Social Knowledge Graph Explorer

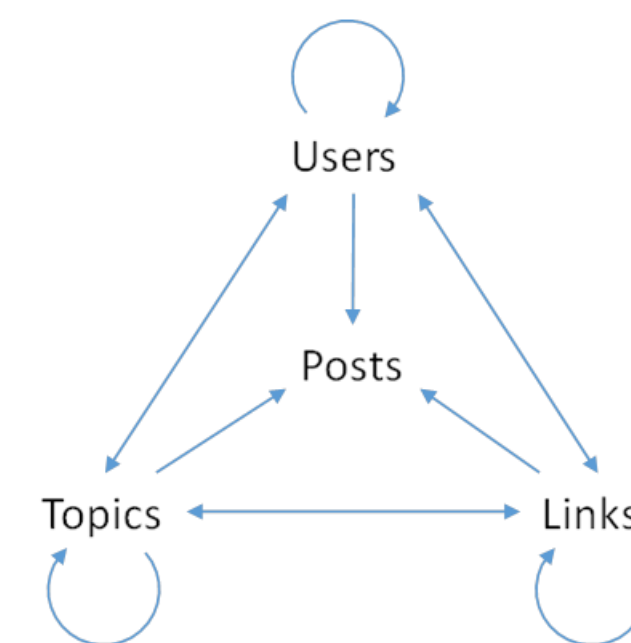## Omar Alonso, Vasileios Kandylas, Serge-Eric Tremblay
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Introduction

- Application for querying and browsing a social knowledge graph (SKG)
- SKG is derived automatically from Twitter using unsupervised techniques
- The graph can be used as underlying infrastructure for different applications
- Main components of the graph
    - Users: trusted users discovered by 2-way communications
    - Links: popular links shared by trusted users
    - Topics: entities, hashtags, n-grams
    - Posts: supporting evidence for each node
    - Time: graph is archived with snapshots
- Focus on first order connections
- Wikification: automatic construction of topical wiki-like pages using the graph

Schema and Implementation

- Implemented in Scope/Cosmos
- SKG schema consists of 4 component and 9 connection tables
- Component tables: `Users`, `Links`, `Topics`, `Posts`
- Connection tables: `Users-Links`, `Users-Topics`, `Users-Users`, `Links-Topics`, `Topics-Topics`, `Links-Links`, `Users-Posts`, `Links-Posts`, `Topics-Posts`
- Entity stamping with Satori
- Statistics (daily): 120M tweets, 15M trusted users, 65K links, 600K topics, 65K hashtags, 11 Gigabytes daily

Demo

- Explorer: search for a topic and filter connections by entities and hashtags
- Wikification: table of contents, specific items, related stories, references

Conclusion

- The explorer allows users to query and discover relationships derived automatically from Twitter
- Utility is to retrieve, extract and present social information as a unit that can be dissected in different ways
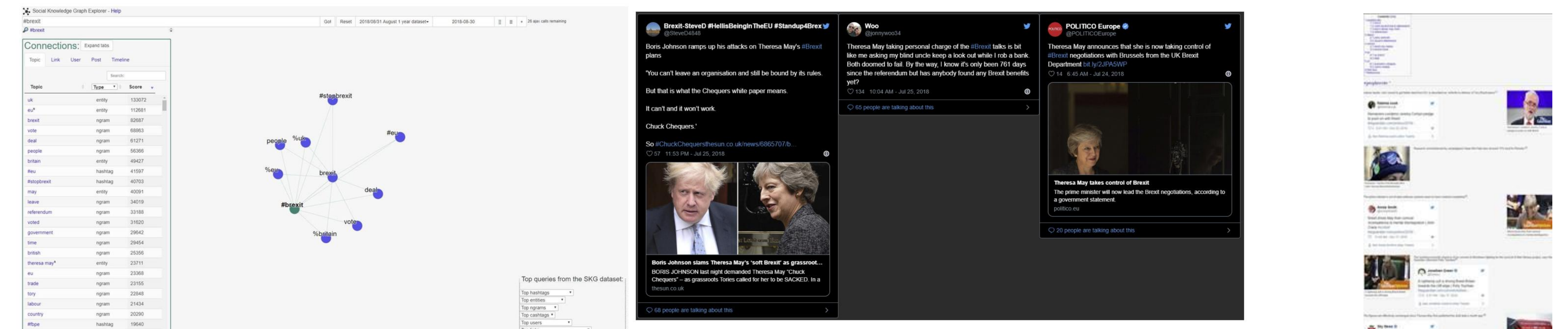

Exhibit 1: Brexit (`#brexit`), related entities (UK, EU, Theresa May), related hashtags (`#eu`, `#stopbrexit`)
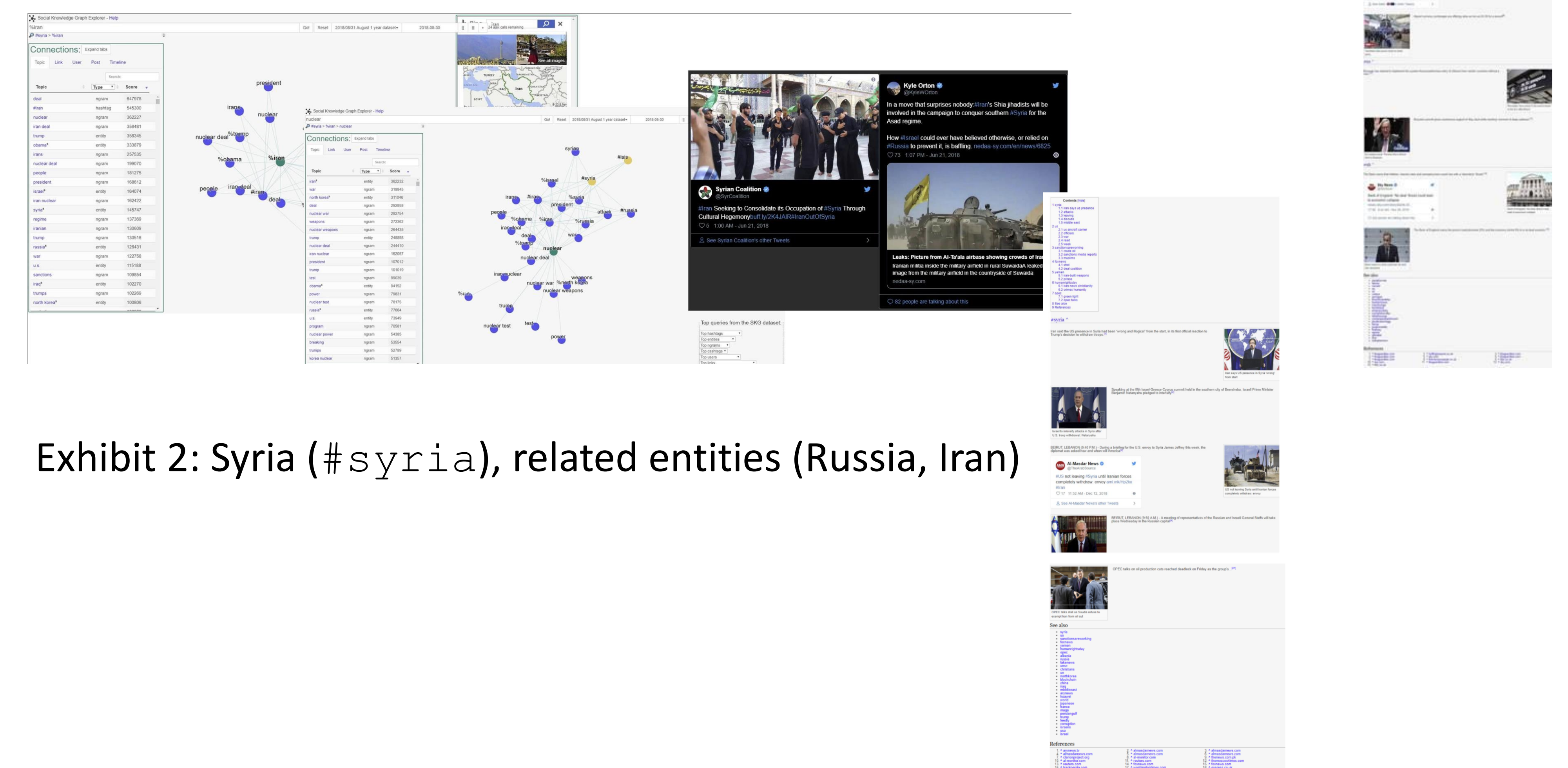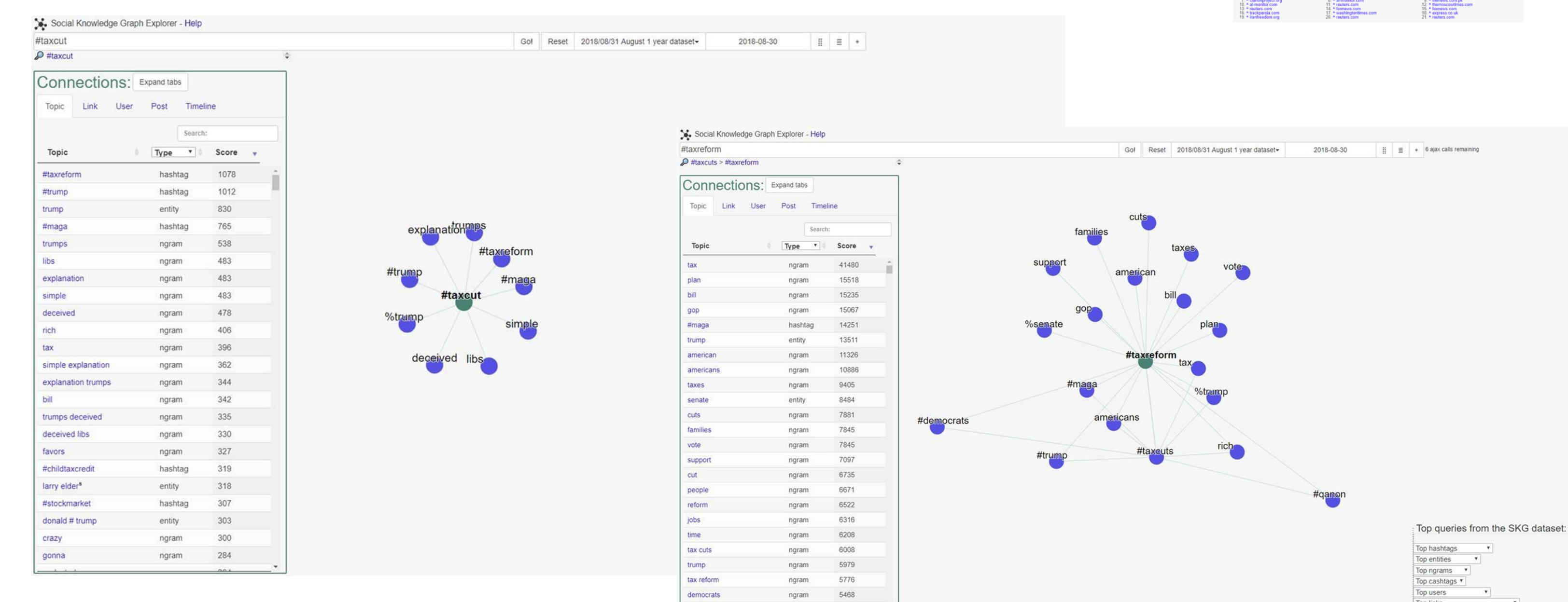

Exhibit 2: Syria (`#syria`), related entities (Russia, Iran)

Exhibit 3: Tax reform (`#taxcut, #taxreform`)

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