

W3-4 Methodology Reflection & Update

📅 Date	@June 8, 2022
☰ what	
👤 Who documented	👤 Junyi Tao
⌘ Time (h)	4

Workflow Review

Where We Are (Yeah!)

Progress Highlight

[Database Demo!](#)

[Workflow SUSTAINABILITY!](#)

[InfluNet Updates](#) =shed light on⇒ [Future Workflow](#)

Methodology Reflection

[What works/does not work well](#)

[Questions and Thoughts](#) ⇒ [Orientations and Actions](#)

? [Questions to Ask](#)

[Goals Review](#)

Workflow Review

Note: Argument, interpretation, and any explanation for each action should be recorded



1. information extraction → 2. preprocess, transform, and represent the data → 3. import data into the database → 4. graph design →
5. build visualization → 6. maintain and evolve the database

Where We Are (Yeah!)

- For tasks 1 and 2, Karen and Junyi designed the template (schema) together, and then Karen clean the inconsistent records and input them into the json file

Data source: from the correspondences between Princess Elisabeth to Descartes that Project Vox research team put in the excel

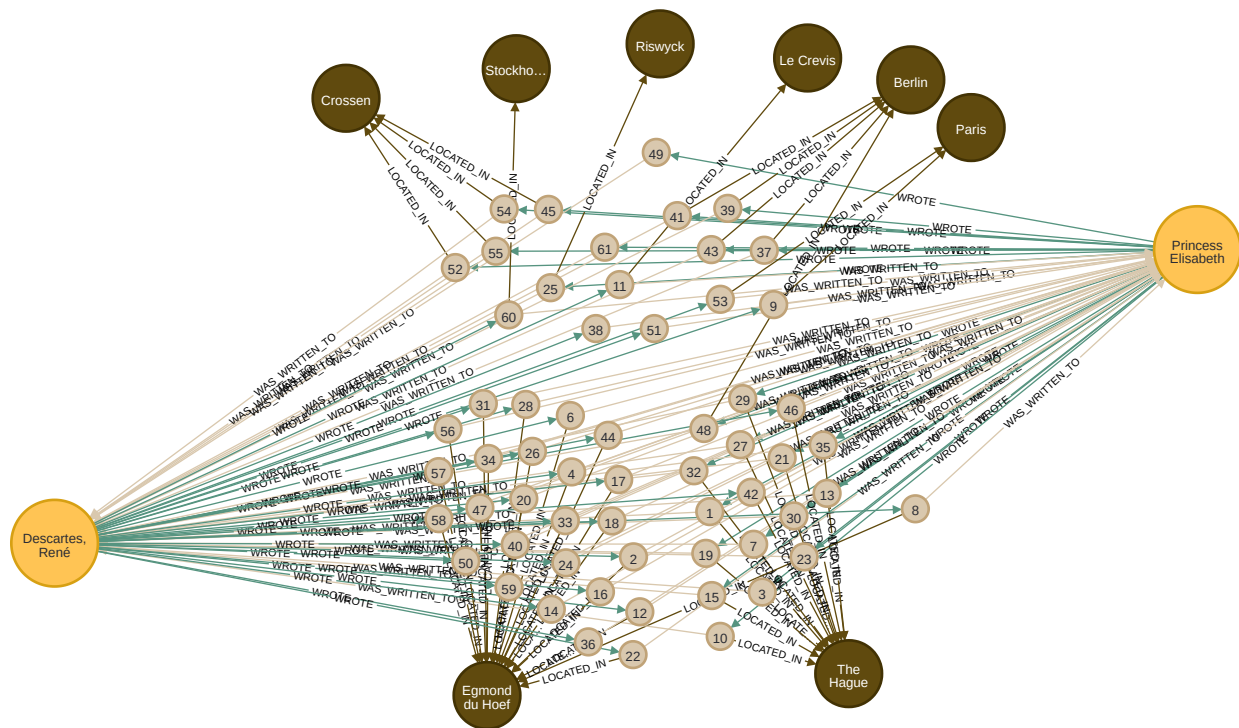
- ▼ see Karen's reflection

https://s3-us-west-2.amazonaws.com/secure.notion-static.com/cc76c687-8742-492d-ae2d-29c3edc836aa/Karen_-_Individual_Reflection_for_Week_3.html

- For tasks 2, 3, and 6, Junyi checked and cleaned the json file → revised the data schema by writing a python program to transform the dictionaries (json)
- **Task 3** workflow checked! Junyi successfully import the data into neo4j (graph database) and show the team a basic visualization from the back end; for sustainability, Junyi designed a workflow from user-friendly, simple data input to graph database (json → multiple csv's → update json)
- For **tasks 1-6**, Junyi is wrapping up Wiki InluNet project and summarizing the inspirations we can get form this practice
- *Good News*: Junyi and Karen got approved by SW mentor to further develop this project into their SWs; they have started writing proposals

Progress Highlight

Database Demo!



Workflow SUSTAINABILITY!

Sustainable workflow of updating data

1. **Start:** input data (in a comfortable way)
2. **Transform** input data \Rightarrow import into graph database (json)
3. graph database (a large json file) \Rightarrow regular database (multiple linked csv files)

▼ People

```
{
  "name": "Princess Elisabeth",
  "sameAs": [],
  "roles": [
    "philosopher"
  ],
  "connections": [
    {
      "type": "correspondence",
      "label": [],
      "from": "Princess Elisabeth",
      "to": "Descartes, Ren\u00e9",
      "id": "1",
      "source": {
        "projectvox_team": [
          "Shapiro 61-2"
        ],
        "electronic_enlightenment": ""
      },
      "date": [
        "05/06/1643"
      ],
      "location": [
        "The Hague"
      ],
      "context": [
        {
          "Project Vox team record": "Descartes' Meditations on First Philosophy (1641).",
          "secondary source": "",
          "quotes from the letter": ""
        }
      ]
    }
  ]
}
```

```

    ],
    "relatesTo": [],
    "content": {
      "original": {
        "text": "available",
        "details": [
          {
            "verb": "",
            "concept": ""
          }
        ]
      },
      "interpretation": [
        {
          "Project Vox team record": "After some reservation about writing to him, Elisabeth asks Descartes to c
          "secondary source": "",
          "quotes from the letter": "'I ask you for a more precise definition of the soul than the one you give
        ]
      ]
    }
  }
}

```

	name	sameAs	roles	connections
0	Princess Elisabeth	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
1	Descartes, René	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
2	Princess Elisabeth	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
3	Descartes, René	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
4	Descartes, René	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
5	Princess Elisabeth	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
6	Descartes, René	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
7	Descartes, René	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
8	Princess Elisabeth	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...
9	Descartes, René	[]	['philosopher']	[{'type': 'correspondence', 'label': [], 'from...

▼ Connection (correspondence)

```

{
  "type": "correspondence",
  "label": [],
  "from": "Princess Elisabeth",
  "to": "Descartes, Ren\u00e9",
  "id": "1",
  "source": {
    "projectvox_team": [
      "Shapiro 61-2"
    ],
    "electronic_enlightenment": ""
  },
  "date": [
    "05/06/1643"
  ],
  "location": [
    "The Hague"
  ],
  "context": [
    {
      "Project Vox team record": "Descartes' Meditations on First Philosophy (1641).",
      "secondary source": "",
      "quotes from the letter": ""
    }
  ]
}

```

```

    "relatesTo": [],
    "content": {
      "original": {
        "text": "available",
        "details": [
          {
            "verb": "",
            "concept": ""
          }
        ]
      },
      "interpretation": [
        {
          "Project Vox team record": "After some reservation about writing to him, Elisabeth asks Descartes to clarify his",
          "secondary source": "",
          "quotes from the letter": "'I ask you for a more precise definition of the soul than the one you give in your"
        }
      ]
    }
  }
}

```

	type	label	from	to	id	source	date	location	context	relatesTo	content
0	correspondence	□	Princess Elisabeth	Descartes, René	1	{'projectvox_team': ['Shapiro 61-2'], 'electro...	['05/06/1643']	['The Hague']	[('Project Vox team record': 'Descartes' Medit...	□	{'original': {'text': 'available', 'details': [...
1	correspondence	□	Descartes, René	Princess Elisabeth	2	{'projectvox_team': ['Shapiro 63-7'], 'electro...	['05/21/1643']	['Egmond du Hoef']	[('Project Vox team record': 'Reply to ibid.',...	□	{'original': {'text': 'available', 'details': [...
2	correspondence	□	Princess Elisabeth	Descartes, René	3	{'projectvox_team': ['Shapiro 67-9'], 'electro...	['06/10/1643']	['The Hague']	[('Project Vox team record': 'Reply to ibid.',...	□	{'original': {'text': 'available', 'details': [...
3	correspondence	□	Descartes, René	Princess Elisabeth	4	{'projectvox_team': ['Shapiro 69-71'], 'electr...	['06/28/1643']	['Egmond du Hoef']	[('Project Vox team record': 'Reply to ibid.',...	□	{'original': {'text': 'available', 'details': [...
4	correspondence	□	Descartes, René	Princess Elisabeth	6	{'projectvox_team': ['Shapiro 73-7', 'Foucher ...	['11/17/1643']	['Egmond du Hoef']	[('Project Vox team record': 'From Jonathan Be...	□	{'original': {'text': 'available', 'details': [...
5	correspondence	□	Princess Elisabeth	Descartes, René	7	{'projectvox_team': ['Shapiro 77', 'Foucher 54...	['11/21/1643']	['The Hague']	[('Project Vox team record': 'Reply to ibid.',...	□	{'original': {'text': 'available', 'details': [...
6	correspondence	□	Descartes, René	Princess Elisabeth	8	{'projectvox_team': ['Shapiro 78-81'], 'electr...	['11/29/1643']	['Egmond du Hoef']	[('Project Vox team record': 'Reply to ibid.',...	□	{'original': {'text': 'available', 'details': [...
7	correspondence	□	Descartes, René	Princess Elisabeth	9	{'projectvox_team': ['Shapiro 81-2', 'Bennett ...	['07/08/1644']	['Paris']	[('Project Vox team record': 'From\xa0Shapiro\...	□	{'original': {'text': 'available', 'details': [...

4. User-friendly, automated Input transformation:

a. csv (follow the structure, with data types) ⇒ json

b. preprocess the csv ⇒ csv ⇒ json

Property values can only be of primitive types or arrays

c. design the user interface, a simple app...?

InfluNet Updates = shed light on ⇒ Future Workflow

1. A flexible database structure that can be updated easily and takes account of biases embedded in data collection and interpretation

▼ Previous database:

```

{
  "name": "\u00c9milie du Ch\u00e2teau",
  "wikiPage": "https://en.wikipedia.org/wiki/\u00c9milie_du_Ch\u00e2teau",
  "dbUrl": "https://dbpedia.org/page/\u00c9milie_du_Ch\u00e2teau",
  "wikiPageID": "1002045",
  "influences": [],
  "influencedBy": [
    "Willem's_Gravesande",
    "Gottfried_Wilhelm_Leibniz",
    "Isaac_Newton"
  ]
}

```

```

],
"isInfluencedOf": [
    "Pierre_Louis_Maupertuis",
    "Willem_'s_Gravesande"
],
"isInfluencedByOf": [],
"abstract": "Gabrielle \u00c9milie Le Tonnelier de Breteuil, Marquise du Ch\u00e2teau de Breteuil (French pronunciation: [emili dy \u028c\u028a\u028c\u028a])",
"birthYear": "",
"deathYear": "",
"birthPlace": "Paris,Kingdom_of_France",
"deathPlace": "Lun\u00e9ville,Kingdom_of_France",
"gender": 0,
"born": -2211710400,
"influence_merged": [],
"influencedBy_merged": [
    "Gottfried_Wilhelm_Leibniz",
    "Willem_'s_Gravesande",
    "Isaac_Newton",
    "Pierre_Louis_Maupertuis"
],
"influence_dict": [],
"influencedBy_dict": [
    {
        "name": "Gottfried_Wilhelm_Leibniz",
        "wikiPageID": "12281"
    },
    {
        "name": "Willem_'s_Gravesande",
        "wikiPageID": ""
    },
    {
        "name": "Isaac_Newton",
        "wikiPageID": "14627"
    },
    {
        "name": "Pierre_Louis_Maupertuis",
        "wikiPageID": "196221"
    }
]
}

```

▼ **Current database:**

```
{
  'entity': 'Émilie du Châtelet',
  'gender_listed': 0,
  'inclusion': 'main: included; women: included',
  'referred_name': 'Émilie du Châtelet',
  'wiki_url': 'https://en.wikipedia.org/wiki/Émilie_du_Châtelet',
  'db_url': 'https://dbpedia.org/page/Émilie_du_Châtelet',
  'dbpedia_info': {'label': 'Émilie du Châtelet',
    'wikiPageID': '1002045',
    'db_influence_record': {'influences': [],
      'influencedBy': ['Willem_s_Gravesande',
        'Gottfried_Wilhelm_Leibniz',
        'Isaac_Newton'],
      'isInfluencesOf': ['Pierre_Louis_Maupertuis', 'Willem_s_Gravesande'],
      'isInfluencedByOf': [],
      'influence_merged': [],
      'influencedBy_merged': ['Isaac_Newton',
        'Pierre_Louis_Maupertuis',
        'Gottfried_Wilhelm_Leibniz',
        'Willem_s_Gravesande']},
    'abstract': "Gabrielle Émilie Le Tonnelier de Breteuil, Marquise du Châtelet (French pronunciation: [emili dy ʃatle]; 17 December 1692 – 10 September 1748) was a French philosopher, mathematician, and physicist. She was the first woman to publish a scientific paper, and was one of the first women to become a member of the Académie des Sciences. She was also a leading philosopher of science, and was one of the first women to become a member of the Académie des Sciences. She was also a leading philosopher of science, and was one of the first women to become a member of the Académie des Sciences.",
    'birthYear': '',
    'deathYear': '',
    'birthPlace': 'Paris,Kingdom_of_France',
    'deathPlace': 'Lunéville,Kingdom_of_France',
    'sameAs': ['freebase:Émilie du Châtelet',
      'dbpedia-commons:Émilie du Châtelet',
      'http://viaf.org/viaf/76345646',
      'http://d-nb.info/gnd/118681028',
      'http://d-nb.info/gnd/159468655',
      'wikidata:Émilie du Châtelet',
      'dbpedia-ar:Émilie du Châtelet',
      'http://arz.dbpedia.org/resource/إيميلي_دو_شاتليه',
      'http://ast.dbpedia.org/resource/Émilie_du_Châtelet',
      'dbpedia-az:Émilie du Châtelet',
```

```
'http://azb.dbpedia.org/resource/امیلی_دو_شانله',
'dbpedia-bg:Émilie du Châtelet',
'dbpedia-br:Émilie du Châtelet',
'dbpedia-ca:Émilie du Châtelet',
'dbpedia-cs:Émilie du Châtelet',
'dbpedia-cy:Émilie du Châtelet',
'dbpedia-da:Émilie du Châtelet',
'dbpedia-de:Émilie du Châtelet',
'dbpedia-el:Émilie du Châtelet',
'dbpedia-eo:Émilie du Châtelet',
'dbpedia-es:Émilie du Châtelet',
'dbpedia-et:Émilie du Châtelet',
'dbpedia-eu:Émilie du Châtelet',
'dbpedia-fa:Émilie du Châtelet',
'dbpedia-fi:Émilie du Châtelet',
'dbpedia-fr:Émilie du Châtelet',
'dbpedia-gl:Émilie du Châtelet',
'dbpedia-he:Émilie du Châtelet',
'http://ht.dbpedia.org/resource/Emilie_du_Châtelet',
'dbpedia-id:Émilie du Châtelet',
'dbpedia-is:Émilie du Châtelet',
'dbpedia-it:Émilie du Châtelet',
'dbpedia-ja:Émilie du Châtelet',
'dbpedia-ka:Émilie du Châtelet',
'dbpedia-ko:Émilie du Châtelet',
'dbpedia-la:Émilie du Châtelet',
'http://mg.dbpedia.org/resource/Émilie_du_Châtelet',
'http://ml.dbpedia.org/resource/എമിലി_ഡു_ചാട്ടേറ്റ്_ലറ്റ്',
'dbpedia-nl:Émilie du Châtelet',
'dbpedia-nn:Émilie du Châtelet',
'dbpedia-no:Émilie du Châtelet',
'dbpedia-pl:Émilie du Châtelet',
'dbpedia-pms:Émilie du Châtelet',
'dbpedia-pt:Émilie du Châtelet',
'dbpedia-ro:Émilie du Châtelet',
'dbpedia-ru:Émilie du Châtelet',
'http://sco.dbpedia.org/resource/Émilie_du_Châtelet',
'dbpedia-simple:Émilie du Châtelet',
'dbpedia-sk:Émilie du Châtelet',
'dbpedia-sl:Émilie du Châtelet',
'dbpedia-sr:Émilie du Châtelet',
'dbpedia-sv:Émilie du Châtelet',
'dbpedia-tr:Émilie du Châtelet',
'dbpedia-uk:Émilie du Châtelet',
'dbpedia-vi:Émilie du Châtelet',
'dbpedia-zh:Émilie du Châtelet',
'http://data.bibliotheken.nl/id/thes/p069142890',
'https://global.dbpedia.org/id/4tqv5']],
'listed_info': {'sameAs': '', 'time': '1706-1749', 'time_transformed': ''},
'inferred_info': {'influence': [],
'influencedBy': ['Gottfried_Leibniz',
'Gottfried_Wilhelm_Leibniz',
'Pierre_Louis_Maupertuis',
'Willem_s_Gravesande',
'Isaac_Newton']}]}
```

2. A repeatable process of build and evolve wiki philo graph (though I haven't finished the birthdate part)

▼ A series of functions

3. Examine the invalidation of dbpedia

4. Potential integration of multilingual data (entity resolution) ⇒ Methodology to recover missing links?

Questions:

1. other data sources

- <https://www.encyclopedia.com/philosophy-and-religion/philosophy/philosophy-terms-and-concepts>
- <https://www.rep.routledge.com/search?action=toggleFacet-ClassificationScheme-T31/Subject/T4&newSearch>
- <http://www.e-enlightenment.com/item/descrCU0030274a1c/> we cannot find any letters written by Elisabeth =consistent with= Wikipedia data , one-way link

2. birthYear

- a. group, red node
- b. for vague time, interval of time → the middle
- c. for missing time, use publication time? university - 18

Methodology Reflection

What works/does not work well

Great! Graph database works well and can be maintained sustainably.

Alas, too much invalidation in Wikipedia data—but it is okay. Let us take it as a practice to build visualizations and knowledge base. Also, it has shed light on how the marginalization of women philosophers on the internet works.

Alas, the force-direct network visualization doesn't seem to work well in terms of interpretability, because of the lack of narratives, the uninformative positioning of nodes, and the explanation of data sources (what is influence?). It is a good visualization of existing bias though.

Questions and Thoughts ⇒ Orientations and Actions

1 Perspectives: Built on previous work

I would love to build on previous work because

1. **Practical:** since I've already gotten experience in them, it is easier to set the expectation and achievable goals
2. **Technical:** The network construction techniques are not very different from the ones we've used before, the major change is the input data
3. **Analytical:** I've read a lot of papers in these fields, which would definitely make the writing process (literature review, analysis, etc.) much easier

I have been working on the following **research topics**:

1. Knowledge Network (application and methodology review)

- Background and Rationales:

 [Review | Network Analysis on Knowledge](#)

- General:

[Knowledge Graph Review](#)

- Analysis/Inference:


[Review of Graph Neural Network](#)

- Application Scenario:

[Scholarly Network Analysis](#)

[Review Digital Humanities](#)

- Network Visualization

 [Info Vis Principle and Network Visualization](#)

2. Examine the interdisciplinarity of research and researchers (collaboration, syllabus, department, publications, etc.)

Proposed Perspectives that we should start experimenting on:

Academic, philosophical, educational, interpersonal

How to shift perspectives:

There are three approaches to shift perspectives of networks:

- (1) use different datasets drawn from different sources across fields
- (2) view different datasets where some variables (e.g., time, category) or the data processing methods are changed, but the data sources remain the same
- (3) create various views (representations) of the same datasets

For approach (1):

In the first week, we brainstormed a list of potential perspectives

https://s3-us-west-2.amazonaws.com/secure.notion-static.com/42014ec5-0bfe-432f-9c4e-72d823006828/Project_Vox_-_first_report_-_skills_and_vision_-_Karen_and_Junyi.pdf

For approach (2):

In Wikipedia philosopher network, we can see the power of shifting views of the (1) different time period, and (2) different ways to measure the influence (count)

For approach (3):

The potentials have been shown by the wiki InfluNet

? Questions to Ask

Goals Review

Is it intellectual? Does it have the potential to be intellectual?

Is it practical? Does it have the potential to be practical?

Is it sustainable? Does it have the potential to be sustainable?

Is it educational? Does it have the potential to be educational?