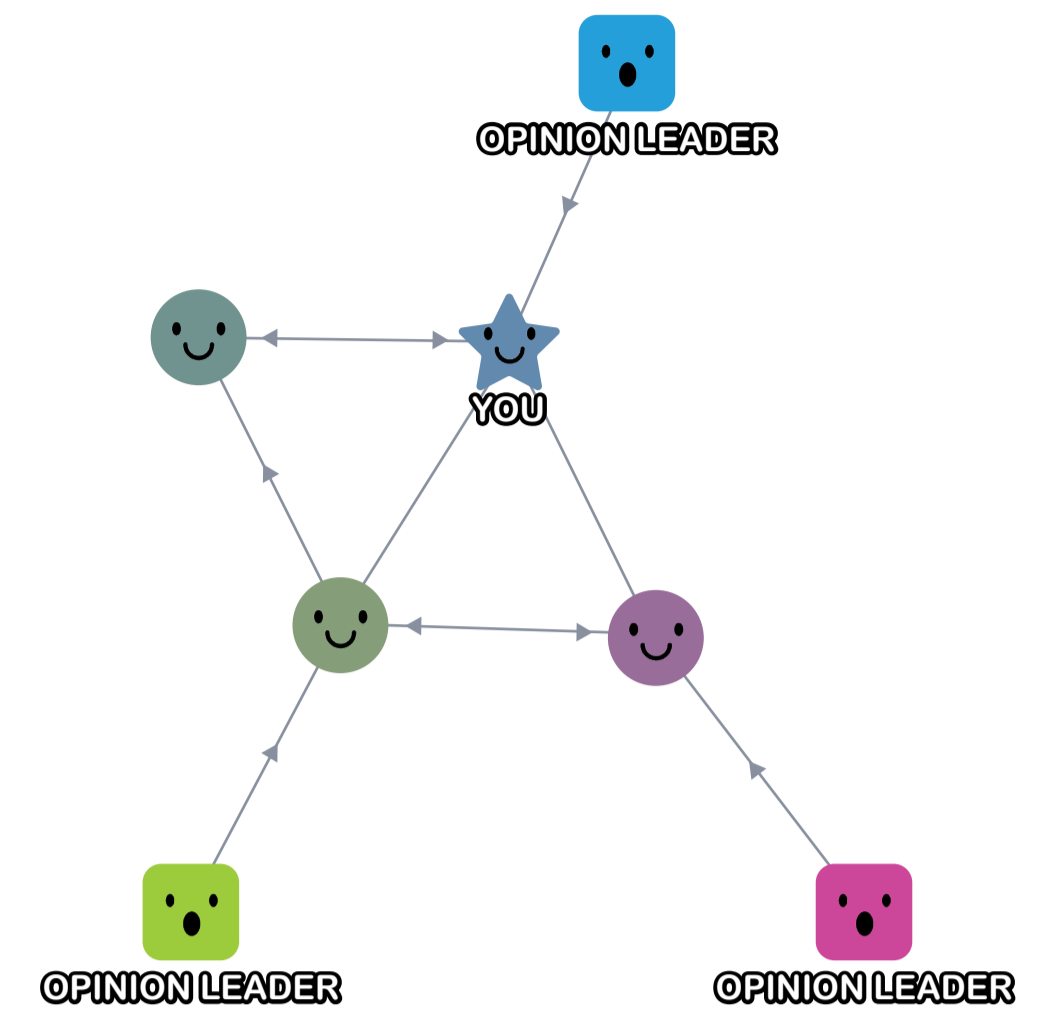
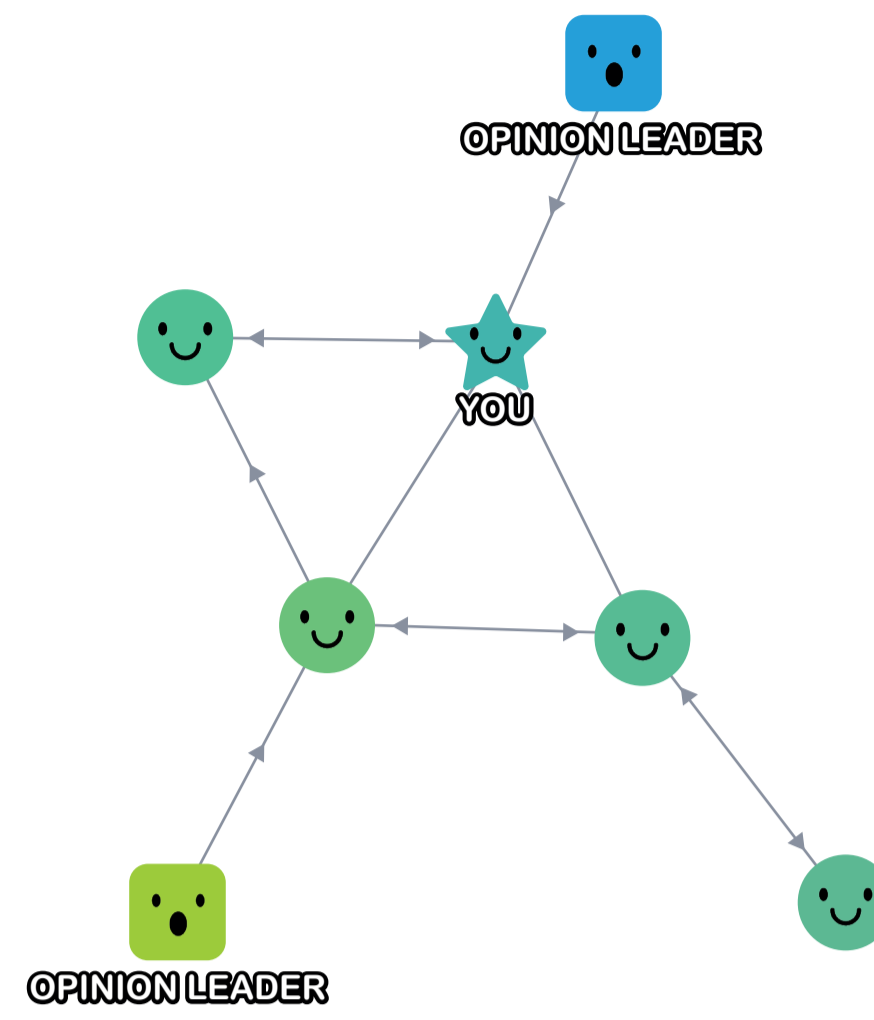
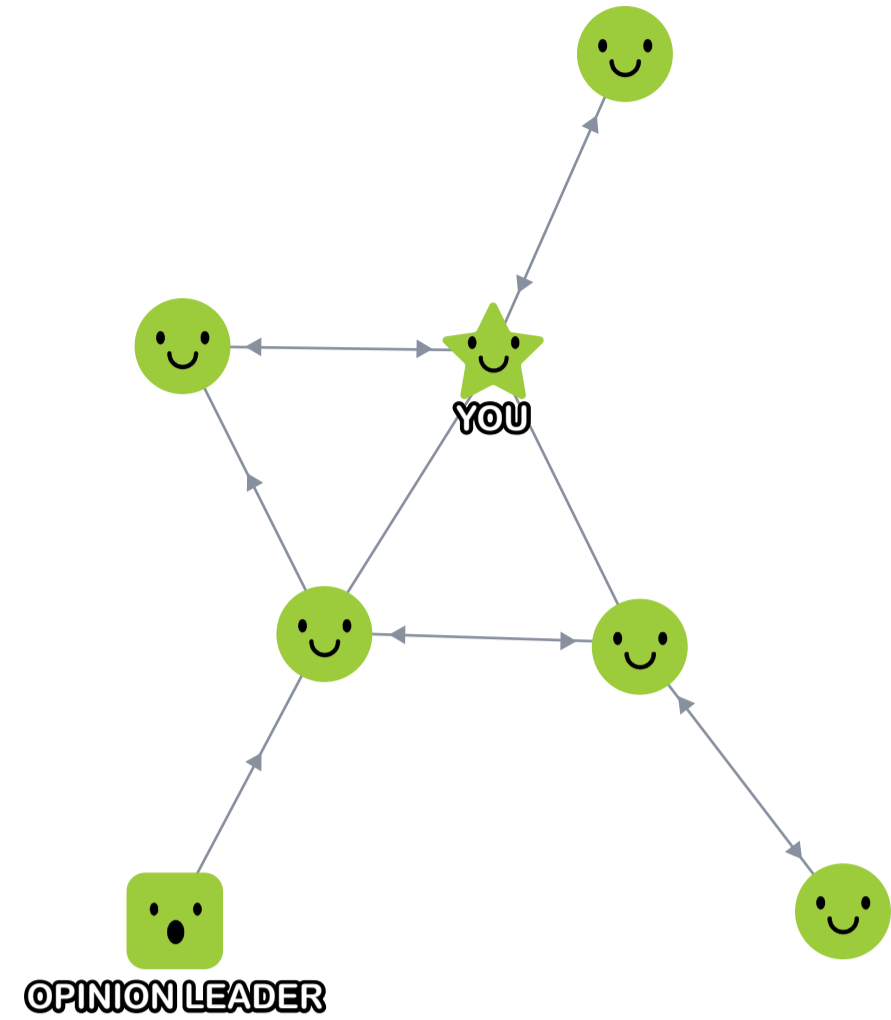
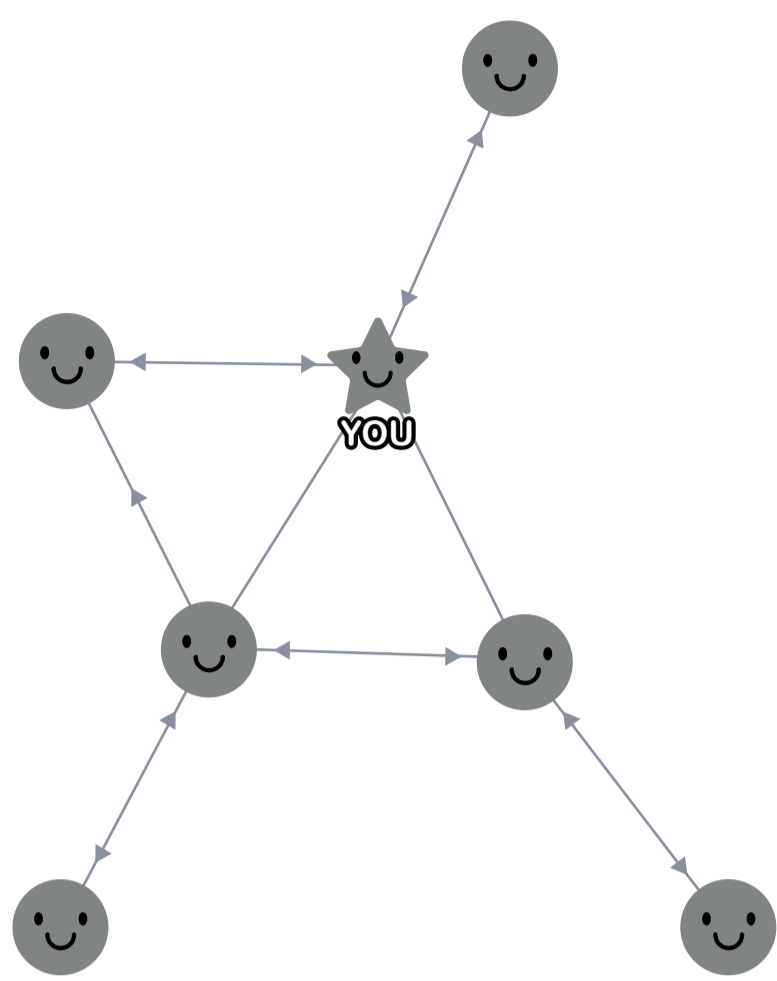




Multipolar Social Systems


Network of Influence





 In the social network, you are influenced by the people around you. Influence can be bi-directional (I influence you and you influence me), like when you talk with a friend, or one-directional (you influence me, but I don't influence you), like when you read someone's tweet.

 When someone in the network has a strong opinion about a topic and a significant influence over others, he/she can be considered as an opinion leader.

The influence of opinion leaders is always one-directional: they only influence others. We use opinion leaders as seeds from whom others will get their own opinions.

 When there are two opinion leaders with different opinions, the population can be divided into two conflicting groups, turning bipolar.

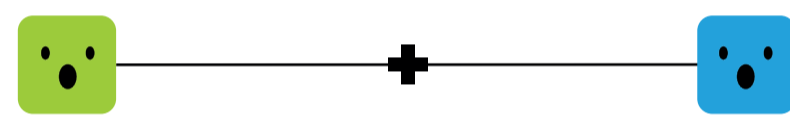
 If there are three or more opinion leaders with dissenting opinions, the society is multipolar. The different opinions of the leaders are called opinion poles.
 A good example of a multipolar system is a multi-party democracy, where the opinion poles are the different political parties.

Opinion Space

We represent the opinion space of multipolar systems by placing the opinion leaders supporting different opinion poles at the same distance from each other.

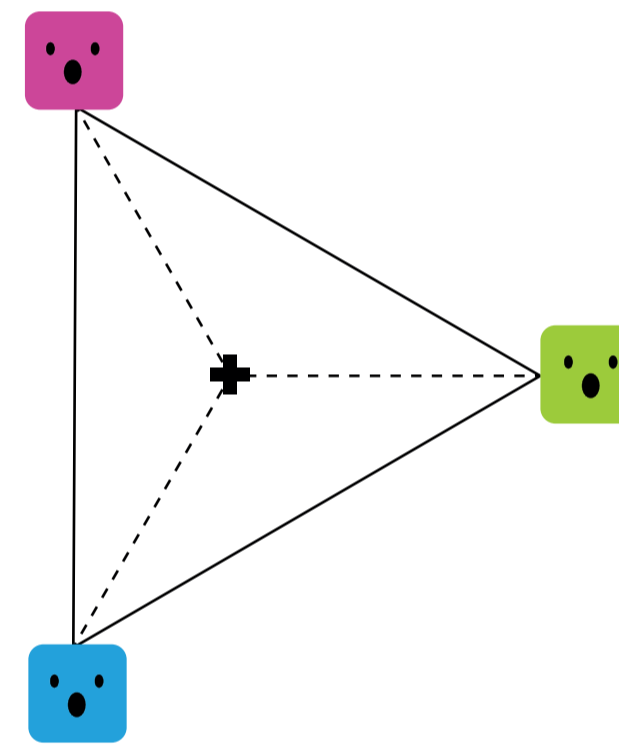
Bipolar system

The opinion space is a line, with each opinion pole at one extreme.



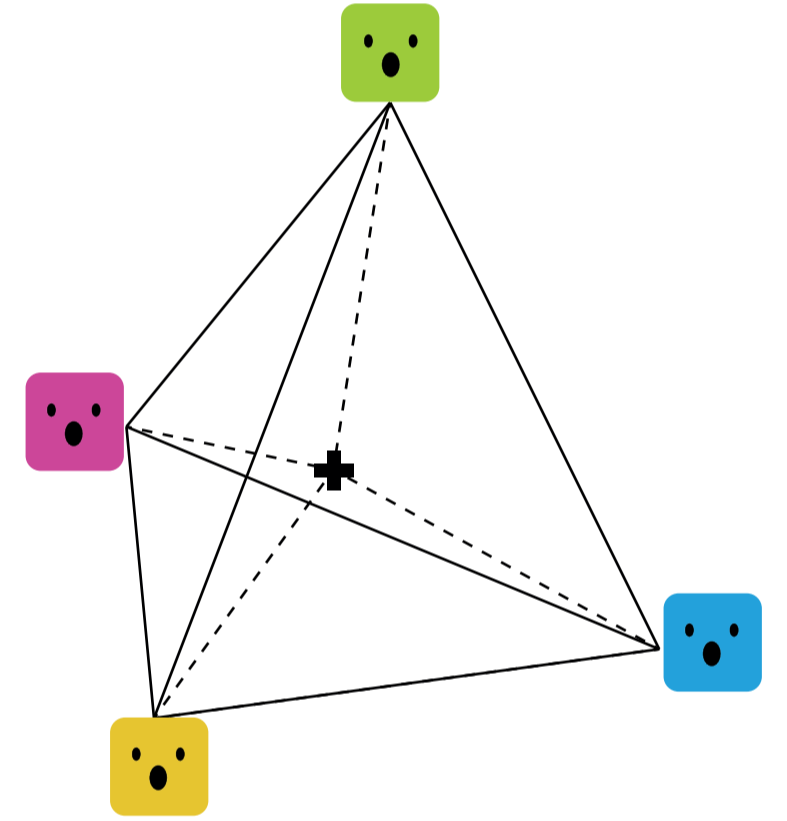
Tripolar system

The opinion space is an equilateral triangle, with the opinion poles at the vertices.



Tetrapolar system

It is a regular tetrahedron. If there are more than four opinion poles, we need a geometrical object with more than three dimensions!



Measures


Opinion extremeness

We use this representation of multipolar opinions to measure social polarization. A society might be polarized because there are groups of people with extremely different opinions. When this happens, we say that there is high opinion extremeness.

 Total variation
value range from 0 to 1
metric

Opinion alignment

But society can also be polarized because the discussions about different topics get aligned along one ideological axis. For example, a person that is in favour of strong immigration controls may also be against free abortion and cannabis legalization, and vice versa. This phenomenon is called opinion alignment or opinion constraint.

 Comparing directions of max. polarization
how spread are peoples' opinions along the axis of maximum polarization with respect to how spread they are along the secondary axes.
metric

Example

▼ Opinion Space

▼ Measures

Opinion extremeness	0.458 / HIGH
Directions of max. polarization	
 1	58 / 42  2

▼ Modular Network

