה/"] OR [word lex_utf8 = "אל/"] ]   ..   [phrase FOCUS function = Cmpl] ]</pre>	<pre>select all objects where [clause   [phrase function = Subj     [word lex_utf8 = "אלהים/"]     OR [word lex_utf8 = "יהוה/"]     OR [word lex_utf8 = "אל/"]   ]   ..   [phrase function = Pred     [word lex = "דבר/"]     OR [word lex_utf8 = "אמר/"]     OR [word lex_utf8 = "ענה/"]     OR [word lex_utf8 = "קרא/"]   ]   ..   [phrase function = Cmpl     [       [word lex_utf8 = "אל/"]       OR       [word lex_utf8 = "ל/"]     ]   ] ] OR [clause   [phrase function = Pred     [word lex = "דבר/"]     OR [word lex_utf8 = "אמר/"]     OR [word lex_utf8 = "ענה/"]     OR [word lex_utf8 = "קרא/"]   ] ]</pre>	<p>SHEBANQ query <a href="#">no448</a></p>



	<pre>.. [phrase function = Subj   [word lex_utf8 = "אלהים/"]   OR [word lex_utf8 = "יהוה/"]   OR [word lex_utf8 = "ל/"] ] .. [phrase function = Cmpl   [     [word lex_utf8 = "א"]     OR     [word lex_utf8 = "ל"]   ]   ..   [word FOCUS sp = nmpr] ] ]</pre>			
<p><b>D. Level of text-linguistics (Gen 20:9-10): Is Abraham silent?</b></p> <table><tr><td><p>Genesis 20:9-10 (NRSV)</p><p>9 Then <b>Abimelech</b> called <b>Abraham</b>, and said to him, "What have you done to us? How have I sinned against you, that you have brought such great guilt on me and my kingdom? You have done things to me that ought not to be done."</p><p>10 And <b>Abimelech</b> said to <b>Abraham</b>, "What were you thinking of, that you did this thing?" <i>R. J. H.</i></p></td><td><p>Genesis 20:9-10 (BHW 4.18)</p><p>9 ויקרא אבימלך לאברהם ויאמר לו מה עשית לנו ומה חטאתי לך שיהבאת עלי ועל ממלכתי חטאה גדלה מעשים אשר לא יעשו עשית עמדי:</p><p>10 ויאמר אבימלך אלי אברהם מה ראית כי עשית את הדבר הזה:</p></td></tr></table>	<p>Genesis 20:9-10 (NRSV)</p> <p>9 Then <b>Abimelech</b> called <b>Abraham</b>, and said to him, "What have you done to us? How have I sinned against you, that you have brought such great guilt on me and my kingdom? You have done things to me that ought not to be done."</p> <p>10 And <b>Abimelech</b> said to <b>Abraham</b>, "What were you thinking of, that you did this thing?" <i>R. J. H.</i></p>	<p>Genesis 20:9-10 (BHW 4.18)</p> <p>9 ויקרא אבימלך לאברהם ויאמר לו מה עשית לנו ומה חטאתי לך שיהבאת עלי ועל ממלכתי חטאה גדלה מעשים אשר לא יעשו עשית עמדי:</p> <p>10 ויאמר אבימלך אלי אברהם מה ראית כי עשית את הדבר הזה:</p>	<pre>select all objects where [   [clause domain = "N"     [phrase function = Pred       [word         [word lex = "DBR["]         OR         [word lex = "&gt;MR["]         OR         [word lex = "QR&gt;["]       ]     ]     ..     [phrase FOCUS function = Subj       [word AS samesubject]     ]     ..     [phrase FOCUS function = Cmpl       [word AS samecomplement]     ]   ]   [clause domain = "N"]* {0-1}   [clause domain = "Q"]* {1-50}   [clause domain = "N"     [phrase function = Pred       [word         [word lex = "DBR["]         OR         [word lex = "&gt;MR["]         OR         [word lex = "QR&gt;["]       ]     ]     ..     [phrase FOCUS function = Subj       [word lex = samesubject.lex]     ]     ..     [phrase FOCUS function = Cmpl       [word lex = samecomplement.lex]     ]   ] ] ] OR [   [clause domain = "N"     [phrase function = Pred       [word         [word lex = "DBR["]         OR         [word lex = "&gt;MR["]         OR         [word lex = "QR&gt;["]       ]     ]     ..     [phrase FOCUS function = Subj       [word lex = samesubject.lex]     ]     ..     [phrase FOCUS function = Cmpl       [word lex = samecomplement.lex]     ]   ] ] ]</pre>	<p>SHEBANQ query <a href="#">no491</a></p>
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```

[word
  [word lex = "DBR["]
  OR
  [word lex = ">MR["]
  OR
  [word lex = "QR>["]
]
]
..
[phrase FOCUS function = Cmpl
  [word AS samecomplement2]
]
..
[phrase FOCUS function = Subj
  [word AS samesubject2]
]
]
[clause domain = "N"]* {0-1}
[clause domain = "Q"]* {1-50}
[clause domain = "N"
  [phrase function = Pred
    [word
      [word lex = "DBR["]
      OR
      [word lex = ">MR["]
      OR
      [word lex = "QR>["]
    ]
  ]
  ..
  [phrase FOCUS function = Cmpl
    [word lex = samecomplement2.lex]
  ]
  ..
  [phrase FOCUS function = Subj
    [word lex = samesubject2.lex]
  ]
]
]
OR
[
  [clause domain = "N"
    [phrase function = Pred
      [word
        [word lex = "DBR["]
        OR
        [word lex = ">MR["]
        OR
        [word lex = "QR>["]
      ]
    ]
    ..
    [phrase FOCUS function = Subj
      [word AS samesubject3]
    ]
    ..
    [phrase FOCUS function = Cmpl
      [word AS samecomplement3]
    ]
  ]
  [clause domain = "N"]* {0-1}
  [clause domain = "Q"]* {1-50}
  [clause domain = "N"
    [phrase function = Pred
      [word

```

	<pre> [word lex = "DBR["] OR [word lex = "&gt;MR["] OR [word lex = "QR&gt;["]  ] .. [phrase FOCUS function = Cmpl [word lex = samecomplement3.lex] ] .. [phrase FOCUS function = Subj [word lex = samesubject3.lex] ] ] ] OR [ [clause domain = "N" [phrase function = Pred [word [word lex = "DBR["] OR [word lex = "&gt;MR["] OR [word lex = "QR&gt;["]  ]  ] .. [phrase FOCUS function = Cmpl [word AS samecomplement4] ] .. [phrase FOCUS function = Subj [word AS samesubject4] ] ] [clause domain = "N"]* {0-1} [clause domain = "Q"]* {1-50} [clause domain = "N" [phrase function = Pred [word [word lex = "DBR["] OR [word lex = "&gt;MR["] OR [word lex = "QR&gt;["]  ]  ] .. [phrase FOCUS function = Subj [word lex = samesubject4.lex] ] .. [phrase FOCUS function = Cmpl [word lex = samecomplement4.lex] ] ] ] ] </pre>	
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