Teaching and exegetical Research with

&

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Scenario #1: Large Classroom (> 15 students)

Scenario #2: Small Classroom (< 15 students)

Scenario #3: Research (PhD project, personal)

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AIM	⇒ Tool for the exeget. process: ⇒ Valence patterns ⇒ Linguistic variation ⇒ Text-syntactic hierarchy ⇒ Publication/sharing of queries
METHOD	⇒ Written tutorial ⇒ Video tutorials ⇒ Query assignments ⇒ SHEBANQ quizzes ⇒ Paper with SHEBANQ links

SHEBANQ/EMDROS MQL-tutorial v1.26

(Oliver Glanz, Old Testament department, Andrews University)

Contents

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Scenario #1: Large Classroom

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SHEBANQ tutorial no1: The Text

357 views • Sep 8, 2016

4 0 SHARE SAVE

SHEBANQ
BibleSoftware Glanz - 1 / 13

1. SHEBANQ tutorial no1: The Text — BibleSoftware Glanz — 13:54
2. SHEBANQ tutorial no2a: Building Queries (simple: finding Abraham in… — BibleSoftware Glanz — 14:28
3. SHEBANQ tutorial no2b: Improving Query Building Efficiency — BibleSoftware Glanz — 15:37
4. SHEBANQ tutorial no3a: Using the AND and OR operators in queries — BibleSoftware Glanz — 5:41
5. SHEBANQ tutorial no3b: Defining Distances between blocks with "..", "*… — BibleSoftware Glanz — 11:05
6. SHEBANQ tutorial no3c: Excluding and Including Elements with "IN",… — BibleSoftware Glanz — 8:32

BibleOL episode no03 class enrollment
BibleSoftware Glanz
148 views

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Scenario #1: Large Classroom

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min	item
R	☐ Quiz#B (in-class-quiz)
	☐ Class Content
	☐ Text#1a: Jer 37:1-16, 17-21 (the last days of Jerusalem) [see here]
	☐ Text#1b: Jer 38:1-13, 38:14-28 (The last days of Jerusalem) [see here]
	☐ Assignments (due Week#08-T 10am)
	☐ Translation of Jer 1 (upload text-syntactical analysis)
	☐ Do the following:
	☐ Indent clauses according to their dependency
	☐ Mark direct speeches
	☐ Mark paragraphs on the basis of text-syntaxis (explicit (re)introduction of participants)
	☐ Mark those cases (when existing) where the logical coherence of the text seems to be interrupted/broken. Do the marking by color highlighting and written comments.
	☐ Mark those cases (when existing) where the reference to participants changes unexpectedly (e.g. from 2P to 3P or from Masculine to Feminine or from Singular to Plural). Do the marking by color highlighting and written comments.
	☐ Mark where (when existing) the time and space continuum appears to be interrupted. Do the marking by color highlighting and written comments.
	☐ Online Based Translation Quiz
	☐ Queries:
	☐ ETCBC (SHEBANQ, TextFabric, Accordance, Logos) Query1: Find all cases where all lexemes of וַיְהִי דְּבַר־יְהוָה appear in exact this order (all tenses of היה should be included, דָּבָר should be in construct to יְהוָה). You should find 84 cases (Because of a bug only 83 cases are found in the ETCBC data of Accordance. Because of an outdated WIVU database Logos has only 83 results). Take a screenshot of your query and upload it to the Learninghub.
	☐ ETCBC (SHEBANQ, TextFabric, Accordance, Logos) Query2: Find all cases where all lexemes of וַיְהִי דְּבַר־יְהוָה appear in exact this order (דָּבָר should be in construct to יְהוָה) and exact the same tense (וַיְהִי) is utilized. You should find 83 cases. Take a screenshot of your query and upload it to the Learninghub.
	☐ ETCBC (SHEBANQ, TextFabric, Accordance, Logos) Query 3: Find all clauses that have a verbal predicate and an object. As predicate we want JYR/יצר. As object we want anything (e.g. object-suffix [phrase function = PreO] or separate object phrase [phrase function = Objc]) is used as predicate. Search the entire OT. You should find 13 cases (due to an outdated WIVU database Logos has only 10 results). The motivation for the query is Jer 1:5. Take a screenshot of your query and upload it to the Learninghub.
	☐ ETCBC (SHEBANQ, TextFabric, Accordance, Logos) Query 4: Find all nominal clauses (clause typ = NmCl) that contain the statement "With X (any person, number, gender, proper name, noun) I am"/"I am with X (any person, number, gender, proper name, noun)". Be aware that there are two Hebrew prepositions that carry the meaning "with" (אֵת, עִם). Homographs (e.g. אֵת and אֵת) are distinguished with "=" (e.g. >T/nota accusativi, >T==/"with"). From a syntactical perspective the statement "I am with you" would consist of the elments "Subject (Subj)/I" and "Predicate Complement (PreC)/with X". Search the entire OT. You should find 18 cases (due to an outdated WIVU database Logos has only 15 results). The motivation for the Query is Jer 1:8.Take a screenshot of your query and upload it to the Learninghub.
	☐ Close reading of Jer 2:1-4:4
	☐ Longman 2008, 19-45 (27p) [MDiv+MA]
	☐ Prospect on Week #08
	☐ Theme#10: Syntax Queries
	☐ The ETCBC database model
	☐ Text#2: Jer 1
	☐ Text#3: Jer 2:1-4:4 (emotional chaos)

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Major OT Prophets Class: week 07

```
withYou1='''
clause typ=NmCl
    phrase function=PreC
        word lex=>T==|<M
    phrase function=Subj
        word lex=>NKJ|>NJ|JHWH/

'''
withYou1  = A.search(withYou1)
A.table(withYou1, start=1, end=20, condensed=False, colorMap={3:'pink', 4:'lime
```

1.22s 54 results

n	p	clause	phrase	word	phrase	word
1	Genesis 26:24	כִּי־אִתְּךָ אָנֹכִי	אִתְּךָ	אִתְּךָ	אָנֹכִי	אָנֹכִי
2	Genesis 28:15	וְהִנֵּה אָנֹכִי עִמָּךְ	עִמָּךְ	עִמָּךְ	אָנֹכִי	אָנֹכִי
3	Genesis 31:38	זֶה עֶשְׂרִים שָׁנָה אָנֹכִי עִמָּךְ	עִמָּךְ	עִמָּךְ	אָנֹכִי	אָנֹכִי
4	Genesis 39:3	כִּי יְהוָה אִתּוֹ	אִתּוֹ	אִתּוֹ	יְהוָה	יְהוָה
5	Genesis 39:23	בַּאֲשֶׁר יְהוָה אִתּוֹ	אִתּוֹ	אִתּוֹ	יְהוָה	יְהוָה
6	Numbers 14:9	וַיהוָה אִתָּנוּ	אִתָּנוּ	אִתָּנוּ	יְהוָה	יְהוָה
7	Numbers 23:21	יְהוָה אֱלֹהָיו עִמּוֹ	עִמּוֹ	עִמּוֹ	יְהוָה אֱלֹהָיו	יְהוָה

Question 3 Not yet answered Points out of 1.00 **Flag question**

Edit question

Search for all cases in the book of Jeremiah in which God explicitly speaks to Jeremiah and all cases in which Jeremiah explicitly speaks to God. Thus you are looking for the following type of clauses: (a) God (אֵל, אֱלֹהִים, יְהוָה) speaks (דבר/אמר/ענה/קרא) to Jeremiah. (b) Jeremiah speaks (דבר/אמר/ענה/קרא) to God (אֵל, אֱלֹהִים, יְהוָה). The indirect Object (to whom one speaks) is a Complement (phrase function = Cmpl). Make sure that you find all syntactical variations (subject-predicate-complement; subject-complement-predicate, predicate-subject-complement, predicate-complement-subject, complement-predicate-subject, complement-subject-predicate). Also, make sure that you include both orthographic variations for the name of Jeremiah (יִרְמְיָה, יִרְמְיָהוּ). How often does Jeremiah speak explicitly to God?

Select one:

- 0
- 30
- 40
- 10
- 20

Week #5

- Quiz#A (week #5)
- Translation of Jer 37 (upload text-syntactical analysis)
  - jeremia37.clauses.rev
  - jeremia37.CTT.rev
  - Quiz#4 relating to the translation of Jer 37

```
question-A: How many subject phrases (phrase function =  Subj) are present in J
er 37? Search with SHEBANQ or TextFabric. In case you have the ETCBC syntax dat
abase as a Logos or Accordance resource you can also execute this search with t
he syntax search tools of Logos and/or Accordance.
```

SHEBANQ:

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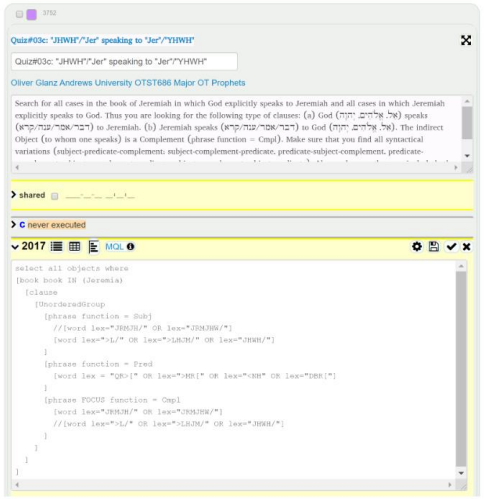
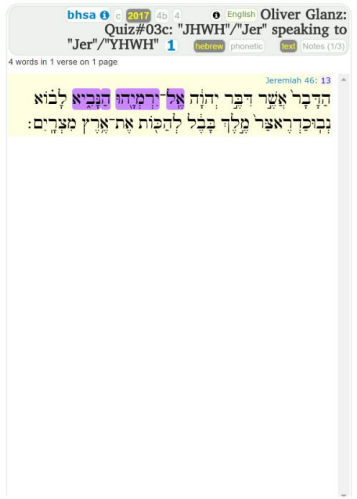
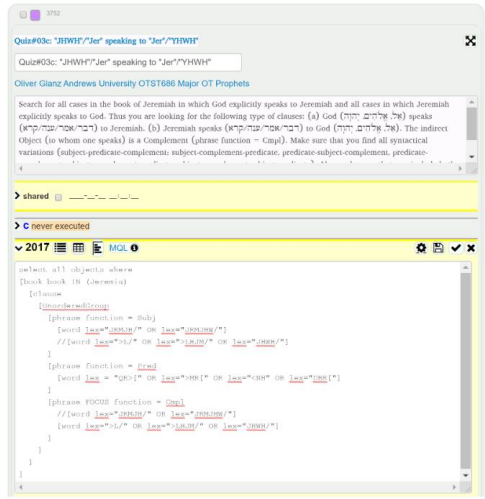
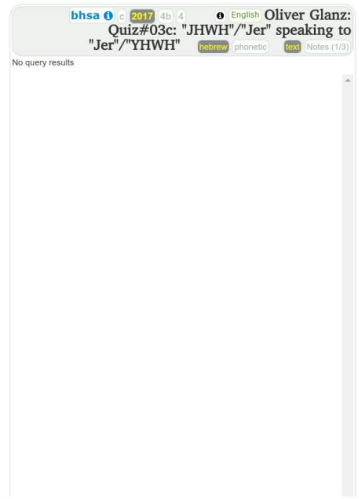
question-C: Search for all cases in the book of Jeremiah in which God explicitly speaks to Jeremiah and all cases in which Jeremiah explicitly speaks to God. Thus you are looking for the following type of clauses: (a) God (אֵל, אֱלֹהִים, יְהוָה) speaks (דבר/אמר/ענה/קרא) to Jeremiah. (b) Jeremiah speaks (דבר/אמר/ענה/קרא) to God (אֵל, אֱלֹהִים, יְהוָה). The indirect Object (to whom one speaks) is a Complement (phrase function = Cmpl). Make sure that you find all syntactical variations (subject-predicate-complement; subject-complement-predicate, predicate-subject-complement, predicate-complement-subject, complement-predicate-subject, complement-subject-predicate). Also, make sure that you include both orthographic variations for the name of Jeremiah (יִרְמְיָה, יִרְמְיָהוּ). How often does Jeremiah/God speak explicitly to God/Jeremiah?

SHEBANQ:









TextFabric 7.8:

```
GodSpeaksToJeremiah = '''
book book=Jeremia
    clause
        p1:phrase function=Subj
          w3:word lex=>L/|>LHJM/|JHWH/
        p2:phrase function=Pred
            w2:word lex=QR>[|>MR[|<NH[|DBR[
        p3:phrase function=Cmpl
            w1:word lex=JRMJHW/|JRMJH/
'''
GodSpeaksToJeremiah  = A.search(GodSpeaksToJeremiah)
A.table(GodSpeaksToJeremiah, start=1, end=5, condensed=False, colorMap={2: 'yellow', 3: 'cyan', 4:'magenta'})
```

1.82s 1 result

n	p	book	clause	phrase	word	phrase	word	phrase	word
1	Jeremiah 46:13	הַדָּבָר אֲשֶׁר דִּבֶּר יְהוָה אֶל־יִרְמְיָהוּ הַנָּבִיא	הַדָּבָר אֲשֶׁר דִּבֶּר יְהוָה אֶל־יִרְמְיָהוּ הַנָּבִיא	יְהוָה	יְהוָה	דִּבֶּר	דִּבֶּר	אֶל־יִרְמְיָהוּ הַנָּבִיא	יִרְמְיָהוּ

```
JeremiahSpeaksToGod = '''
book book=Jeremia
    clause
        p1:phrase function=Subj
            w1:word lex=JRMJHW/|JRMJH/
        p2:phrase function=Pred
            w2:word lex=QR>[|>MR[|<NH[|DBR[
        p3:phrase function=Cmpl
            w3:word lex=>L/|>LHJM/|JHWH/
'''
JeremiahSpeaksToGod  = A.search(JeremiahSpeaksToGod)
A.table(JeremiahSpeaksToGod, start=1, end=5, condensed=False, colorMap={2: 'yellow', 3: 'cyan', 4:'mage
```

1.77s 0 results

In Hebrew I-II:

⇒ Creating Vocabulary lists

⇒ Statistics on grammatical features

⇒ Detecting Hebrew text with only few words of a frequency of under 100

⇒ For teaching

⇒ For exams

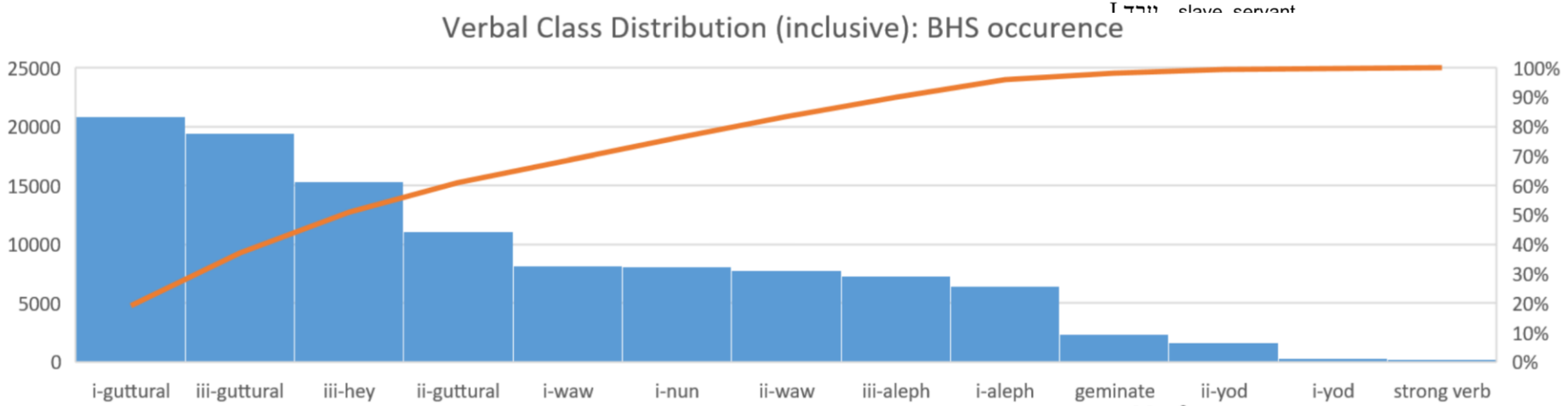
In Hebrew III:

⇒ Creating Vocabulary lists

⇒ Finding exam texts

week 2	Gen 19:1-2
אָדוֹן I	lord, master
אֶל I	toward (prep), unto; towards
אמר I	qal: say, think; ni: be said, be called; hi: declare;
אַף	nose, nostril; anger
אֶרֶץ	earth; land, territory
בְּ	in, at (time, place); with; by; by means of
בוא	qal: come, enter, go in; hi: bring; let come; ho: be brought;
בַּיִת	house; family
דֶּרֶךְ	way, road, journey; custom (ext)
הַ I	the (art)
הלך	qal: go, walk; ni: be gone, fade; pi: go, walk; hit: go, walk, go about; hi: lead, bring, cause to go;
וְ	and; also, even (conj); but
חוה I	hst: bow down;
ישב	qal: sit, dwell, inhabit; ni: be inhabited; pi: set up; hi: cause to sit, cause to dwell; marry; ho: be inhabited, be made to dwell;
לְ	to, toward (prep); Do, Yes, (voc); in regard to, for
לוֹט II	Lot
מַלְאָךְ	messenger, angel
סְדֹם	Sodom
I עבד	slave, servant

week 3	Gen 19:2-4
אִישׁ	man; human being; somebody; each one
אכל	qal: eat, devour; qal pass: eat; ni: be eaten; pu: be consumed; hi: feed;
אפה	qal: bake; ni: be baked;
הִנֵּה I	behold, look, lo (intj)
כִּי	for, because, that, when, but; indeed, truly (con); yea
כֹּל	all, every
לֹא	not, no (neg)
לין	qal: spend the night, lodge; hit: dwell, abide;
מְאֹד	force, might (n); very, exceedingly (adv)
מִן I	from, out of, part of, because of (prep); than (comp)
מַצָּה I	unleavened bread
מִשְׁתֶּה	(drinking-) feast
נָא	now; please; pray (particle giving emphasis)
נַעַר I	youth, young boy, lad, servant
סור	qal: turn aside; pi: disarrange; hi: take away, remove; ho: be removed;
עַד	to (prep), unto, as far as (spacial); until, while (temporal)
עִיר I	city
עַל	on, upon, against, over (prep); on account of; opposite to
עַם	people; kinship; relative
עשׂה	qal: do, make; ni: be made, done; pi: press, squeeze; pu: be made;
פצר	qal: urge (someone); hi: (meaning uncertain);
קָצֶה II	edge, end, border, extremity
רֶגֶל	foot, leg
רְחֹב III	plaza, broad open place
רחץ	qal: wash; wash oneself; pu: be washed; hit: wash oneself;
שכב	qal: lie down; have sexual intercourse; ni: be slept with; pu: be slept with; hi: lay down; ho: be laid down;



AIM	⇒ Tool for the exeget. process: ⇒ Valence patterns ⇒ Linguistic variation ⇒ Text-syntactic hierarchy ⇒ Visualisation
METHOD	⇒ Jupyter notebooks (in class) ⇒ Jupyter notebooks (assign) ⇒ Jupyter notebooks (paper, take-home-exam)

Contents

1 Introduction to Jupyter Notebooks

1.1 What is a notebook?

Jupyter Notebooks are the ideal environment for doing python (its a programming language) based research in both the sciences and humanities.

Each notebook conissts of two types of cell blocks:

1. Mardown cells
2. Code cells

The markdown cells are used to describe what one is doing in the code cells.

The code cells are used in order to write code and execute it. The next cell is a code cell with a very simple code:

In [1]:

```
x=17
y=23

print(x, "times", y, "is", x*y)
```

```
17 times 23 is 391
```

This cell block is a markdown cell. You can double click with your mouse on this cell and you will see the Markdown codes used to write this cell block. All important Markdown commands can be found in this handy Markdown Cheat Sheet: https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet.

1.2 Installing the necessary environment to run jupyter notebooks

1. Go to https://www.anaconda.com/distribution/ and download the Phython 3.7 version for your platform (available for Linux, MacOS, Windows).
2. After Anaconda has been installed start the `Anaconda prompt` terminal.
3. Once the terminal is available you want to install the TextFabric environment that holds all the biblical data of the ETCBC research group (http://etcbc.nl/). You do so by writing the following command into the terminal:

```
pip3 install text-fabric
```

or when you are on windows

```
pip install text-fabric
```

T

- [ ] Logistics
  - [ ] Paper/Project/Take Home exam…
  - [ ] PhD defense of Chris Vogel
- [ ] Class Content
  - [ ] Discussing assignment: "0000_ETCBC-TF_0000-BHS_intro"
  - [ ] The exegetical workbench
    - [ ] The Library: Logos/Accordance
      => translate your text
    - [ ] The Text (with Codes): SHEBANQ
      => understand the structure of your text
    - [ ] The Analytic Tool-Kit: Text-Fabric (i.e. SHEBANQ-query-tool on steroids)
      => turn your exegetical questions into queries
      => study your query results
  - [ ] Working at the workbench: how to interplay with Library, Text, analytic Tool-Kit
    - [ ] Analyze the text-grammar of Gen 20:1-4
    - [ ] Display the text in SHEBANQ
    - [ ] Question to Query
      - [ ] Who are the dominant actors in Gen 20?
        => search explicit subjects
      - [ ] Who is acted upon in Gen 20?
        => search explicit objects
      - [ ] Where do we have fronted elements?
        => search for clause-types with fronting
      - [ ] Findings Paragraph markers and background clauses
        => search for WayX clauses and narrative interruptions.
      - [ ] Valence of LKX[
    - [ ] Working on jupyter notebook "0000_ETCBC-TF_0001-BHS_ETCBC-db"

- [ ] Homework (due next day at 12pm)
  - [ ] Study Jupyter Notebook "0000_ETCBC-TF_0001-BHS_ETCBC-db" and finish the In-Class-Task section (upload your notebook to the Learninghub)
  - [ ] Read: Glanz, Oliver. "Bible Software on the Workbench of the Biblical Scholar: Assessment and Perspective." *AUSS* 56.1 (2018): 5–46. (https://digitalcommons.andrews.edu/auss/vol56/iss1/3/)
  - [ ] Translate: Gen 4:1 (upload your translation to the Learninghub)
  - [ ] Study Commentaries on Gen 4:1 and develop a research agenda: How do the commentaries render/analyze/interpret the phrase אֶת־יְהוָה? What type of research would you have to do in order to test Doukhan's suggestion to translate the phrase as an object phrase (or apposition of אִישׁ)? Upload your thoughts and research suggestion to the Learninghub)
    - [ ] Doukhan's commentary on Gen 4:1
    - [ ] Gerhard von Rad: Westminster
    - [ ] Claus Westermann: Hermeneia
    - [ ] John Walton: NIV Application Commentary

Seminar OT Exegesis: Day 02

Day #02

Study Jupyter Notebook "0000_ETCBC-TF_0001-BHS_ETCBC-db" and finish the In-Class-Task section (upload your notebook to the Learninghub)

0000 ETCBC-TF 0001-BHS ETCBC-db o.glanz

Read: Glanz, Oliver. "Bible Software on the Workbench of the Biblical Scholar: Assessment and Perspective." AUSS 56.1 (2018): 5–46. (https://digitalcommons.andrews.edu/auss/vol56/iss1/3/)

Translate: Gen 4:1 (upload your translation to the Learninghub)

Study Commentaries on Gen 4:1 and develop a research agenda (upload to Learninghub)

Day #03

Study Jupyter Notebook "0000_ETCBC-TF_0002-BHS_Gen20" and finish the In-Class-Task sections (upload your notebook to the Learninghub)

0000 ETCBC-TF 0002-BHS Gen20-Gen4 o.glanz

Close Reading: Read closely (in a good English translation [e.g. ASV] two times 2 Sam 1-5 and thus get well acquainted with the text.

Christian Vogel, The Nature of Davids Kingship at Hebron Revised

Read and Translate (see descriptions):

TF Queries (read description, upload your work to the Learninghub):

0000 ETCBC-TF 0003-BHS c.vogel dissertation-queries o.glanz stud-edition

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1 Working at the exegetical workbench

1.1 Setting up your workbench

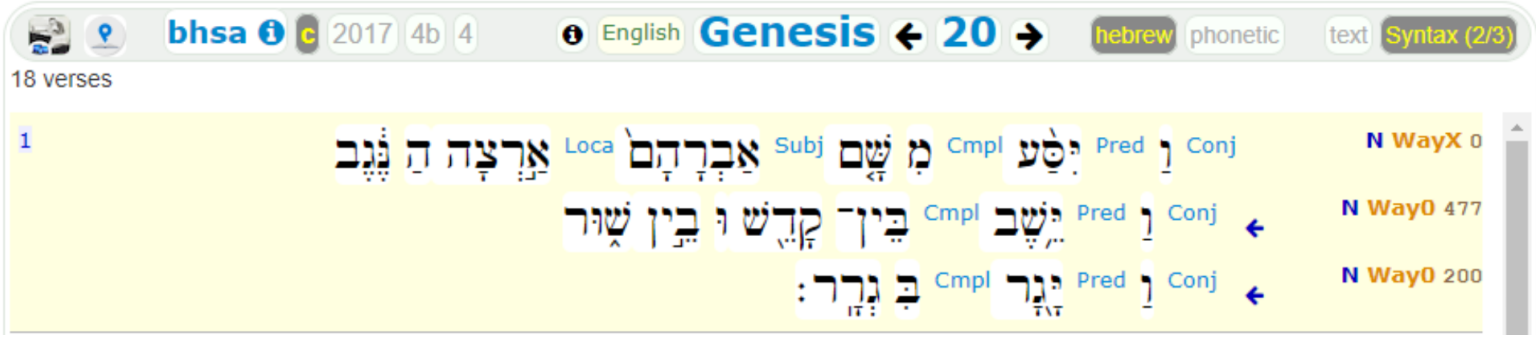
The most efficient way of working with Biblical Hebrew texts is by using *three* **tools**:

Tool	Function
The Library: commerical `BibleSoftware` (Logos, Accordance)	great for looking up dictionaries, commentaries, and annotating your text (notes, highlighting, etc.)
The Text with linguistic annotations on all language levels (phonology, morphology, syntax, text-grammar): `SHEBANQ`	great for understanding the linguistic structure of a text and registering database codes useful for building queries
The Analytic Tool-Kit: `Text-Fabric` (i.e. SHEBANQ-query-tool on steroids)	great for turning your exegetical questions into queries AND for analyzing your query results

1.2 `The Texts` in SHEBANQ

Lets pull up Gen 20 in SHEBANQ. Do the following:

1. Go to https://shebanq.ancient-data.org/
2. Click on "Text" in the upper left corner
3. Maneuver to Gen 20
4. Visualize the text-grammatical structure of Gen 20 by clicking on the "Notes (1/3)" button until it shows "Syntax (2/3)". You should see something like this:



```
# Task 1
# check out the relations operators by running the following code:
S.relationsLegend()
```

You can study how these relational operators are used by looking at the examples in this notebook:
https://nbviewer.jupyter.org/github/annotation/tutorials/blob/master/bhsa/searchRelations.ipynb

```
# Task 2
# search for clauses in Gen 20 in which we find >LHJM/ as subject
# with a predicate, where both words (subject and predicate) match in number.
# Look at your final result. Isn't there a surprising result? What might it tell you about Abraham's theology?
```

```
TwoSpeachesSameSpeaker = '''
verse book=Genesis chapter=20
  c1:clause domain=N
   phrase function=Pred
     word lex=DBR[|QR>[|>MR[
   phrase function=Subj
     speakerA:word lex*
   phrase function=Cmpl
     addresseeB:word lex*
  <3: clause domain=Q
c2:clause domain=N
  phrase function=Pred
    word lex=DBR[|QR>[|>MR[
  phrase function=Subj
    speakera:word lex*
  phrase function=Cmpl
    addresseeb:word lex*

c1 < c2
c1 <50: c2

speakerA .lex=lex. speakera
addresseeB .lex=lex. addresseeb
'''
TwoSpeachesSameSpeaker = A.search(TwoSpeachesSameSpeaker)
A.table(TwoSpeachesSameSpeaker, start=1, end=20, condensed=True)
```

```
# Task 3
# change the code and find all cases of this phenomenon in Gen 16
# (we could search the entire OT but that would take too long for this time)
# What observation do you make? And what does that mean for our case in Gen 20?
```

Seminar OT Exegesis: Day 03

T

- [ ] Logistics
  - [ ] PhD defense of Chris Vogel
    - [ ] Time: Arrive at 2:20pm latest! Doors close at 2:30pm. The defense takes 2h.
    - [ ] Location: S215
    - [ ] phd@andrews.edu
  - [ ] Project/Paper/Take Home exam - tell me by Thursday (tomorrow)
- [ ] Class Content
  - [ ] Discussing article "BibleSoftware on the Workbench of the Biblical Scholar".
  - [ ] Discussing assignment: "0000_ETCBC-TF_0001-BHS_ETCBC-db"
  - [ ] From Data processing to Data Interpretation: Arriving at textual meaning
  - [ ] Working at the workbench: how to interplay with Library, Text, analytic Tool-Kit
    - [ ] Analyze the text-grammar of Gen 20:1-4
    - [ ] Display the text in SHEBANQ
    - [ ] Question to Query
      - [ ] Who are the dominant actors in Gen 20?
        => search explicit subjects
      - [ ] Who is acted upon in Gen 20?
        => search explicit objects
      - [ ] Where do we have fronted elements?
        => search for clause-types with fronting
      - [ ] Findings Paragraph markers and background clauses
        => search for WayX clauses and narrative interruptions.
      - [ ] Valence of LKX[

- [ ] Homework (due next day at 12pm)
  - [ ] Study Jupyter Notebook "0000_ETCBC-TF_0002-BHS_Gen20-Gen4" and finish the In-Class-Task sections (upload your notebook to the Learninghub)

- [ ] Homework (due Tuesday at 12pm [ideally you have finished most of the homework on Sunday before 2pm])
  - [ ] Close Reading: Read closely (in a good English translation [e.g. ASV] two times 2 Sam 1-5 and thus get well acquainted with the text.
  - [ ] Read and Translate:
    - [ ] From Chris Vogel's dissertation read the following:
      - [ ] the Abstract (beginning of the document)
      - [ ] Chapter 1: Introduction: Background of the Problem => Methodology (pp1-9), Summery (p58)
      - [ ] Chapter 2:
        - [ ] Verse 3-4 (pp5-81) & Translate the Hebrew Text of 2 Sam 2:3-4
        - [ ] Verse 7 (p89) & Translate the Hebrew Text of 2 Sam 2:7
      - [ ] Chapter 3:
        - [ ] Verse 2 (pp165-167) & Translate the Hebrew Text of 2 Sam 3:2
      - [ ] Chapter 4:
        - [ ] Delimitation (pp253-254) & Translate the Hebrew Text of 2 Sam 4:1-2
        - [ ] Verse 1 (pp285-289) & Translate the Hebrew Text of 2 Sam 5:1
      - [ ] Chapter 5 - Conclusion (pp303-321)
  - [ ] TF Queries (upload your work to the Learninghub):
    - [ ] Choose 1 or 2 claims that are made in the sections of the dissertation that you read and studied.
    - [ ] Identify the argument that is being made for substantiating the claim.
    - [ ] Build at least 2 TF queries that test the claim you have chosen. Explain in your notebook what you are doing, why you are building the query the way you do, and how your query results contribute to the critical examination of Vogel's claims.
    - [ ] Feel free to consult me in the process in case you run into a problem.

2 Genesis 4:1

Lets investigate the case in Gen 4:1 and build a query that informs us about how to treat the issue and how to respond to the scholarly debate! I did some queries in SHEBANQ that should inform your own query building:

https://shebanq.ancient-data.org/hebrew/query?version=2017&id=946

https://shebanq.ancient-data.org/hebrew/query?version=2017&id=947

https://shebanq.ancient-data.org/hebrew/query?version=2017&id=948

```
# Task 4
# Study the SHEBANQ queries and rebuild all queries as TF queries.
```

```
# Task 5
# Look at the GT (stands for Greek Text = Septuagint) and check how it is rendered there.
# How do the GT translators treat our case?
```

```
# Task 6
# Write up a short conclusion. What is your decision on the matter. How should one translate the phrase in question,
# and what is right/wrong about the argumentation that you find in Jacques Doukhan's commentary on Genesis?
```

1 Response to Christian Vogel's Dissertation

2 Prelude

```
%load_ext autoreload
%autoreload 2
```

```
# First, I have to laod different modules that I use for analyzing the data and for plotting:
import sys, os, collections
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt; plt.rcdefaults()
from matplotlib.pyplot import figure
from collections import Counter

# Second, I have to load the Text Fabric app
from tf.fabric import Fabric
from tf.app import use
```

```
A = use('bhsa', hoist=globals())
```

```
        connecting to online GitHub repo annotation/app-bhsa ... connected
Using TF-app in C:\Users\Oliver Glanz/text-fabric-data/annotation/app-bhsa/code:
        rv1.2=#5fdf1778d51d938bfe80b37b415e36618e50190c (latest release)
        connecting to online GitHub repo etcbc/bhsa ... connected
Using data in C:\Users\Oliver Glanz/text-fabric-data/etcbc/bhsa/tf/c:
```

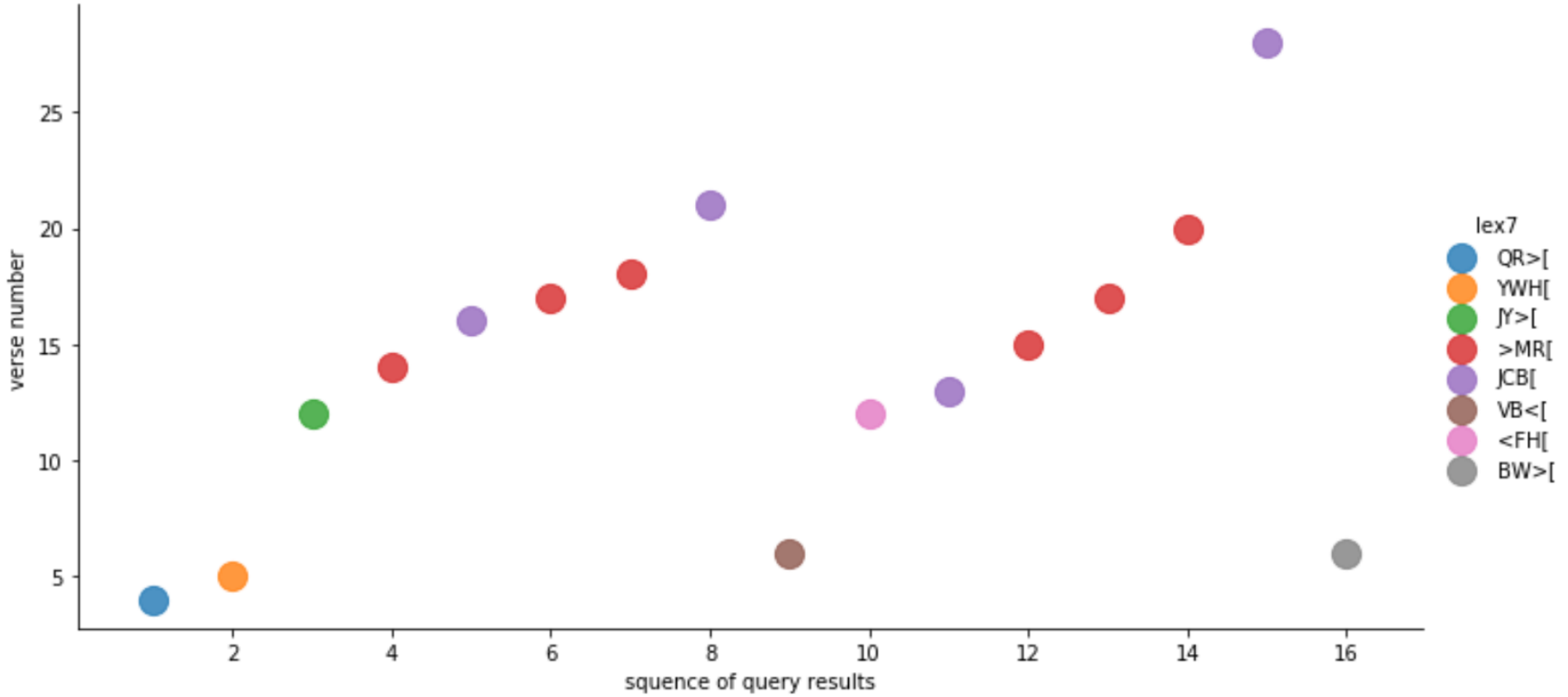
```
JeremiahX = '''
book book=Jeremia
    chapter chapter=36|37|38|39|40
            clause typ=WayX
                phrase function=Subj
                    word lex=JRMJH/|JRMJHW/
                phrase function=Pred
                    word sp=verb lex*
'''
JeremiahX  = A.search(JeremiahX)
A.table(JeremiahX, start=4, end=16, condensed=False, colorMap={2: 'red', 3: 'blue', 6: 'yellow', 8:'pink'})
```

4.46s 16 results

n	p	book	chapter		clause	phrase	word	phrase	word
4	Jeremiah 37			וַיֹּאמֶר יִרְמְיָהוּ		יִרְמְיָהוּ	יִרְמְיָהוּ	וַיֹּאמֶר	וַיֹּאמֶר
5	Jeremiah 37			וַיָּשֶׁב־יִרְמְיָהוּ שָׁם יָמִים רַבִּים׃ פ		יִרְמְיָהוּ	יִרְמְיָהוּ	וַיָּשֶׁב־	וַיָּשֶׁב־
6	Jeremiah 37			וַיֹּאמֶר יִרְמְיָהוּ		יִרְמְיָהוּ	יִרְמְיָהוּ	וַיֹּאמֶר	וַיֹּאמֶר
7	Jeremiah 37			וַיֹּאמֶר יִרְמְיָהוּ אֶל־הַמֶּלֶךְ צִדְקִיָּהוּ		יִרְמְיָהוּ	יִרְמְיָהוּ	וַיֹּאמֶר	וַיֹּאמֶר
8	Jeremiah 37			וַיָּשֶׁב יִרְמְיָהוּ בַּחֲצַר הַמַּטָּרָה׃		יִרְמְיָהוּ	יִרְמְיָהוּ	וַיָּשֶׁב	וַיָּשֶׁב

```
sns.lmplot(x="R", y="S3", data=JeremiahX, hue='lex7', height=5, aspect=2/1, fit_reg=False, scatter_kws={"s": 200})
ax = plt.gca()
ax.set_ylabel('verse number')
ax.set_xlabel('squence of query results')
```

```
Text(0.5, 20.80000000000002, 'squence of query results')
```



AIM	**⇒ Pattern detection** **⇒ Visualization** **⇒ Textual Criticism**
METHOD	**⇒ Jupyter notebooks**

jupyter 0000_ETCBC-TF_BHS_2101_ETCBC_LCS_o.glanz _prof-edition (autosaved)

Logout

File Edit View Insert Cell Kernel Navigate Widgets Help Not Trusted Python 3

Run Code

Contents

1 Introduction

	Ø	A	G	C	A	T
Ø	0	**0**	0	0	0	0
G	0	↑←0	↖1	←1	←1	←1
A	0	↖1	↑←1	↑←1	↖2	←2
C	0	↑1	↑←1	↖2	↑←2	↑←2

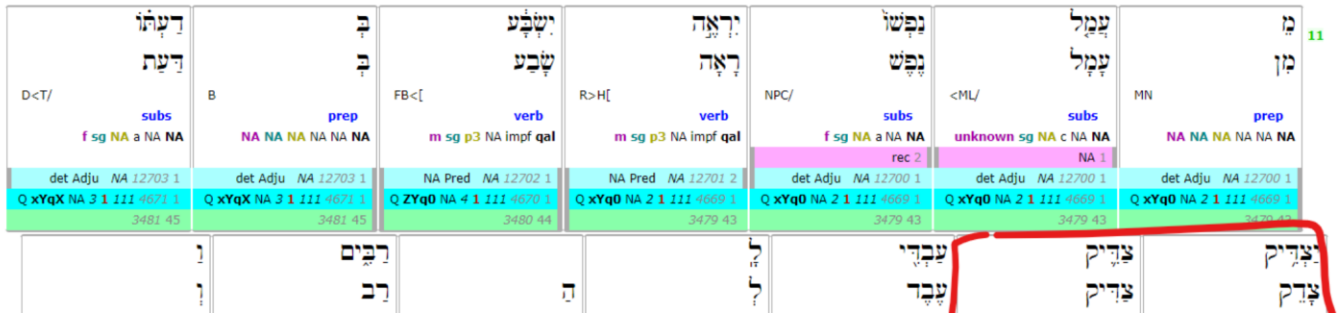
In this notebook I will use the LCS (Longest Common Subsequence) algorithm for finding similar sounding word pairs in the ETCBC database. The problem was first brought up by Lidvar Andvik (PhD student, Andrews University, SDATS).

He was asking whether it is possible to detect similar sounding word pairs in the TNK. As an example he used Isa 53:11:

11 מֵעֲמַל נַפְשׁוֹ יִרְאֶה[a] יִשְׂבָּע[b] בְּדַעְתּוֹ יַצְדִּיק צַדִּיק[c]

עַבְדִּי לָרַבִּים וַעֲוֹנֹתָם הוּא יִסְבֹּל׃

As one can see the words used in predicate and object position are very similar and belong to the same lexical family. However, they are two different lexemes:



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Scenario #3: PhD/Personal Research

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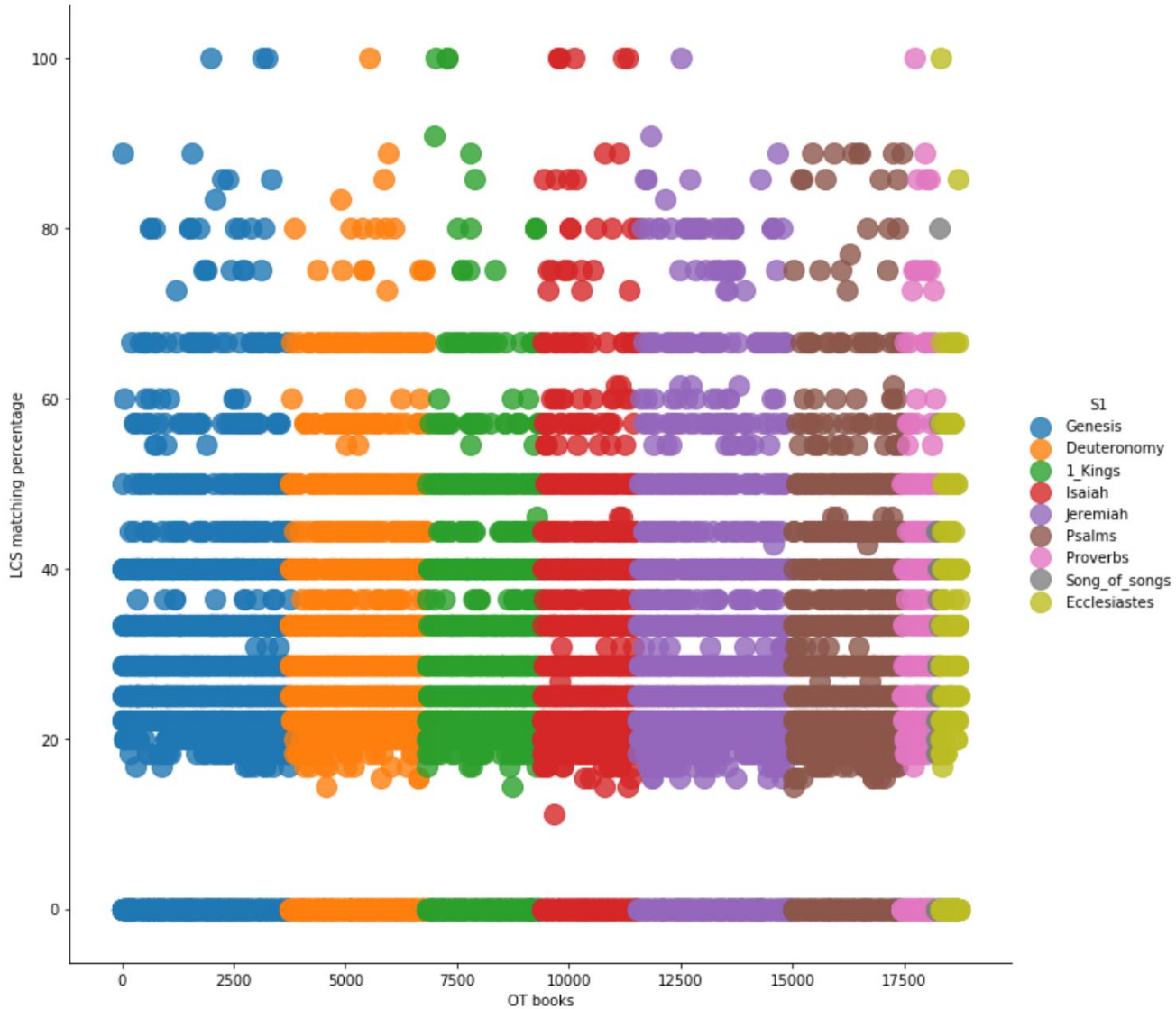
```
sns.lmplot(x="R", y="LCSObjcPredMeanMatch", data=PredObjWordListsXL, hue='S1', height=10, aspect=1/1, fit_reg=False, scatter_
ax = plt.gca()
ax.set_ylabel('LCS matching percentage')
ax.set_xlabel('OT books')
```

```
8]: Text(0.5, 20.799999999999983, 'OT books')
```



We can see quickly that Isiah, Jeremiah, and Psalms have a much higher density of high matching (>=80%) LCS cases.

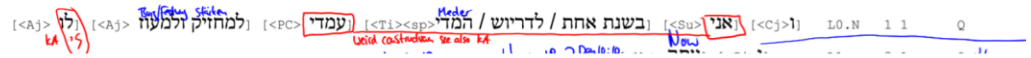
2 Dan 11:1

2.1 Linguistic Challenges

2.1.1 clause no01 - issue01

2.1.1.1 unexpected congruence between personal pronoun and pronominal suffix attached to predicate compl

There is an unexpected congruence between the personal pronoun (`prps`) as subject and the subject suffix (`prs`) o
(`PreC`). Both are 1sgC.



In the following query I seek to find other cases in which such a congruence takes place.

```
CongruenceOfSubjectandPreCSuffix='''
clause
    phrase function=Subj
        w1:word sp=prps ps=p1|p2
    phrase function=PreC
        w2:word prs_ps=p1|p2|p3
w1 .ps=prs_ps. w2
'''
CongruenceOfSubjectandPreCSuffix  = A.search(CongruenceOfSubjectandPreCSuffix)
A.table(CongruenceOfSubjectandPreCSuffix, start=1, end=12, condensed=True)
```

1.46s 12 results

n	p	verse	word	word	clause	phrase	phrase
1	Leviticus 26:34	אָז תִּרְצֶה הָאָרֶץ אֶת־שַׁבְּתֹתֶיהָ כָּל יְמֵי הֶשֹּׁמָּה וְאַתֶּם אֹיְבֵיכֶם בְּאֶרֶץ וְאַתֶּם בְּאֶרֶץ	אַתֶּם	אֹיְבֵיכֶם	וְאַתֶּם בְּאֶרֶץ	אַתֶּם	בְּאֶרֶץ

2.1.1.2 Results and Questions

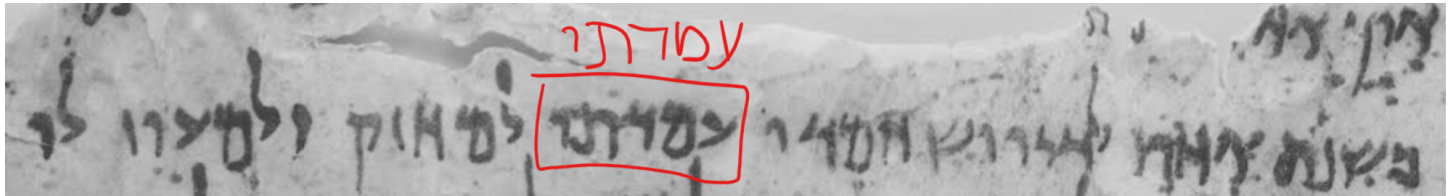
- As can be seen the case in Dan 11:1 is exceptional and does nowhere else appear. The other 11 cases do not count as the suffix does not appear on the head of the `PreC` and is either part of a prepositional phrase or a regens-rectum construction (cf. Judges 6:15). The following query shows a more restricted query that excludes prepositional phrases and regens-rectum constructions by defining that the suffixed word needs to stand at the head of the `PreC` phrase and cannot be attached to a preposition (`prep`):

```
CongruenceOfSubjectandSubjectSuffixAtPreCHead='''
clause
    p1:phrase function=Subj
        w1:word sp=prps ps=p1|p2
    p2:phrase function=PreC
        w2:word prs_ps=p1|p2|p3 sp#prep
w1 .ps=prs_ps. w2
p2 =: w2
'''
CongruenceOfSubjectandSubjectSuffixAtPreCHead  = A.search(CongruenceOfSubjectandSubjectSuffixAtPreCHead)
A.table(CongruenceOfSubjectandSubjectSuffixAtPreCHead, start=1, end=12, condensed=True)
```

1.56s 1 result

n	p	verse	clause	word	phrase	phrase	word
1	Daniel 11:1	וְאָנִי בִּשְׁנַת אַחַת לְדָרְיָוֶשׁ הַמָּדִי עָמְדִי לְמַחֲזִיק וּלְמָעוֹז לוֹ׃	וְאָנִי בִּשְׁנַת אַחַת לְדָרְיָוֶשׁ הַמָּדִי עָמְדִי לְמַחֲזִיק וּלְמָעוֹז לוֹ׃	אָנִי	אָנִי	עָמְדִי	עָמְדִי

- One would expect that the the `PreC` (עמד) is actually made out of a participal form of עמד (as is done in the Syriaca: || c l עמד cf ܩ ||) instead of the nominal form עָמְדִי. However, the above queries also searches for participal `PreC` 's. Thus, even when changing the analysis of עָמְדִי into עמד the syntax of the first clause of Dan 11:1 would still represent an unkown grammatical construction (assuming this is classical or transitional Biblical Hebrew). While the Hebrew does not appear to make sense (at least grammatically speaking), both the Old Greek and Theodotion make sense. Theodotion renders:καὶ ἐγὼ ἐν ἔτει πρώτῳ Κύρου ἔστην εἰς κράτος καὶ ἰσχύν Rahlfs Alternate Text// "And I in the first year of Cyrus was [I] standing for power and strength."
- Insightful is the rendering in 4Q114(4Q Dan c) with עמדתי which solves the problem ("I, I was standing").



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4.2 Looking at 11QpsalmsA/11Q5

Lets have a look at another beautifully written DSS scroll, the Psalms Scroll: Below you see column VII-XIII of that scroll:

4.2.1 Displaying the first lines of column X and XI

We want to look at the first three lines (`line line = 1|2|3`) of column X and column XI (`fragment fragment=10|11`) and there each of the first three lines with the help of the TF-DSS app:

```
FirstLineOf11QpsalmsA ='''
scroll scroll=11Q5
    col10:fragment fragment=10|11
        line line=1|2|3
'''
FirstLineOf11QpsalmsA=A.search(FirstLineOf11QpsalmsA)
```

```
  0.43s 6 results
```

```
A.table(FirstLineOf11QpsalmsA, start=1, end=6, withNodes=True, colorMap={3: 'magenta'}, fmt='layout-orig-full')
```

n	p	scroll	fragment		line
1	11Q5 10	scroll 11Q5 *1606836*	fragment 10 *1542375*	*1603820* :	כלתה עיני לאמרת׳כה לאמור מתי תנחמ׳ני
2	11Q5 10	scroll 11Q5 *1606836*	fragment 10 *1542375*	*1603821* :	כי עשית׳ני כנאוד בקיטור חסד׳כה לוא שכחתי
3	11Q5 10	scroll 11Q5 *1606836*	fragment 10 *1542375*	*1603822* :	כמה ימי עבד׳כה מתי תעשה ברודפ׳י משפט
4	11Q5 11	scroll 11Q5 *1606836*	fragment 11 *1542376*	*1603835* :	נר לרגלי דבריכה אור לנתיבותי
5	11Q5 11	scroll 11Q5 *1606836*	fragment 11 *1542376*	*1603836* :	נשבעתי ואקימה לעשות משפט צדק׳כה
6	11Q5 11	scroll 11Q5 *1606836*	fragment 11 *1542376*	*1603837* :	נעויתי עד מואד׳ה יהוה כאמרת׳כה חונ׳ני

What we see is the text of Psa 119:82-84 (column X, line 1-3) and Psa 119:105-107 (column XI, line 1-3).

4.2.2 Displaying the photocopy of the actual scroll

We can now click on the hyperlink and look at the actual scroll:

n	p	scroll	fragment		line
1	11Q5 10	scroll 11Q5 *1606836*	fragment 10 *1542375*	*1603820* :	כלתה עיני לאמרת׳כה לאמור מתי תנחמ׳ני

CONCLUSION:

- ⇒ The need for SHEBANQ
- ⇒ The need for TF
- ⇒ Wishlist:
  - ⇒ Linked corpora (e.g. BHS + DSS)
  - ⇒ LXX + NA
  - ⇒ Linked lexemes
  - ⇒ Single Installation Package?

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