US President Donald Trump's Twitter Analysis

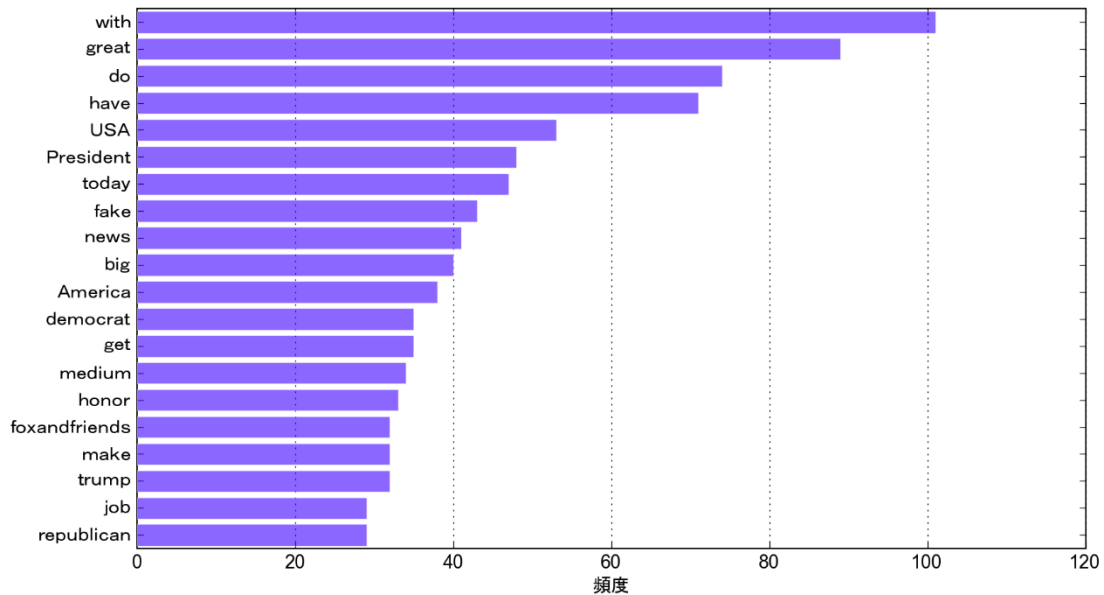Yuki Tashiro, Richard Liang and Hikari Ishido

1. Setting

This paper makes a text analysis of the newly elected US President Donald Trump. The focus is of utmost importance since the hierarchical structure of the global society is a structure in which several layers are nested. It is a good idea to give names to what seems to be the subjects of each level—such as individual → household → ethnic or local government → nation → regional integration body → super national system and international norms—and to discuss the interaction only within each hierarchy. As usual, there are limitations to capture the reality of the global society with this approach, and it is impossible for various actions and ideas to be unpredictable among individuals' actions, part of the meso connecting micro and macro, and micro "individual." In other words, the US President Donald Trump's remarks, mostly done through Twitters, can have a great influence on the meso (the US national) and the macro (global) levels in the form of the prevalence of "my country first", or "populism" put simply.

With the above observation (interactions among micro, meso and macro levels) in mind, this paper makes a text mining analysis of Trump's Twitter-based remarks. For the period of April-July 2017, within the first term of Donald Trump's US presidency, there are totally 577 items of twitters (12,954 words in total) extracted for this study. This section investigates Trump's sentiments from these contents. And by conducting a comparative static analysis on his observed words, this study tries to provide related implications on Trump's domestic and international policies based on the text analysis (the tool was developed by NTT Mathematical Systems).
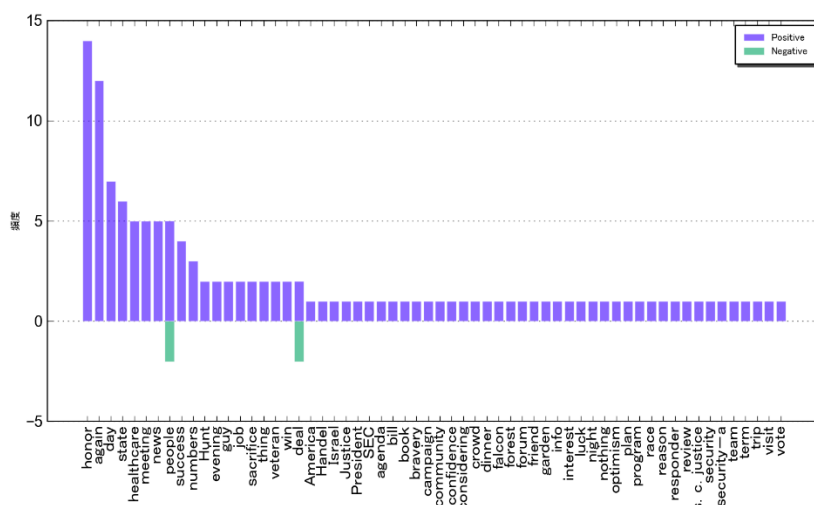
2. Word frequency analysis

Figures 1 shows the results of word frequency analysis. In contrast with twitters before getting elected, the tone of Trump's twitters in his first presidency term is getting a bit changed. After the election, "Clinton" was obviously no longer a byword Trump talked all day; instead, he seemed to turn his interest into lambasting mainstream medias and spent more time on it. In the graph above, we can see there are words like "fake" "news" "medium". On the contrary, Trump spoke highly of the FOX news and gave an interview on the show "Fox & Friends" where he talked about Obama care.

Figure 1. Word frequency (after the election)

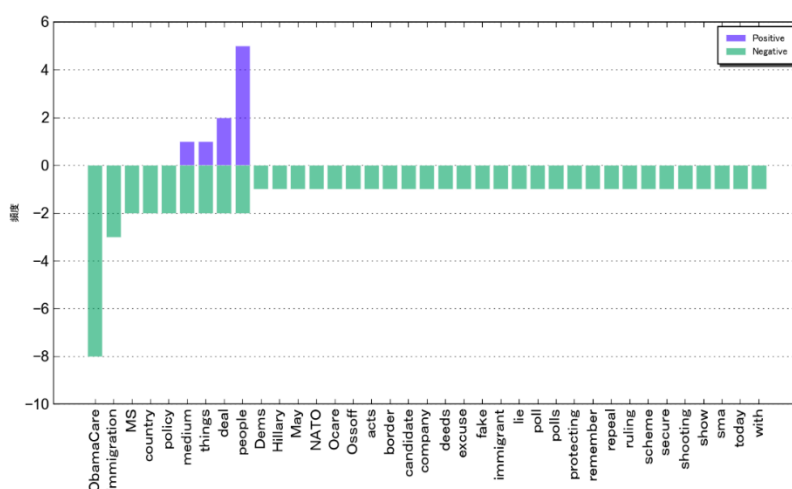

3. Analysis of positive and negative words

Figure 2 shows positively evaluated words by the order of frequency. Regarding the analysis on positive and negative meaning of words, high-frequency words with positive indications are mostly shown by this Figure. Here, except for "people" and "deal", other words are only of positive meanings, such as Justice, optimism, honor and luck. Meanwhile, there are many words for things Trump has given positive comments on, say, veteran, Israel, SEC (Trump's pick to lead the Securities and Exchange Commission or SEC), falcon (sports team), American and etc.

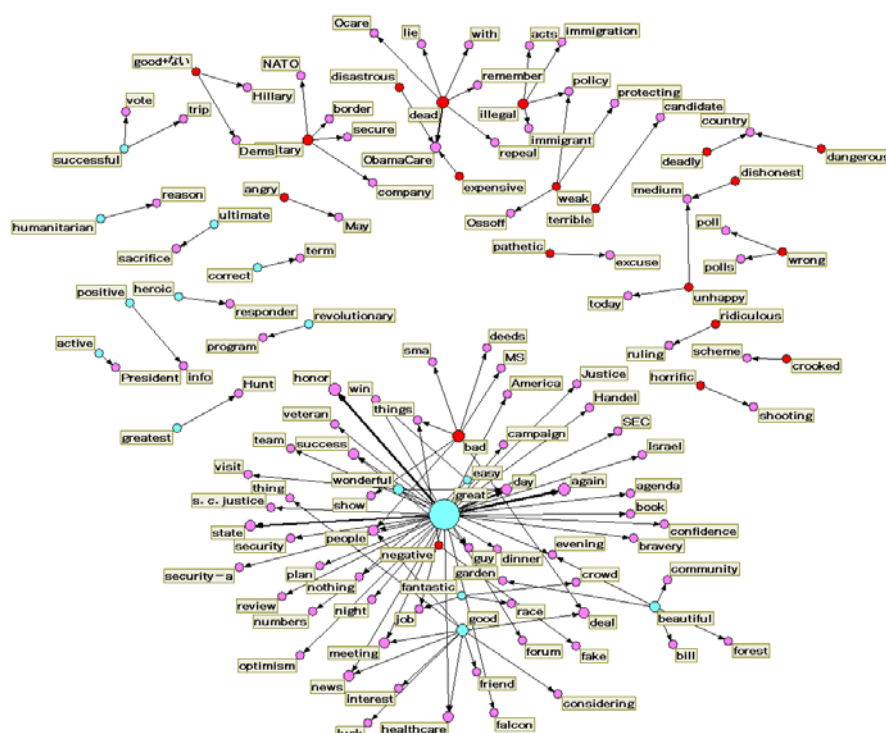**Figure 2. Positively evaluated words**

As for Figure 3, negative words are plotted according to their frequency. The negative word appearing the most frequently is "ObamaCare", obviously, it became a hotspot when Trump and the congress passed the bill to replace and repeal Obama care on May, and therefore surrounding this topic, there was a great deal of discussions online, Trump tweeted and criticized on this many times, making it a high frequency word. Behind "Obamacare" is "immigration". Since getting elected, Trump has promoted his migration policies for several times to ban immigrations. Further, Trump also harshly criticized "NATO", and that's why we can find NATO on this chart. We can find "fake" again, showing Trump's negative attitude to mainstream media.

Figure 3. Negatively evaluated words

Next, the word linkage analysis is made, as in Figure 4. Positive words are circled in blue, while negative words are circled in red. Pink ones are the ones receiving positive or negative evaluations. Compared with the linkage about twitters before election, we can find that negative words became more frequent. Secondly, the word "great" is now associates with more words than before, implying Trump used this word more often in his twitters. Thirdly, with the emergence of new incidents, various new words were also being used.
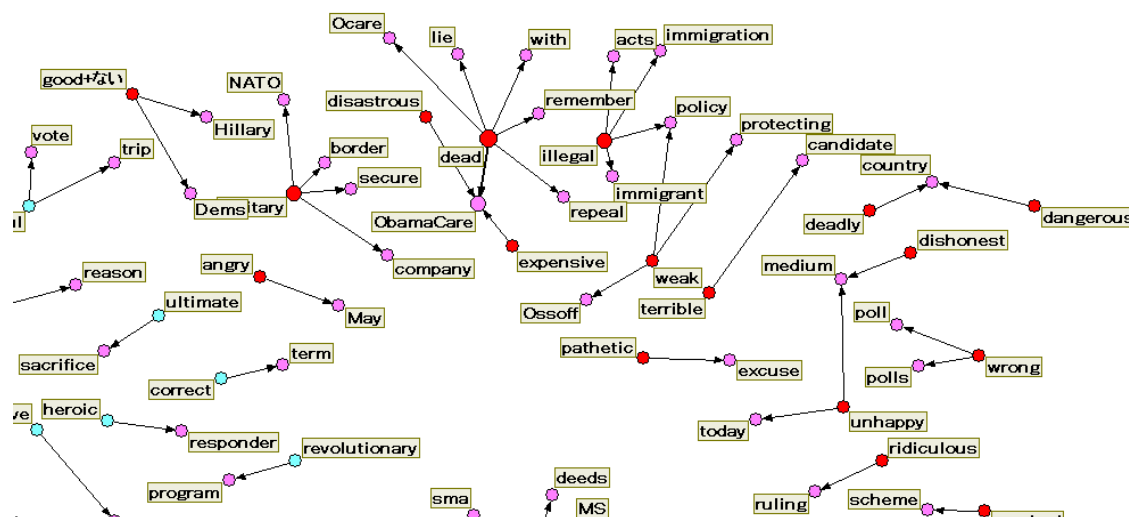
Figure 4. Network analysis

From the word "great" in Figure 5 (the part for "great" magnified), there are so many relevant words shown around it, some of which refer to specific objects, as veteran, Israel, security, evening, crowd and etc., and some others refer to specific adjectives, such as "fantastic", "success", "wonderful" and so on. From the objectives side, we can see Trump's positive comments on veteran issue, and his positive attitude to maintaining good US-Israel relation, and as well as to keep the US security in his way. Having said that, the much higher frequency of the central word "great" signifies that instead of using intricate logic concerning those policy agendas, President Trump simply wants to appeal to the people of the US by pledging to make America "great" again.

Figure 5 Network analysis (with the part for "great" magnified)

Figure 6 focuses on networking of negative words. "Wrong" emerged with "poll", which implies he condemned the poll as cheating and lack of transparency. "Illegal" appeared with "immigrant" and "acts" again, in consistent with our above analysis that Trump kept promoting his immigration policy to ban immigrations from some certain countries. "Dead" is associated with "Ocare" is from Trump's twitter by which Trump announced Obama care was dead as he achieved his goal of "let it fail".
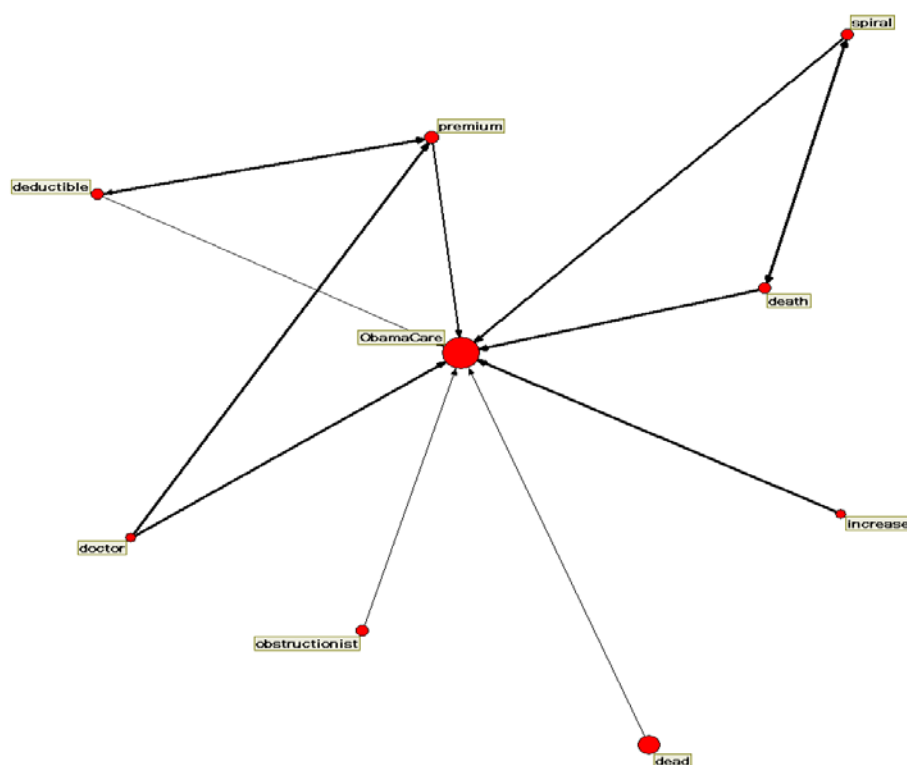
Figure 6. Network analysis (with the part for negative evaluations magnified)
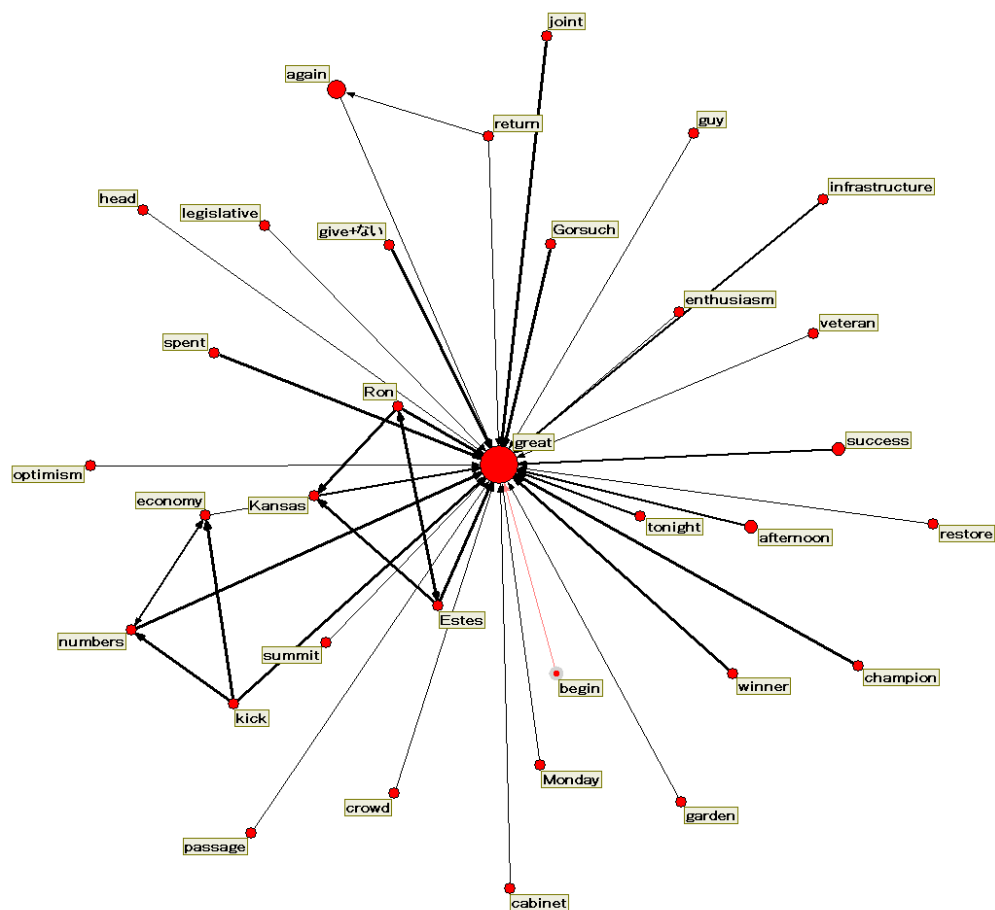

4. Focus-word analysis

From Figure 7 on focus-word analysis, what is so-called Obama Care is in a network consisted by keywords including dead, obstructionist, increase, death spiral, deductible premium. Trump accused democrats were "obstructionist" when he tried to pass a health care bill to replace Obama care, so this word appeared simultaneously with "Obama care". And we can see two words "spiral" and "death", which are interplaying and linked with "Obama care" within a similar distance. Indeed, "death spiral" is a phrase said by Trump, when he described Obama care as a "death spiral". "Deductible" and "Premium" are appearing at the same time, and the word "Deductible" is much closer to "Premium" than "Obama care", because "deductible premium" is a phrase, quoted by Trump to advertise his health care plan for the people of the US.

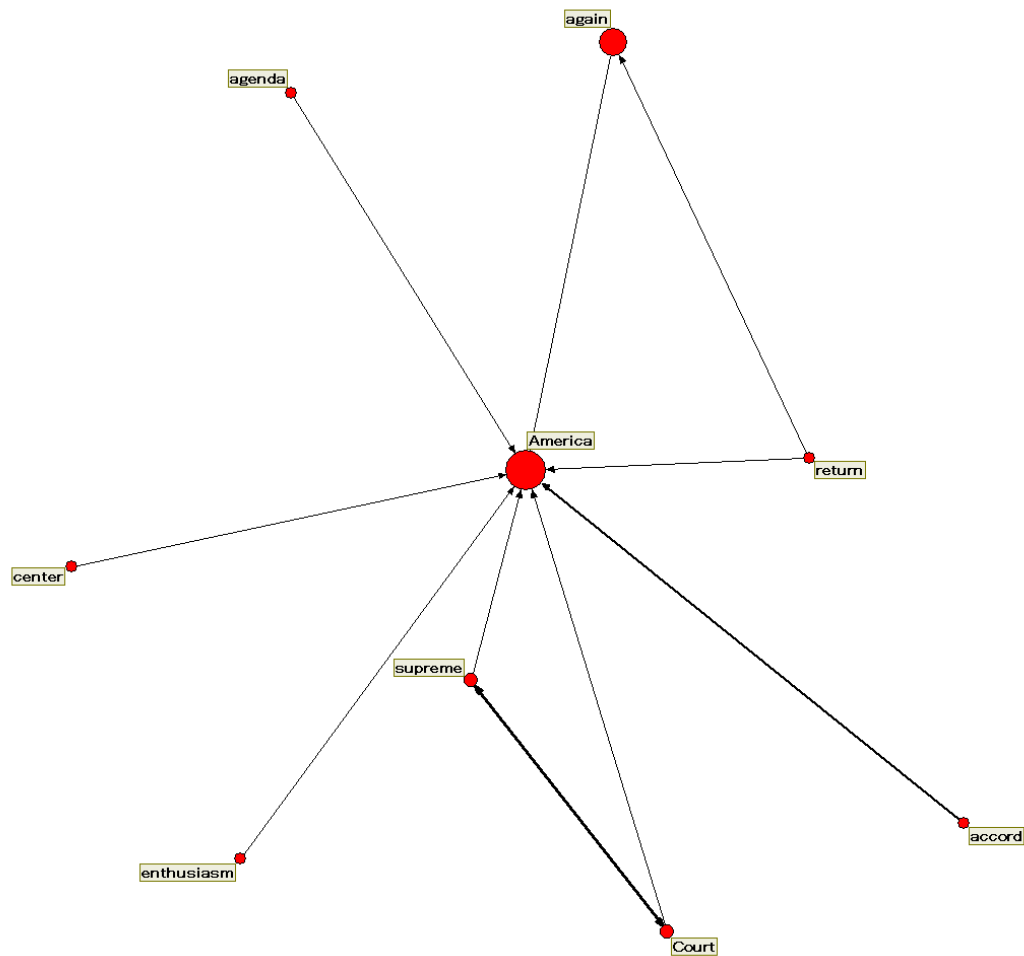**Figure 7. Focus words analysis (with "ObamaCare" as the focus)**

As for Figure 8, "great" as the central word directly links words like "crowd", "winner", "champion", "tonight", "veteran", "enthusiasm" and so on. In contrast with the previous result, here are some new words appearing, for an example, there is a name "Gorsuch", who actually is the justice of the Supreme Court of the US nominated by Donald Trump in April of 2017, which is a big political success for him.

Figure 8. Focus words analysis (with "great" as the focus)

In Figure 9, in addition to the old phrase "make America great again", there are some new phrases "supreme court", "center", which can be seen as a evident of Isolationism held by the Trump's government.
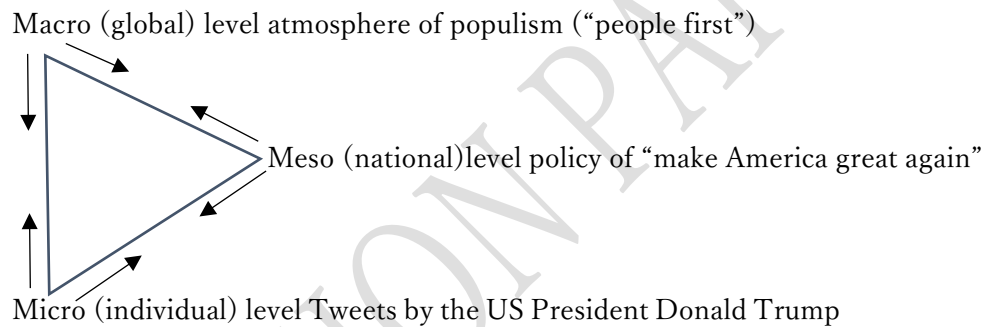
Figure 9. Focus words analysis (with "America" as the focus)

5. Brief conclusion

Overall, Donald Trump's remarks on the Twitter reveal his "populism" characterized by the use of simple words and simple rhetoric, as shown most symbolically in the phrase "make America great again". The text mining method applied in this paper discloses Donald Trump's method of appealing to people's heart simply and directly; this indeed is what is meant by "populism", an important character of his administration (at the meso level) which exerts a large impact on the global (or macro) political and economic landscape. Most importantly, such large-scale impacts can be generated by micro (individual level) remarks by Donald Trump. Put differently, the macro, meso and micro interaction can be observed by analyzing Donald Trump's Twitter texts.

Figure 10. An interactive "field" among macro, meso and micro

Macro (global) level atmosphere of populism ("people first")

Meso (national)level policy of "make America great again"

Micro (individual) level Tweets by the US President Donald Trump

Note: The arrows indicate a causal direction.