(v. 2) Module 7 - Analysis and synthesis of interpretation results

Start of Block: INFO ABOUT YOU & EXERCISE

# IS THIS A TRIAL?

Before you begin, please check the choice below if this is just a trial or experimental exercise that should be ignored in collecting outputs from this module.

[ ]  Check this field if this is just a trial.

# OPEN RESEARCH POLICY STATEMENT

The modules of the WE1S Interpretation Protocol create records of research that support the project's aim of advancing "open, generalizable, and replicable digital humanities methodology" (see project ["About"](http://we1s.ucsb.edu/about/) statement). This aim is related to current practices of ["open science"](https://en.wikipedia.org/wiki/Open_science) and ["open-notebook science."](https://en.wikipedia.org/wiki/Open-notebook_science) The basic idea is that the materials, methods, steps, and findings of research should be transparent so that other researchers know how conclusions were reached and can test or reproduce the process--an ideal that is especially needed for understanding such machine-learning methods as topic modeling (see [WE1S bibliography on machine-learning interpretability](https://we1s.ucsb.edu/research/we1s-bibliography/bibliography-interpretability-and-explainability/)).

In completing this and other modules of the WE1S Interpretation Protocol you are creating an "open notebook" that in principle can be shared with others as a public record of research. *Please be sure that all descriptions, observations, and notes you write in this module are consistent with being part of public record--that is, appropriate in tone, respectful to others, and not in violation of privacy or copyright restrictions*.

*However please also do not let the ideal of open-notebook science inhibit you from speculative or tentative in-progress commentary*. It is understood that research, open or otherwise, is a *process* of finding knowledge with many stages and levels of confidence. (At the conclusion of this and other modules of the Interpretation Protocol, you will be asked to rate your confidence level in the current exercise.)

*In addition, lab notebooks are allowed to be messy as a part of the research process.* It is not expected that notes written into these modules be copyedited as if for formal publication. (The time for polishing is later when writing up a report synthesizing results from one or more modules of this Interpretation Protocol.)

# EXERCISE INFO

**Please enter the following the following information, which will generate an "Exercise ID".** (Tab from input field to input field to force calculation of the Exercise ID.)

* **Your name or team name**. (If team, then use the format "Team1", "Team2", etc. Please do not use a space): **[Name]**
* **Interpretation project number** (e.g., "4," indicating that this is the fourth interpretation project for you or your team that the exercise with this module is part of): **[Project#]**
* **Which stage of your present interpretation project does this module represent?** (E.g., if this module is the second you have used in the sequence of modules for the same interpretation project, then write the number "2" here. If multiple team members are working in parallel using various modules, then follow the convention of adding name-abbreviation—e.g., 2AL: **[Stage#]**
* **The *present* Interpretation Protocol module you are using is set as follows**: **7**(This is part of your auto-generated exercise ID below, and cannot be altered in the present module document.)
* **Today's date in the format YYYY-MM-DD (e.g., 2020-07-06)** (use the date-picker calendar): **[Date]**

**Your team folder in the project Google team working space.**
This refers to your team working folder for notes, reports, materials, etc. related to interpretation work in the WE1S Google Team drive’s [\_Team Working Space](https://drive.google.com/drive/u/1/folders/1er05JpagMNlfdnMIvcCVgwbweGkGeSua) folder. Go there to find the folder your team created for your work.

**[FolderURL]**

# Exercise ID

The ID for the present exercise (generated from the information you just provided) is as follows. (If you see a mistake, please go "back" in this survey and correct the information that generated the Exercise ID.)

[Name]**\_** [Project#]\_ [Stage#]\_7\_ [Date]

# Exercise Description

To assist in remembering what the exercise using this module is about, please enter below **a very brief description of what you are currently doing** (e.g., "We are now going to compare the keywords 'humanities' and 'sciences' in the 20190621\_2132\_us-humanities-top-newspapers---topics200 model.")

Click or tap here to enter text.

# Topic model you are studying

For the topic model you are studying, please enter below its **"topic model name"** and "**start page"** URL. A **"topic model name"** looks like this: *"20190621\_2132\_us-humanities-top-newspapers---topics200"*. You can locate this name in the [Registry of WE1S Topic Models](https://docs.google.com/spreadsheets/d/1n9nCzHut5aZEYRiSx5QD_yiiaLO9TeeQgwJJPd1ATt0/edit#gid=0). Note that this is the name of the specific granularity of the model you are studying (number of topics). The **"start page"** is the URL of the overall topic model (including all its granularities and their visualizations) listed on this page on the Harbor 10002 server: [Index of / projects/](http://harbor.english.ucsb.edu:10002/projects/). (You can also find this URL in the Registry of WE1S Topic Models.) A start page URL looks like this: http://harbor.english.ucsb.edu:10002/projects/20190621\_2132\_us-humanities-top-newspapers/

**Topic model name**: Click or tap here to enter text.

**"Start page" URL**: Click or tap here to enter text.

# Research question you are addressing

Please enter below information about the research question you are addressing in this exercise. You can find this information in the "Registry of WE1S Research Questions." (If you are taking an overview of a model prior to working on a specific research question, just enter "Taking an overview")

**Research question**:

Click or tap here to enter text.

**Operationalized form of question**:

Click or tap here to enter text.

**Research question ID** (use the format "team2-q1", representing in this example team 2's first research question): Click or tap here to enter text.

# Previous Interpretation Protocol modules you used to address your research question (if any) [optional]

Enter in sequence below any Interpretation Protocol modules you have already completed in previous steps of your current interpretation project. For example, if for steps 1-3 preceding this exercise (where the current exercise is now step 4 in the sequence) you previously used modules 3a, 3b, and 3c in that order, then enter those module numbers in that sequence.

 **Previous module sequence**: Click or tap here to enter text.

End of Block: INFO ABOUT YOU & EXERCISE (v. 2, created 9 June 2019, rev. 7 July 2019)

Start of Block: WHAT THIS MODULE DOES

# What module 7 does

(Module 7, v. 2, created 27 June 2019; last rev. 27 June 2019.)

This module of the WE1S topic model Interpretation Protocol assumes that you have previously used other modules to address your research question and are now ready to start analyzing and synthesizing your results. Analysis and synthesis is work that bridges between lower-levels of observation an higher levels of abstraction. By its nature, such work must be flexible and cannot be guided with step-by-step precision.

Module 7 respects the free-form nature of analysis and synthesis at the end of a research process, but asks you to pass through some standard waypoints (e.g., asks you to collect together and prioritize your most important findings) and provide some documentation of your thinking at this point.

The output from module 7 will be a set of structured notes that can facilitate the final step in your research process: writing up a report.

End of Block: WHAT THIS MODULE DOES

Start of Block: REVIEW AND COLLECT FINDINGS

Step 1. Review your research so far

Read over the outputs from the previous modules of the Interpretation Protocol that you used. Highlight and annotate the key findings and materials your research has produced that bear on your research question. Then proceed to to following steps in this module.

|  |
| --- |
|  |

Step 2. Collect your key findings

Gather together below your key findings bearing on your research question. You can do so in whatever form you wish (e.g., list of points, excerpts from notes in previous modules, etc.) Good practice is to cite the module you used in discovering any really important finding.

*Start a running note for your key findings:*

[RunningNote1]

End of Block: REVIEW AND COLLECT FINDINGS

Start of Block: COLLECT KEY TAKEAWAYS

Step 3. Collect your key "takeaways"

From your previous modules, collect together here your most important "research takeaways"--examples, evidence, and other materials. (Some takeways like screenshots may be in a form stored elsewhere. In such cases, note here their location.)

*Start a running note for your key “takeaways”:*

[RunningNote2]

End of Block: COLLECT KEY TAKEAWAYS

Start of Block: ANALYSIS & SYNTHESIS

Step 4. Analysis and synthesis

Add to your running notes below analytical/synthetic thoughts about your findings and takeaways that help answer your research question. Such thoughts can be a list of ideas, sentences or paragraphs, perhaps even a link to a drawing or diagram you have made--whatever helps you begin to shape your observations into a higher-level set of ideas that can eventually be made into an argument.

*Add or revise to your previous notes for the purpose of analysis & synthesis. (Editing these “running notes” will simultaneously change them earlier in this document.)*

**Your notes on key findings**:

[RunningNote1]

**Your notes on key “takeaways”**:

[RunningNote2]

End of Block: ANALYSIS & SYNTHESIS

Start of Block: CHALLENGES

Step 5. What challenges did you encounter?

What were the most important research challenges, bottlenecks, or other problems that you encountered in addressing your research question? *(Add to your earlier notes.)*

*Enter your thoughts on challenges in the new running note field at the bottom of this box. (For convenience, your earlier notes are repeated here first. Editing these “running notes” will simultaneously change them earlier in this document.)*

**Your notes on key findings**:

[RunningNote1]

**Your notes on key “takeaways”**:

[RunningNote2]

**Enter your thoughts on challenges in the note field below**:

[RunningNote3

End of Block: CHALLENGES

Start of Block: ANSWER YOUR RESEARCH QUESTION

**Step 6 (last step). What is the answer to your research question?**

If it is possible for you to do so, write down here the gist of the answer you are now prepared to give to your research question--something like the "abstract" of a report. Then outline some key points in an argument you foresee writing later in your final report on this research exercise.

Of course, one possible outcome of your research is the conclusion that you were not able to answer your question satisfactorily. If so, jot down here any ideas you have for a possible interesting report on what you nevertheless learned. Or jot down ideas for reshaping your research question (or your topic model and its underlying collection of documents) that would allow you to reach a better conclusion.

*What is the answer to your research question?* (Enter in the field below)

[FinalNote]

End of Block: ANSWER YOUR RESEARCH QUESTION

Start of Block: RESEARCH TAKEAWAYS (v. 2, created 23 June 2019; rev. 27 June 2019)

|  |
| --- |
|  |

## TAKEAWAYS: Before you finish: Research Takeaways?

After studying your topic model in this exercise, are there any research takeaways you want to record, store, describe, or log (depending on the nature of the takeaway) to provide key evidence, materials, and data that can be used in writing up a report on your research question or for future humanities advocacy? For example, a research takeaway can be:

* Evidence in the form of an important topic(s) or relation between topic(s) and words, documents that you want to describe so that you can find it again;
* A screenshot of something you found while analyzing your topic model with one of the Topic Model Observatory visualization interfaces;
* Citations for or excerpts from key documents associated with a topic (e.g., three newspaper articles you want to use in a report);
* A text copy of words in a topic ranked by proportional weight;
* Etc.

If you have found such research takeaways, record, store, or describe them as appropriate in your team folder on the WE1S Google team drive. You may also want quickly to log or make a note about your takeaways in the field below in order to have a record of them as associated with this survey. That way, when you read over your survey results, you can remember what you took away and where you stored or annotated it. P.S. Some of the Topic Model Observatory interfaces may also allow you to use the [Hypothes.is](https://web.hypothes.is/) web annotation tool to highlight or annotated them in your browser for private or shared use.

## Companion questions?

"Companion questions" may be defined as questions that help provide context for the research question you are currently addressing or that are follow-on questions you might want to pursue later. WE1S asks you periodically to consider if companion questions have occurred to you because it's a good way to prevent the kind of "tunnel vision" that research can sometimes create.

This is best explained by way of example. Suppose that your research question concerns the degree and nature of discussion about the "humanities crisis." A tunnel-vision view of the problem would be to consider only discussion of the "humanities crisis." A contextually wider view would consider companion questions such as the following: what is the degree and nature of discussion about *other* kinds of crisis by comparison? For example, in what other contexts (political, economic, spiritual, etc.) does the word "crisis" tend to appear? Do mentions of "crisis" in all these contexts tend to spike up together, or be concentrated in certain kinds of media or sources? Etc.

Having advanced on your research question using the present module, have any "companion questions" occurred to you? I**f so, please set them down here so that they can be remembered for possible future use:**

End of Block: RESEARCH TAKEAWAYS (v. 2, created 23 June 2019; rev. 27 June 2019)

Start of Block: SURVEY END (v.2, created 20 June 2019, rev. 28 June 2019)

## CONFIDENCE? Final consideration -- Confidence assessment

It is possible after conducting an interpretation exercise to conclude that you have either high or low confidence in the results (with confidence descending all the way down to a null result).

Please rank your level of confidence in the results of this interpretation exercise on the following scale:

1 ----------------------------------------------------- to ------------------------------------------------- 10

 (1 = null result) (10 = full confidence)

Choose a confidence value.

## Suggestions about this module?

Do you have any suggestions about this module of the WE1S Interpretation Protocol (problems, improvements)?

## **Important**: Save this completed module in your team working folder.

Please save this completed module of the Interpretation Protocol in your team’s working folder:

**[FolderURL]**

This module is part of the documentary evidence trail for your future research reports and Key Finding cards.

END **This is the end of the current module of the WE1S Interpretation Protocol.**

End of Block: SURVEY END (v.2, created 20 June 2019, rev. 28 June 2019)