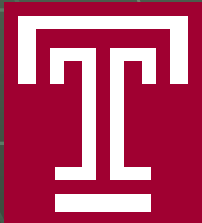


Mapping Public Perceptions of Avian Flu--A Statewide Survey: *Using Perceptual Mapping to Model Perceptions and Design Health Campaign Strategy*

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Michael Hagen, PhD
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WANTED

A METHODOLOGY FOR:

- **Mapping minds**
- **Determining Strategies**
- **Simulating Campaigns**
- **Tracking Effects**

Methodology – Perceptual Mapping

- Perceptual mapping is a procedure that uses multidimensional scaling (MDS) and message vector modeling techniques -- often used in marketing research.
- The models are three-dimensional and can be displayed as multi-colored simulations.

How it works...

Neuroscience tells us...

Many perceptions are organized by **grouping similar objects together within... concept domains.**

Perceptions & Meaning

Within concept domains ...

Objects are grouped together by perceived similarity/difference

-- and by **associating attributes with objects.**

How can I see inside someone's Mind?

*Thus, our methodology
task is to measure*

mental associations

as distances...

**The software puts the
distances together as a
whole model (map).**

The Measurement Process

*mental associations are --
judged as distance (0-10)*

"0" = identical

"10" = very different

Avian Flu like Smallpox _____

 " " " " **Anthrax** _____

Smallpox " **Anthrax** _____

- **The full set of map elements would include:**

- * *Object to Object*

- * *Object to Attribute*

- * *Attribute to Attribute*

- * *Self to Object*

- * *Self to Attribute*

Perceptual Mapping

Analysis begins as association matrix

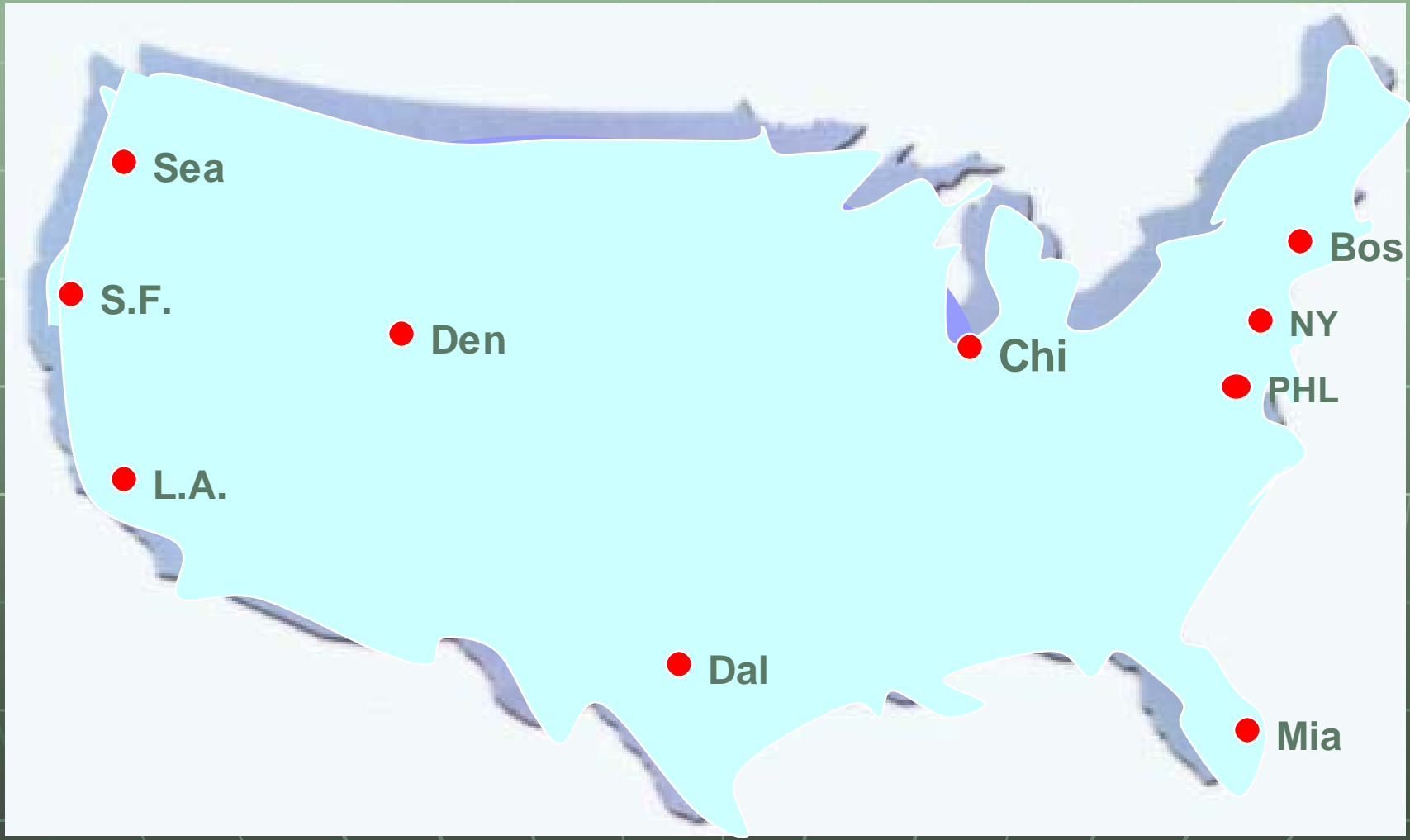
Object 1					
Object 2...					
Attr. 1					
Attr. 2...					
Self					
	Obj1	Obj2	Attr1	Attr2	Self

Perceptual Mapping

Like cities distance matrix

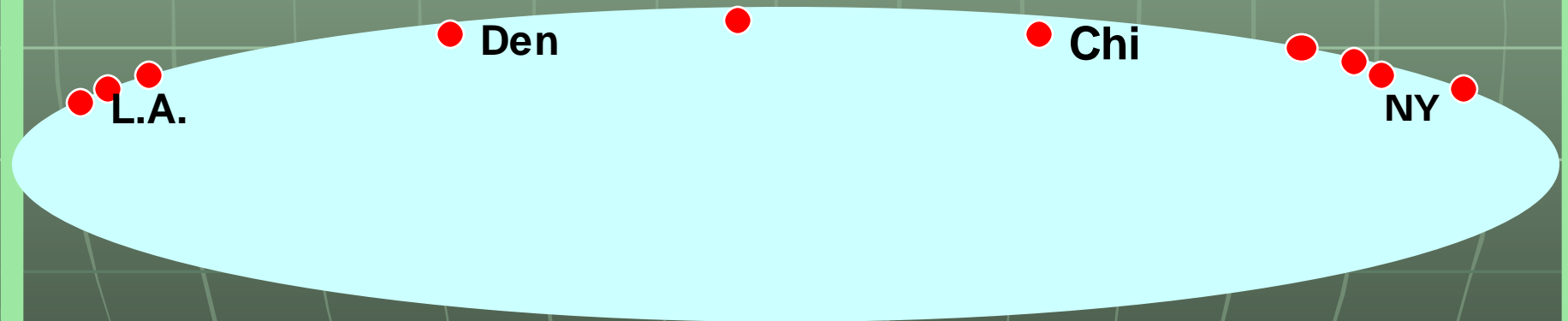
City A					
B	56				
C	103	88			
D	98	37	75		
Etc.					
	A	B	C	D	...

Running distance matrix thru Perceptual Mapping program produces ...



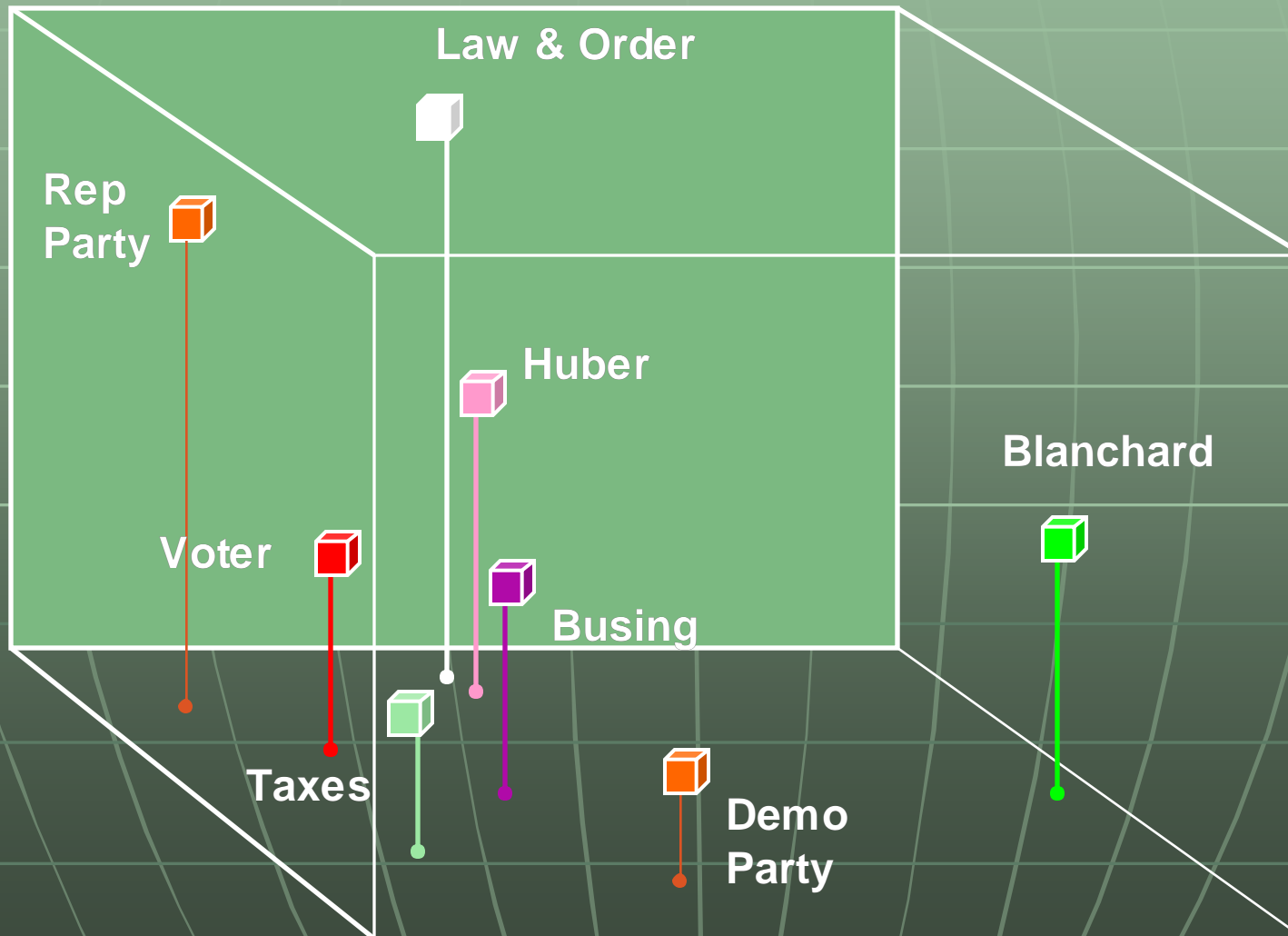
Perceptual Mapping

Captures Curvature of Earth

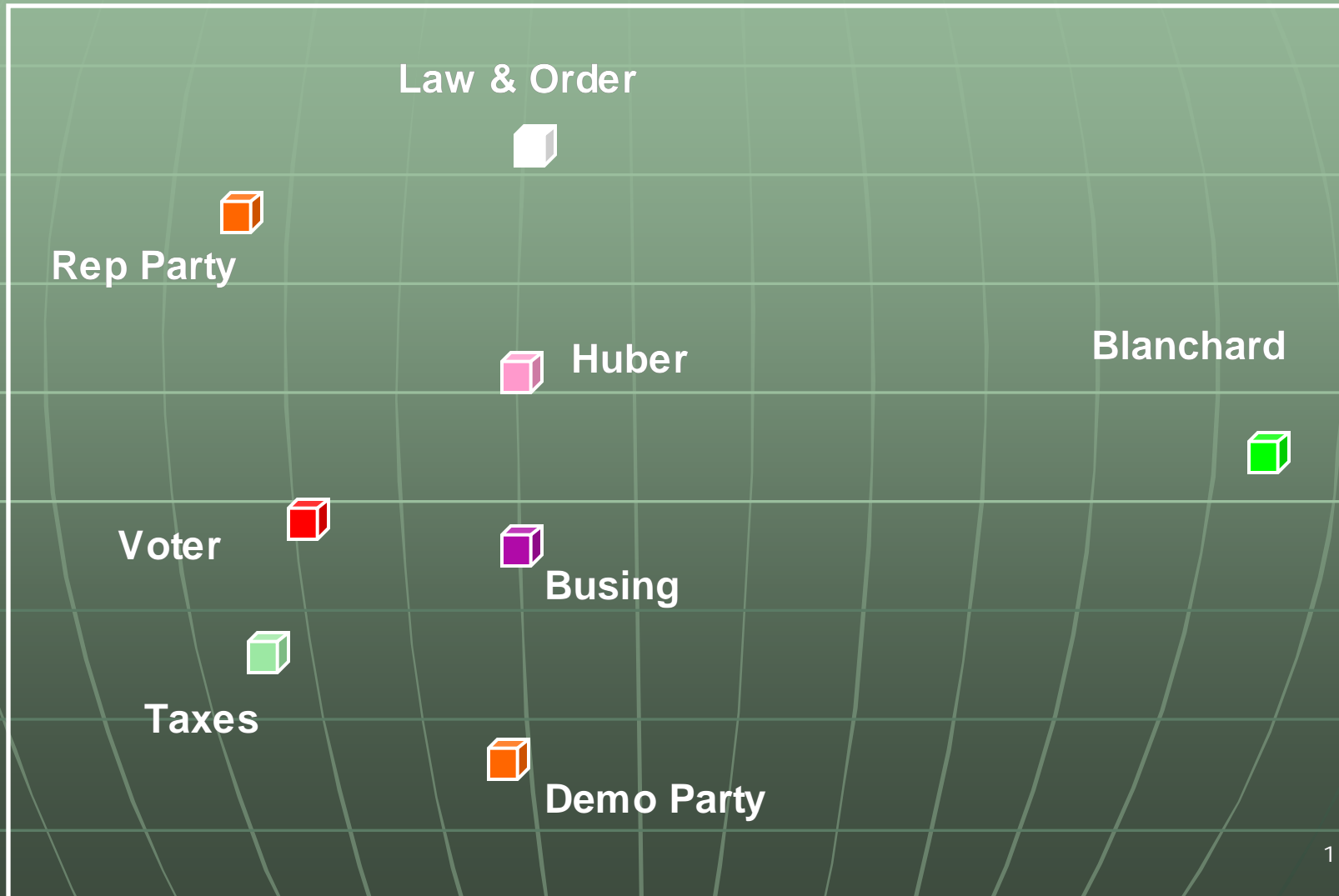


A Political Example

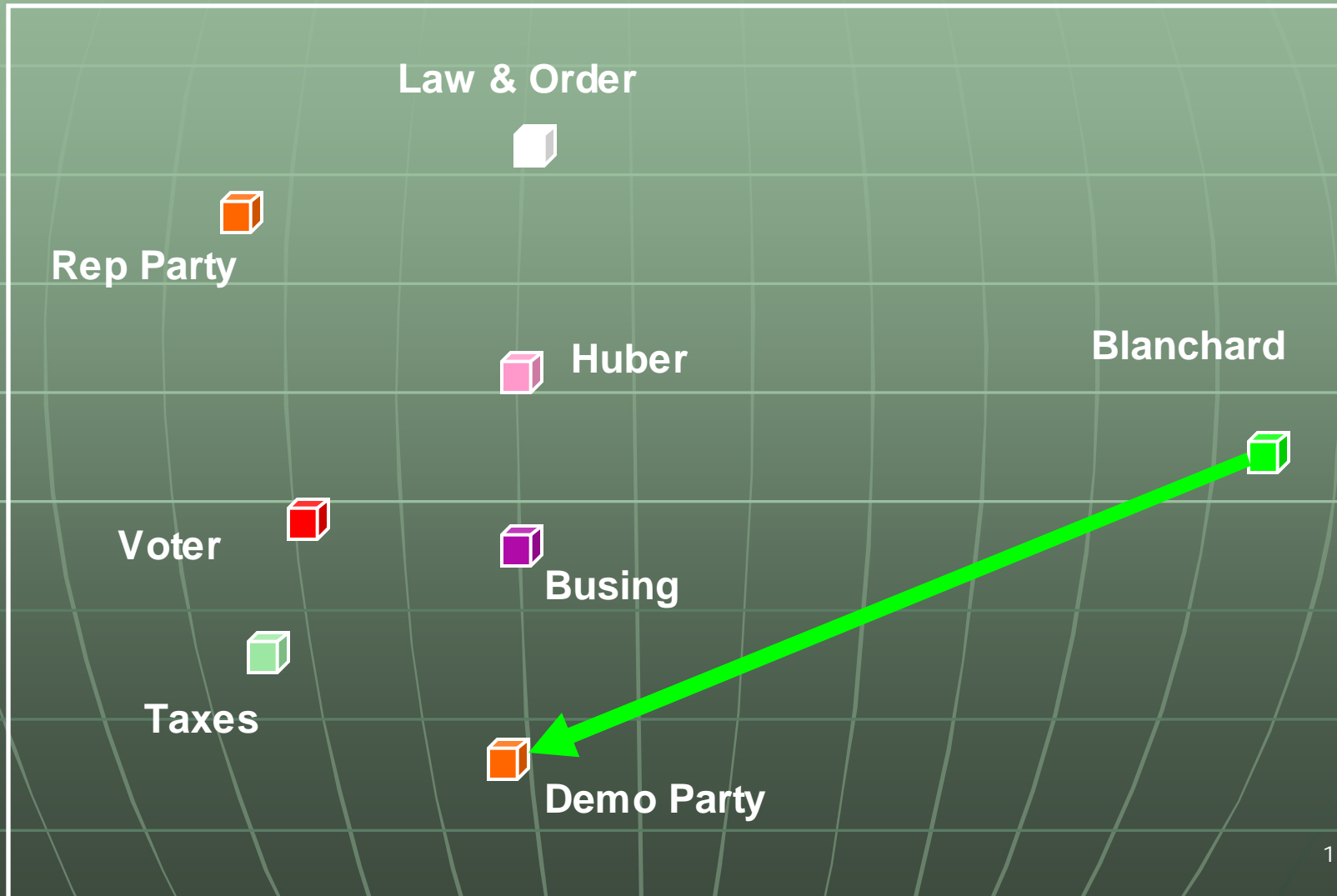
Perceptual Map: Political Example



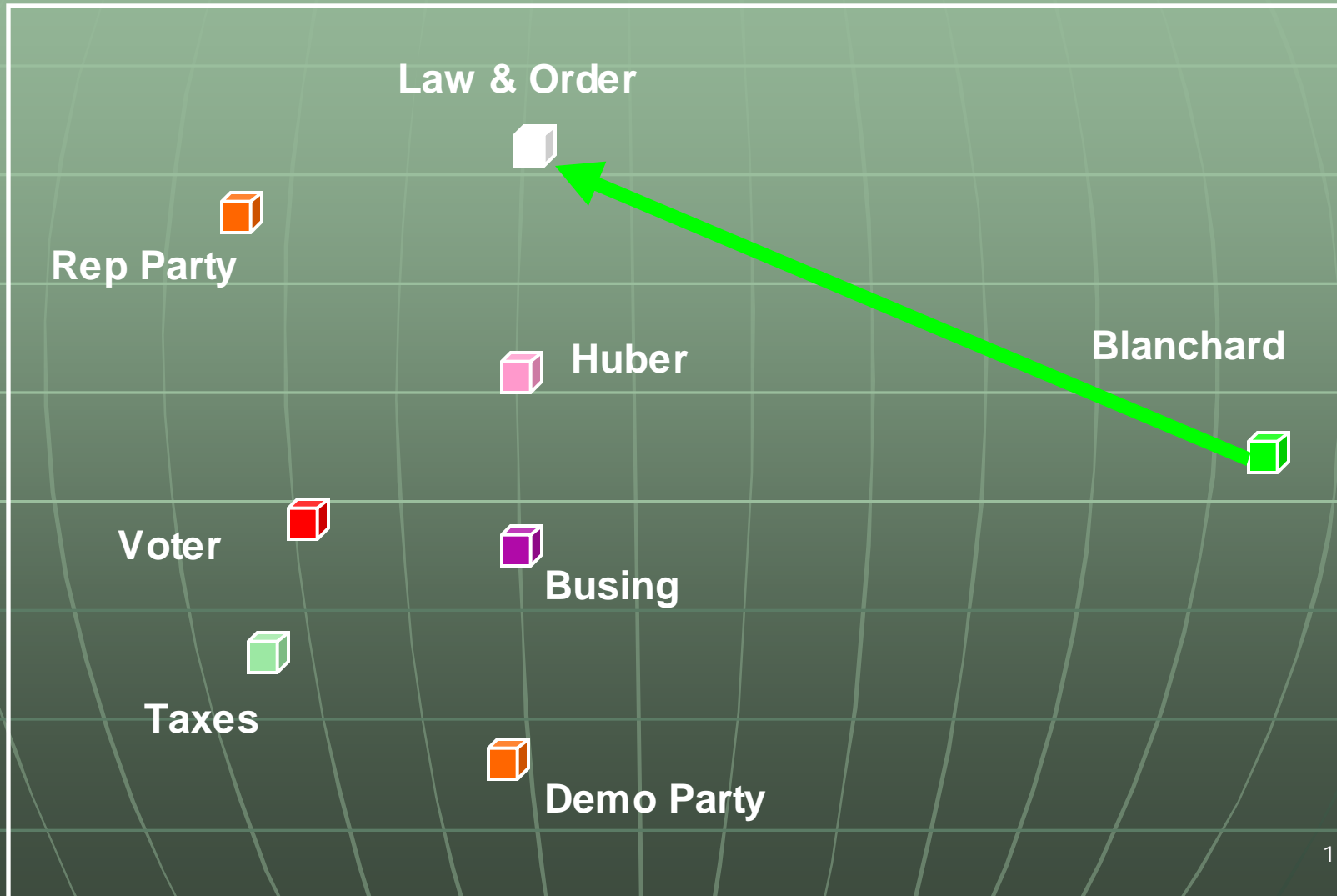
2-D Perceptual Map: Initial Positioning



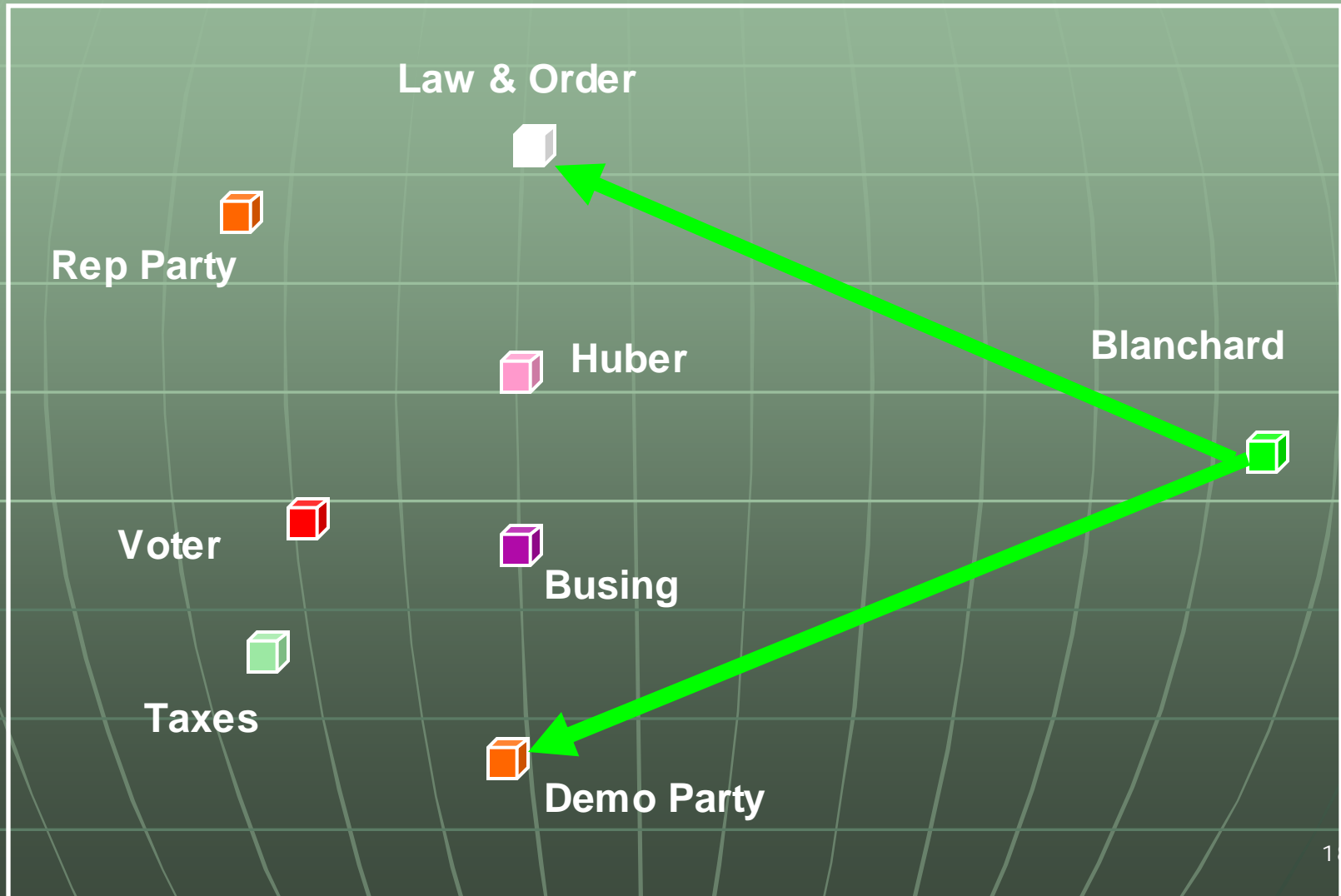
Perceptual Map: Message Vector I



Perceptual Map: Message Vector II

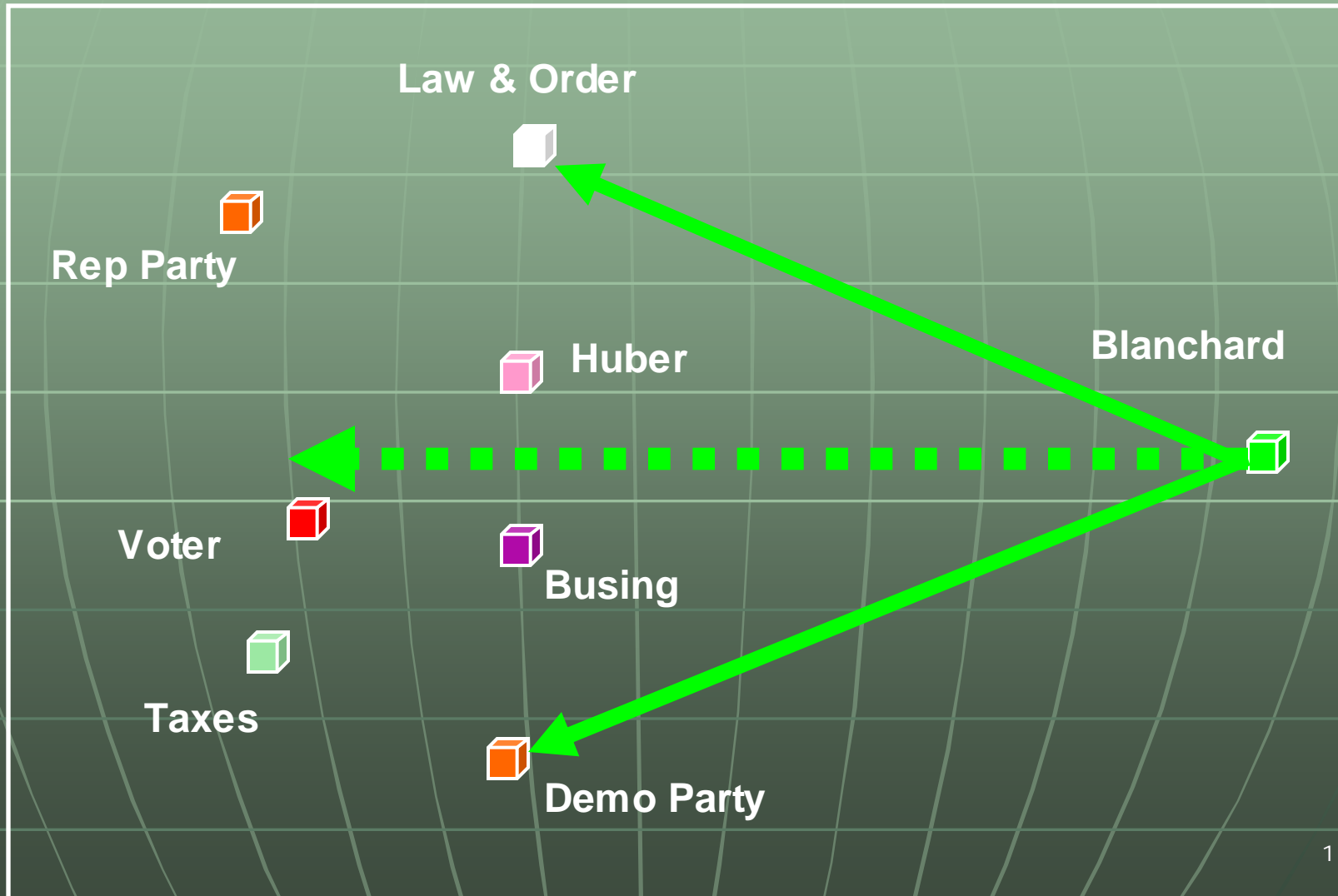


Perceptual Map: Combined Vectors

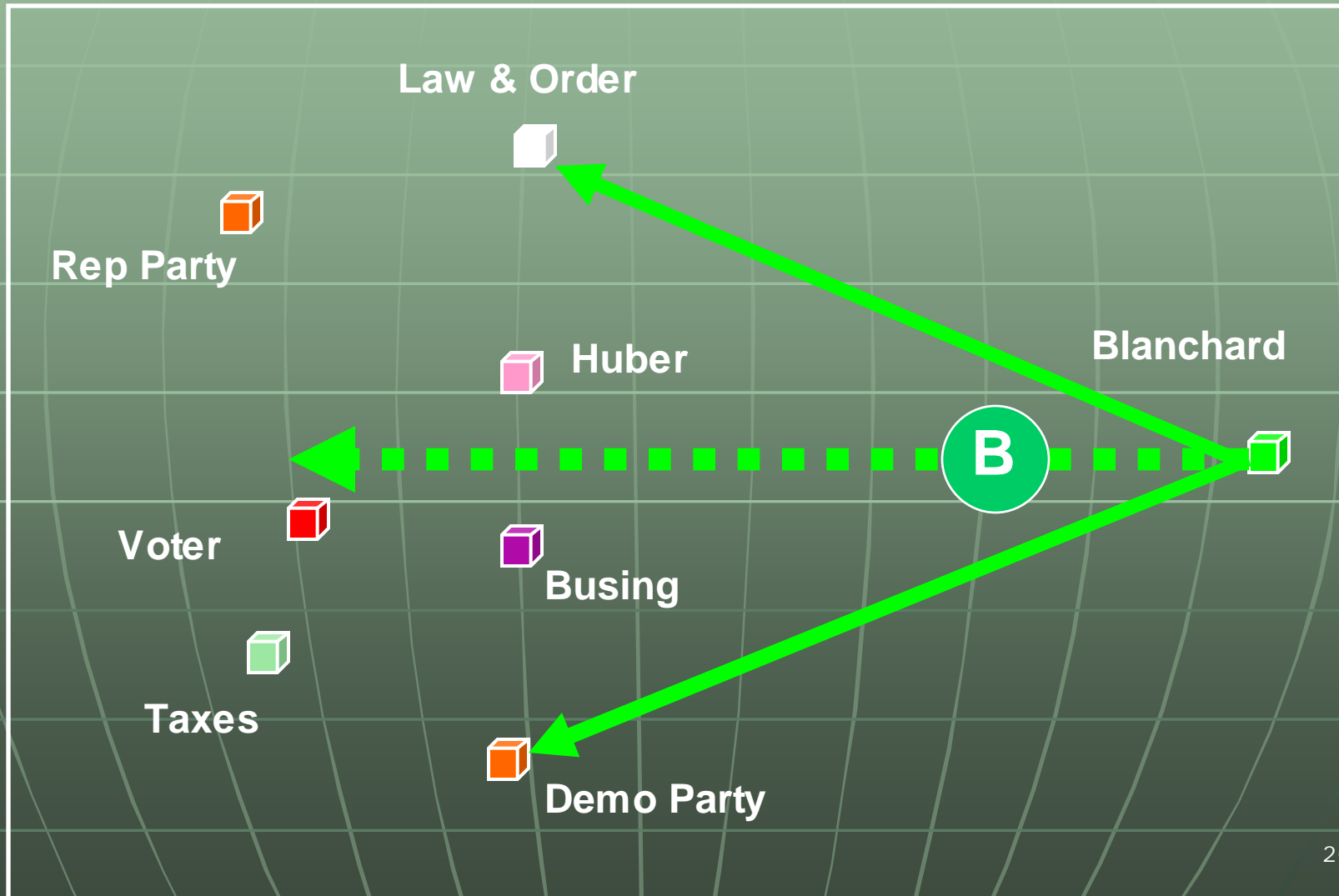


Perceptual Map

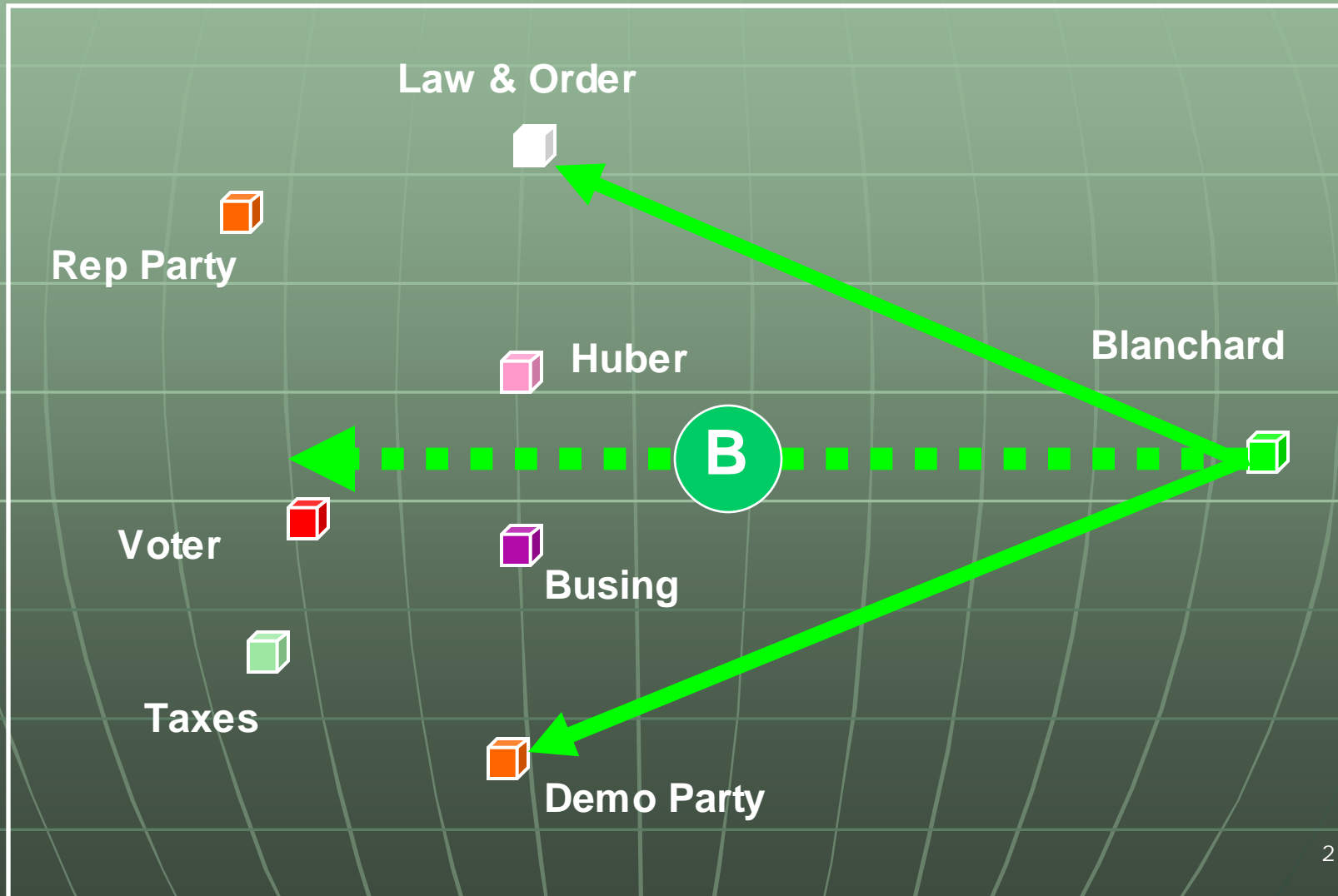
Resultant Vector - Predicted Movement



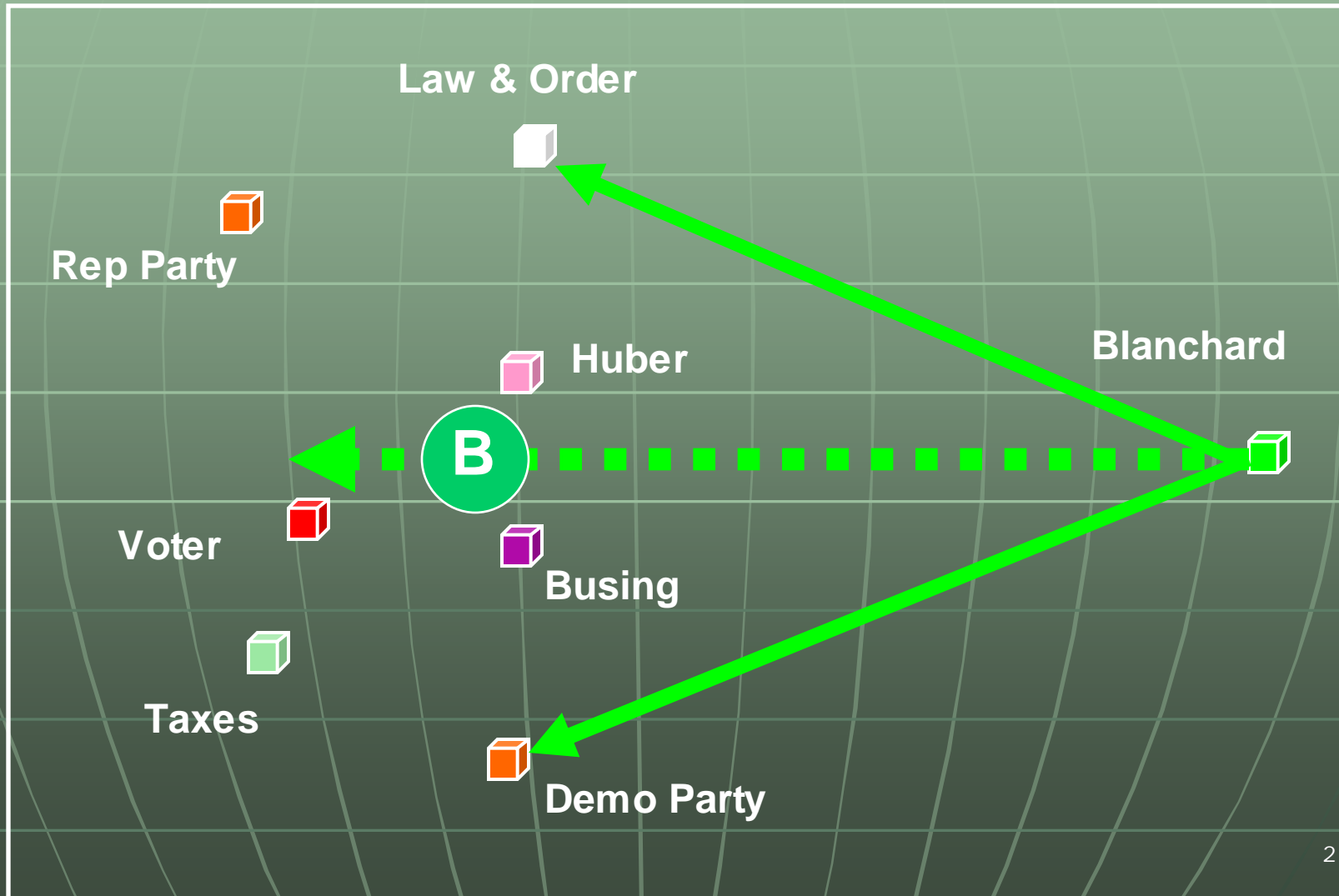
Perceptual Map: 2 Week Position Overlay



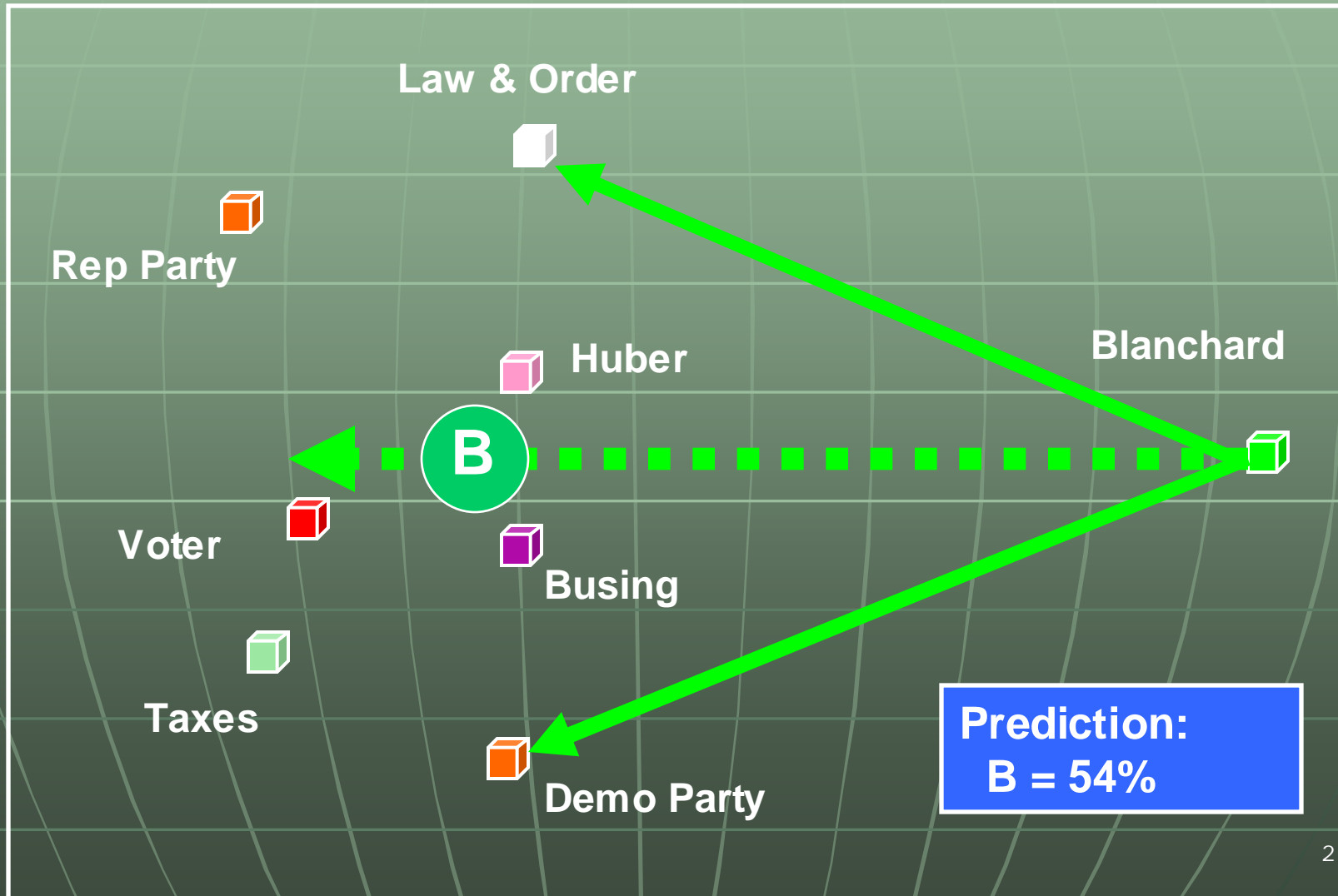
Perceptual Map: 4 Week Position Overlay



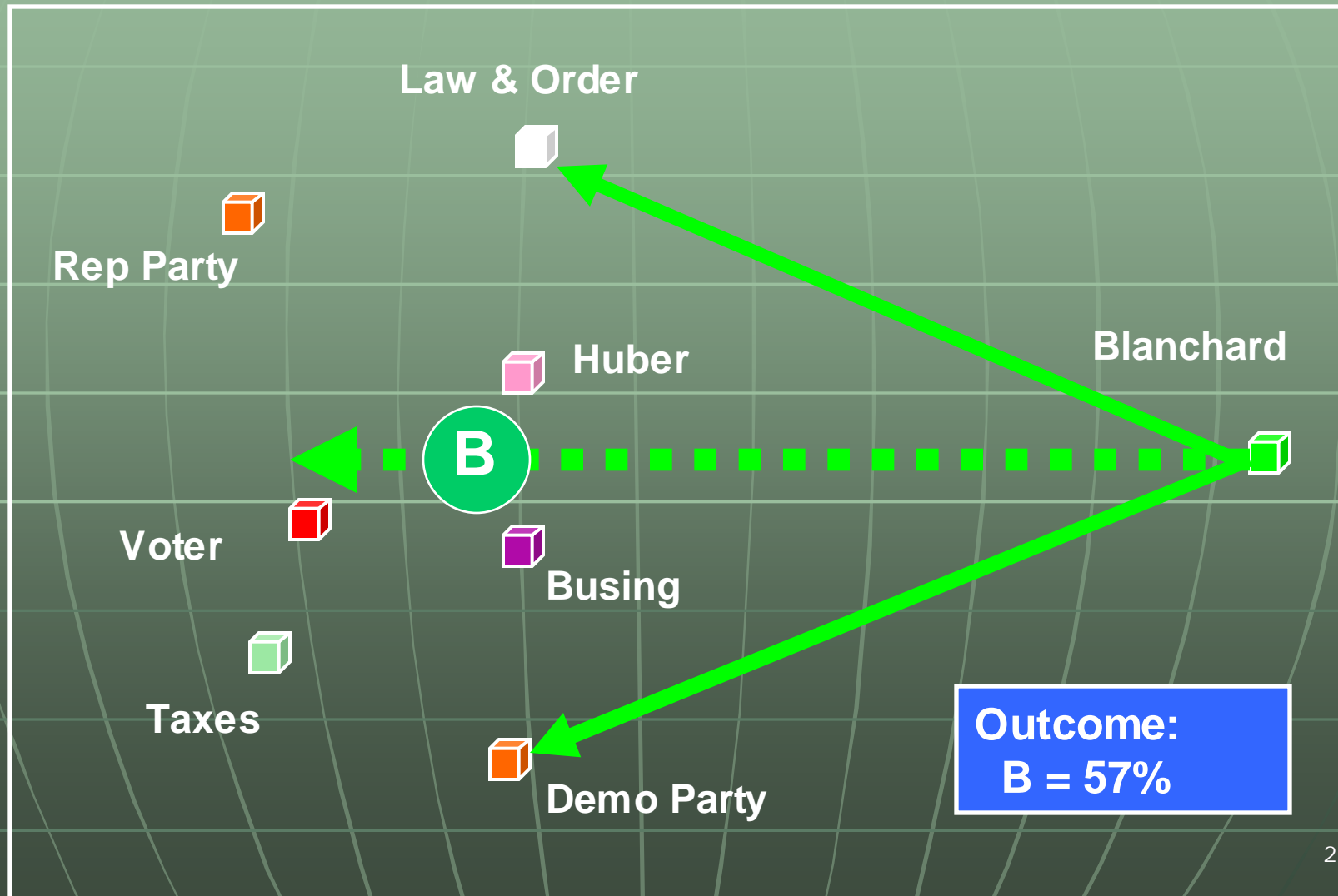
Perceptual Map: 6 Week Position Overlay



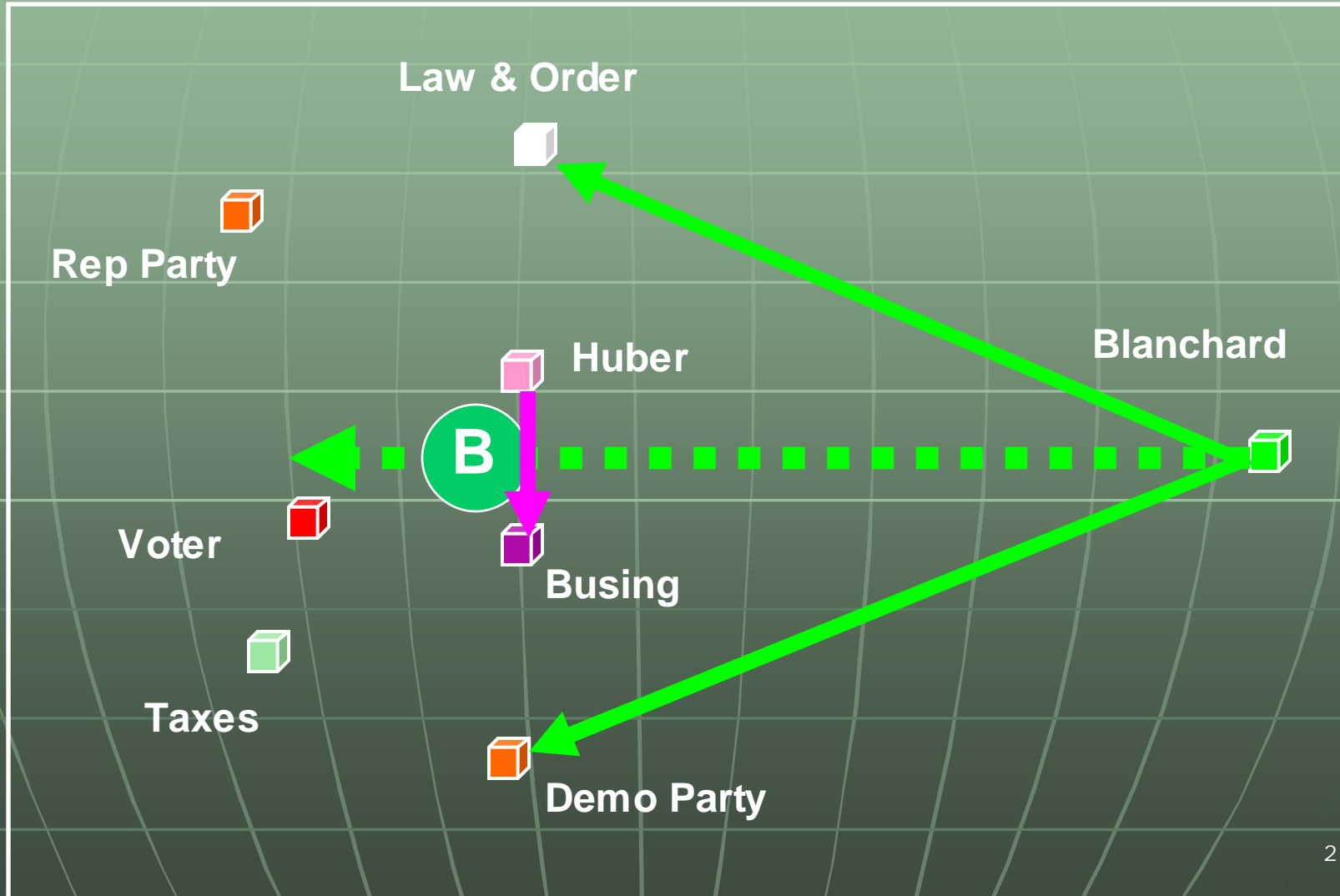
Perceptual Map: Prediction Based on Positionings



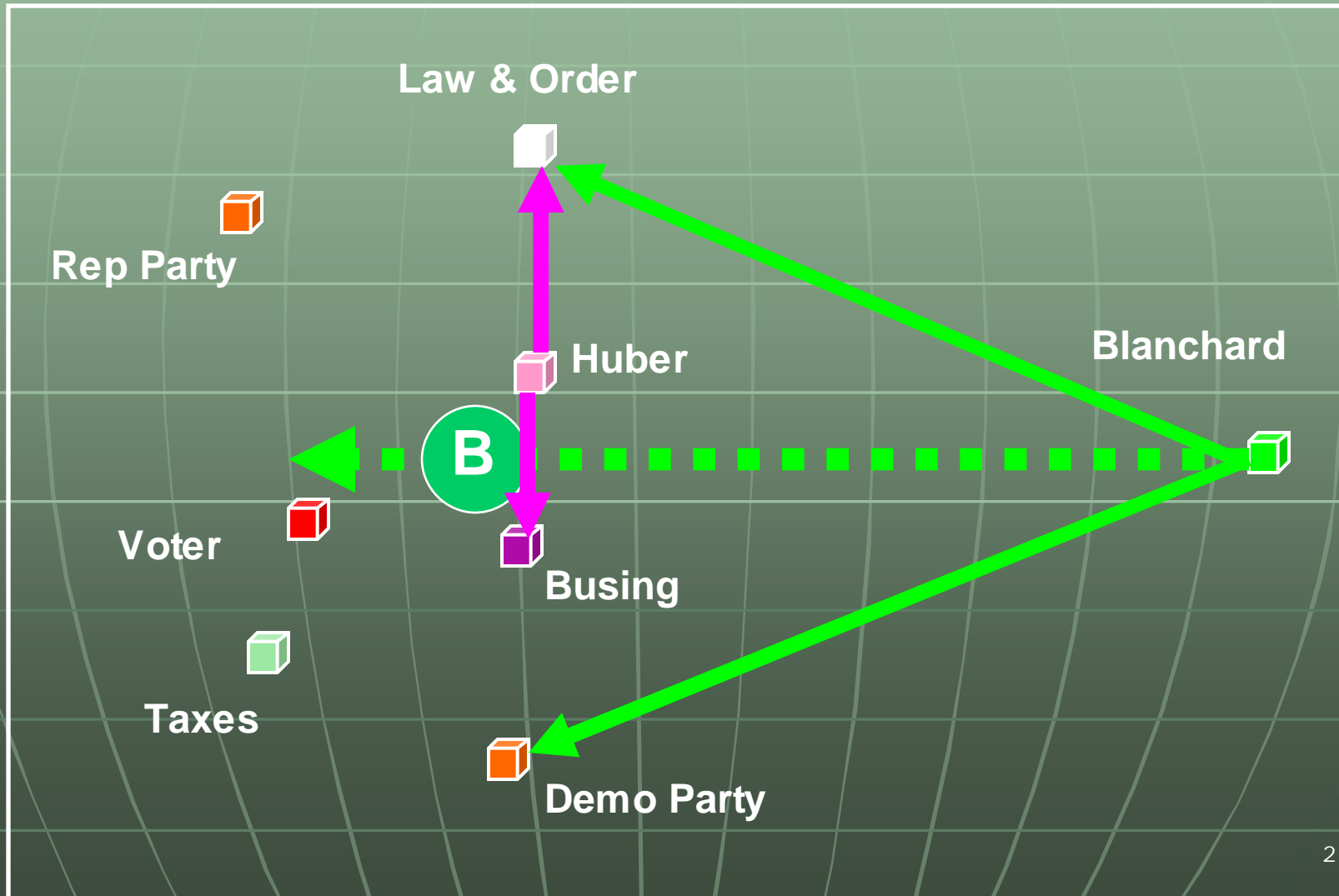
Perceptual Map: Actual Outcome of Election



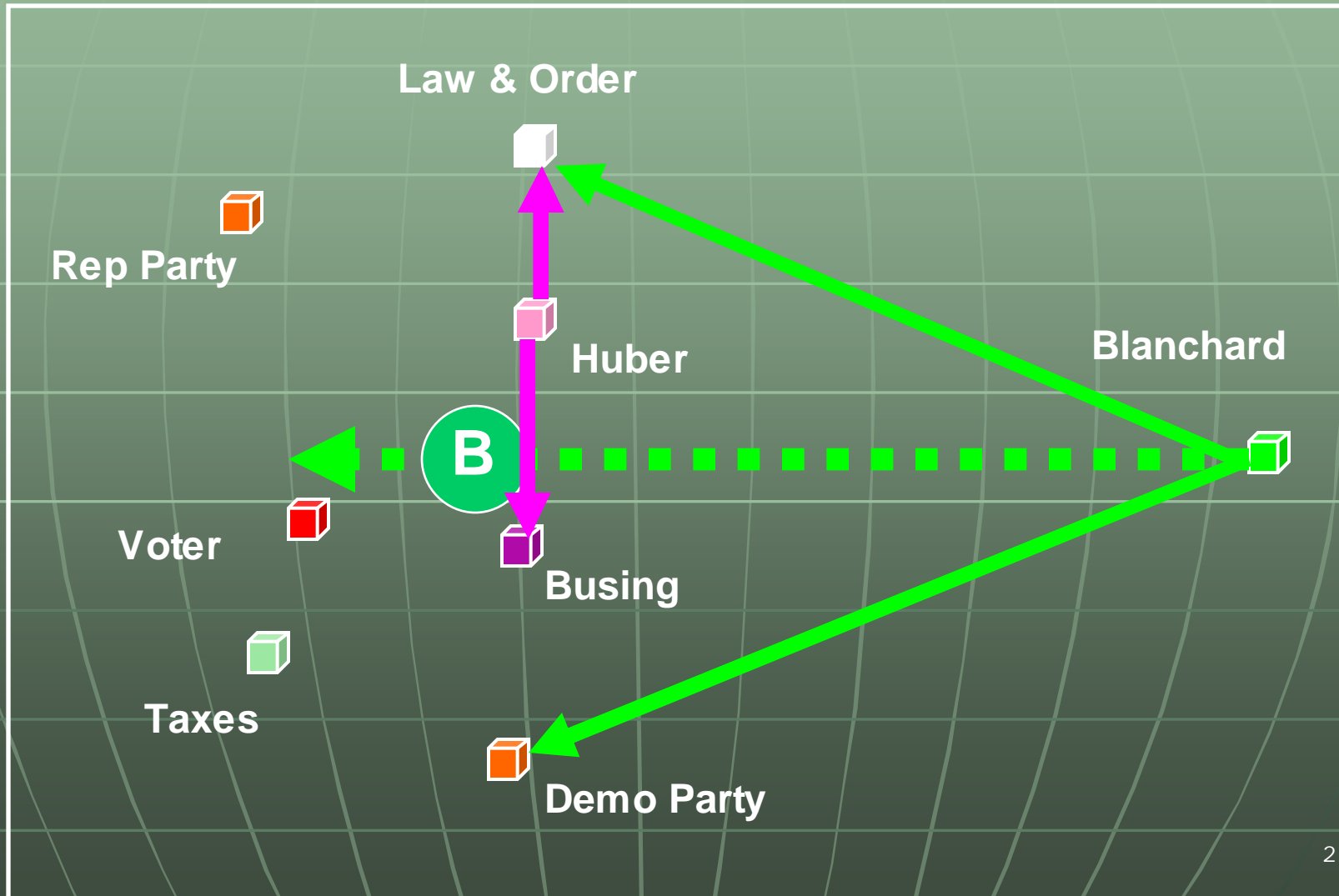
Perceptual Map: Dynamic Nature of the Model



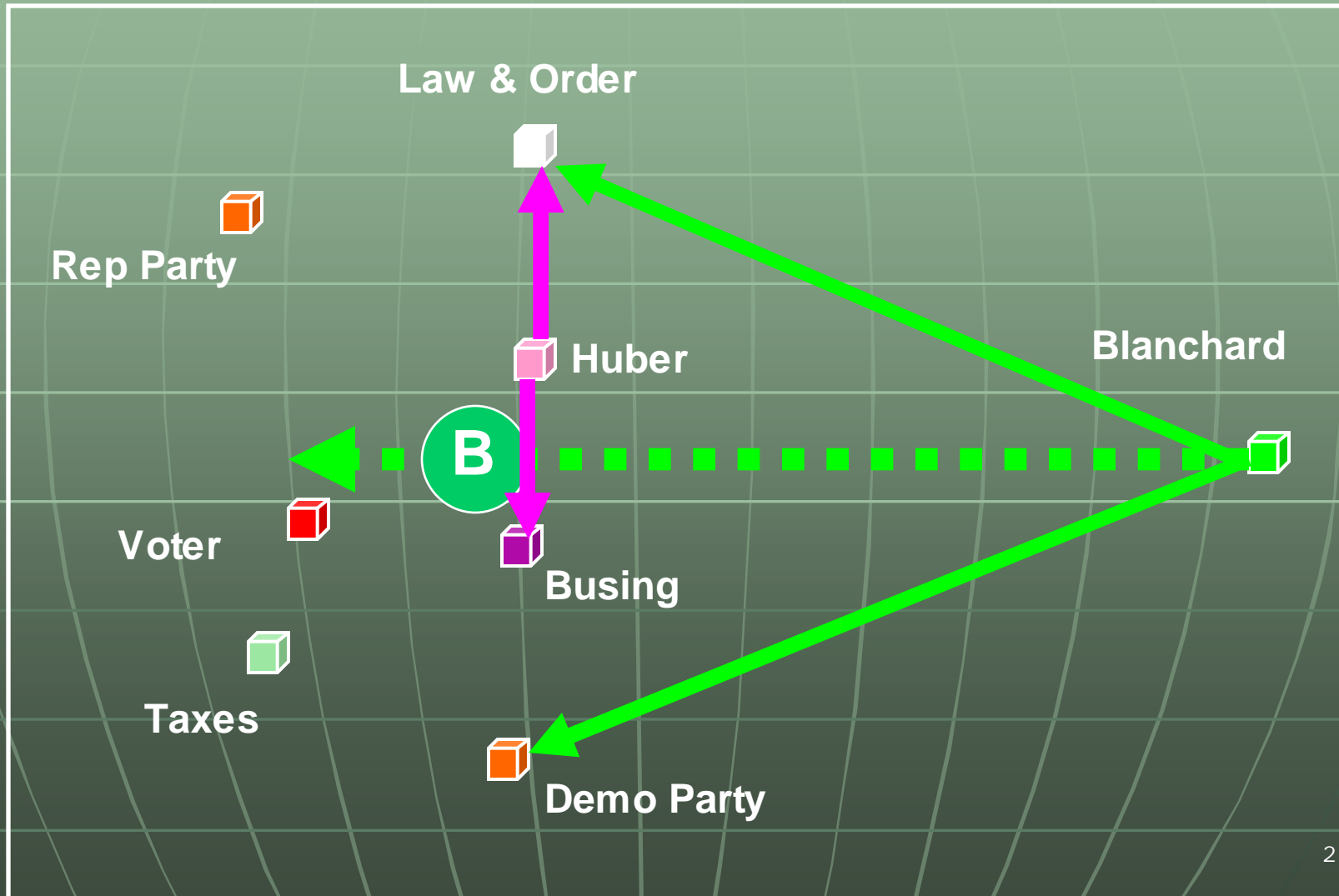
Perceptual Map: Dynamic Nature of the Model



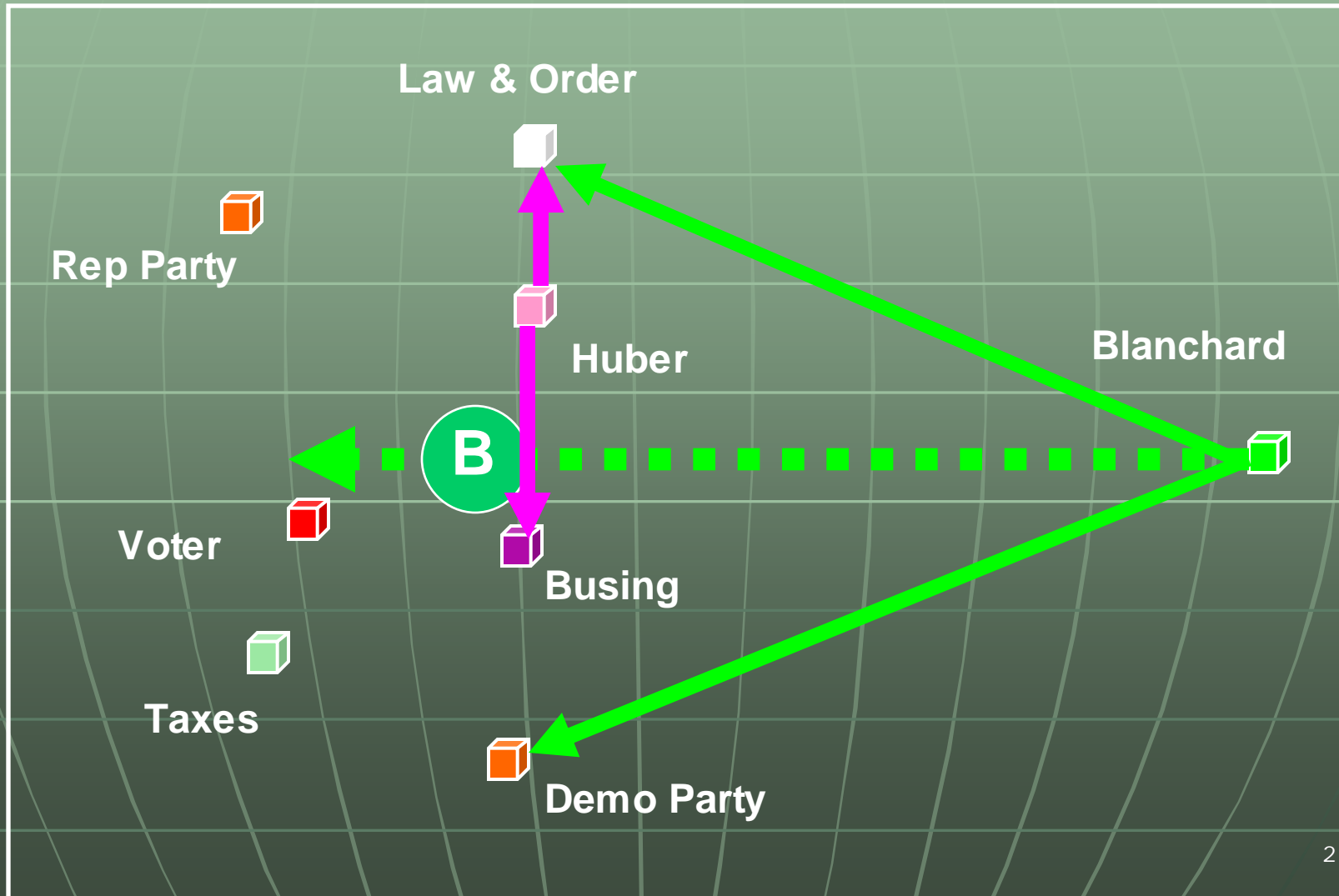
Perceptual Map: Dynamic Nature of the Model



Perceptual Map: Dynamic Nature of the Model



Perceptual Map: Dynamic Nature of the Model



Perceptual Mapping: Summary of Mapping Functions

1. Observation - Looking into the mind - to see conceptual structures and emotional associations (dual processing).
2. Mathematical Modeling of the conceptual-emotional frames.

Summary of Mapping Functions

3. Message Design - Using vector analytic methods to tailor messages.

4. Tracking the impact of information and experience on conceptual-emotional structures across time.

Survey: Perceptions of Avian Flu (Pennsylvania)

- *Statewide probability sample
(n=1209)*
- *Telephone Survey --
Questions assessing:*
 - * *General conceptualization
(No human to human trans.)*
 - * *If Human to Human Transmission*
 - * *If Asked or Ordered to Quarantine*

Survey: Perceptions of Avian Flu

As things are today

Scale Base = 0 to 10 0=not at all likely; 10=very likely
N=1209

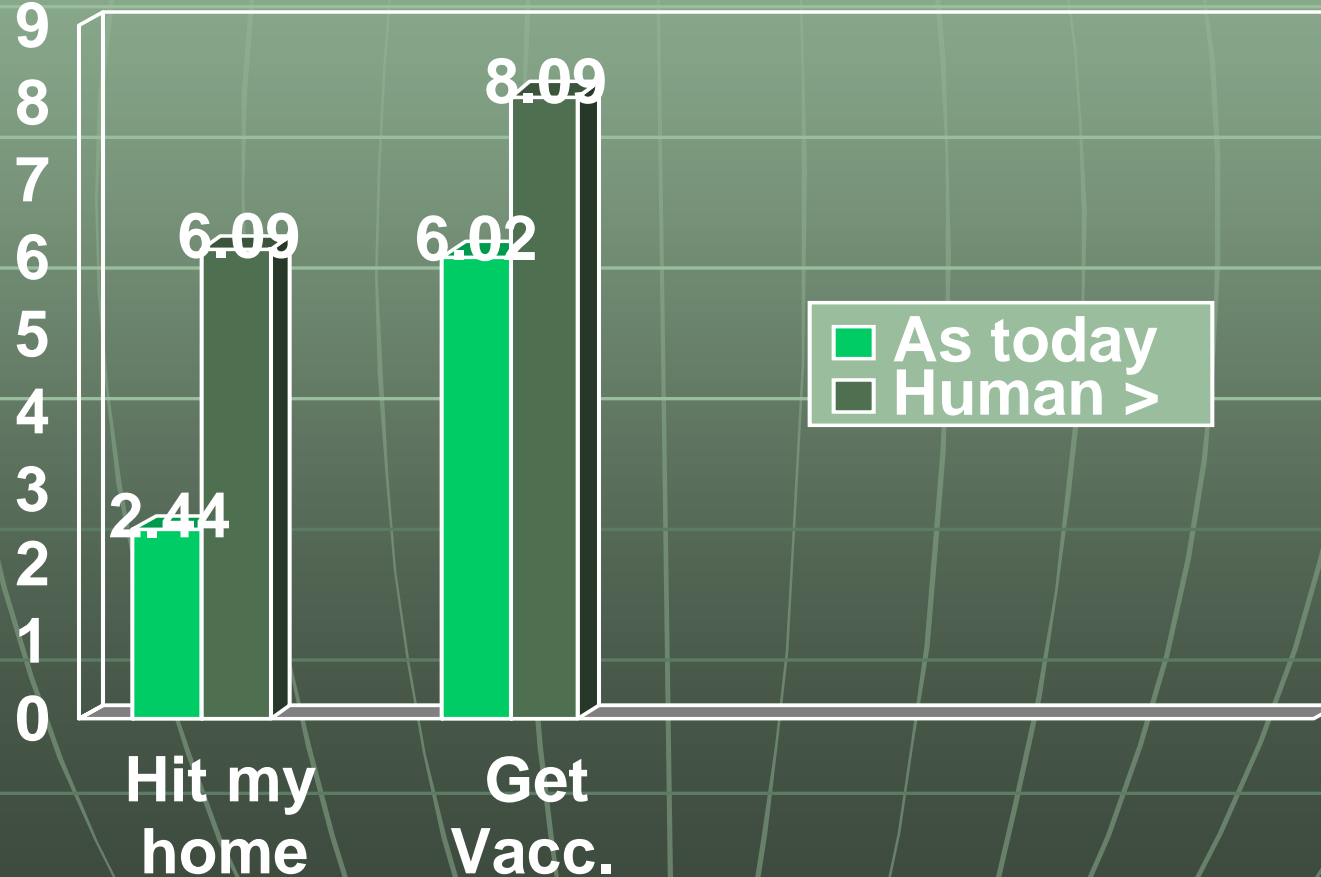
• Flu will reach USA	5.16
• Will hit my household	2.44
• Flu is contagious	4.76
• Is passed thru food	5.64
• The infected can die	5.53
• I would get vaccinated	6.02

Survey: Perceptions of Avian Flu If Human to Human Transmission

Scale Base = 0 to 10 0=not at all likely; 10=very likely
N-1209

- Will hit my household 6.09
- I'd get vaccinated 8.09
- Get vac. if Govt. asked 8.36
- Likely vac. shortage 6.42
- Doc won't get enough vac. 5.82

Survey: Perceptions of Avian Flu As Things Are Today vs. Human>Human Transmission



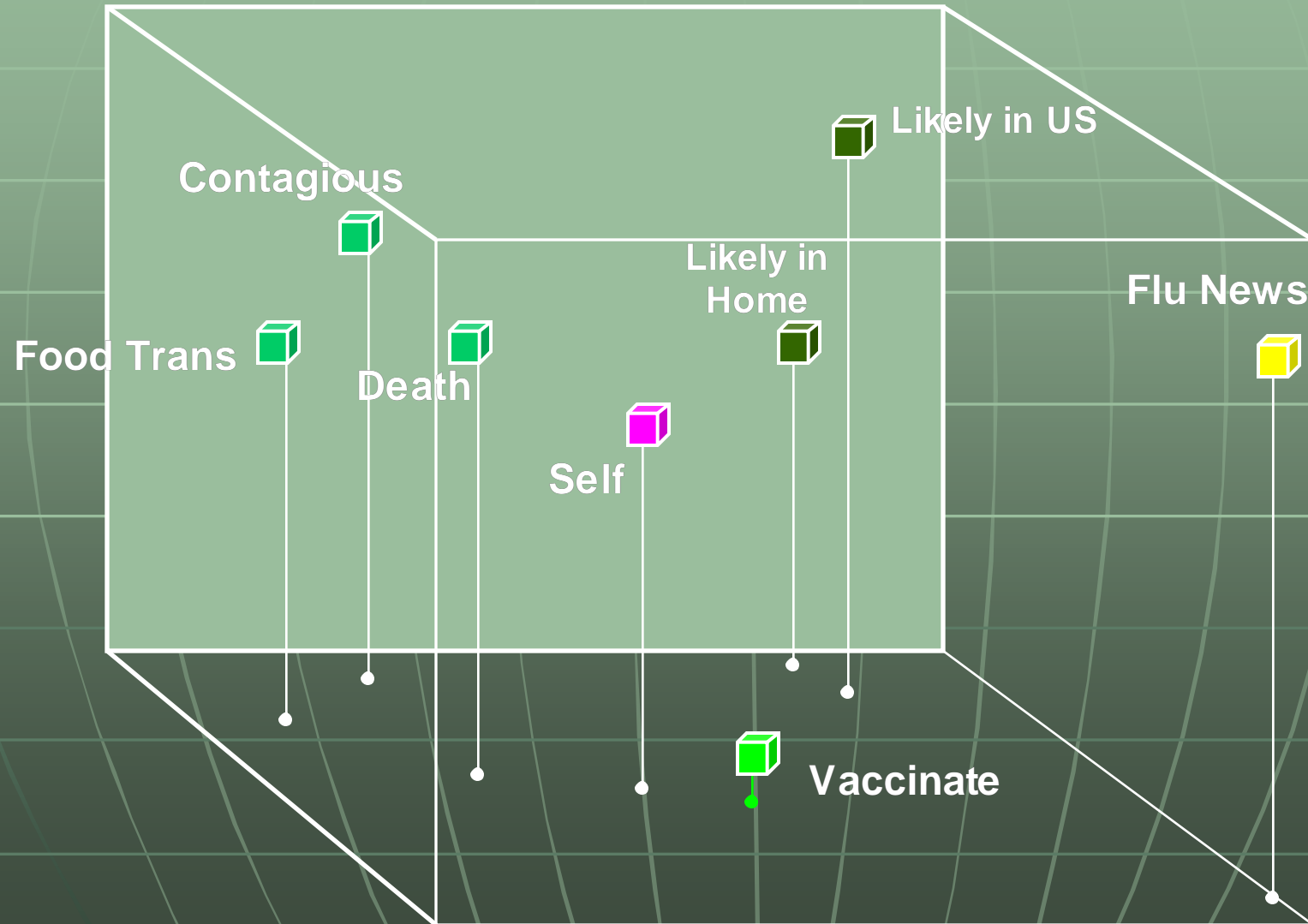
Survey: Perceptions of Avian Flu

As things are today

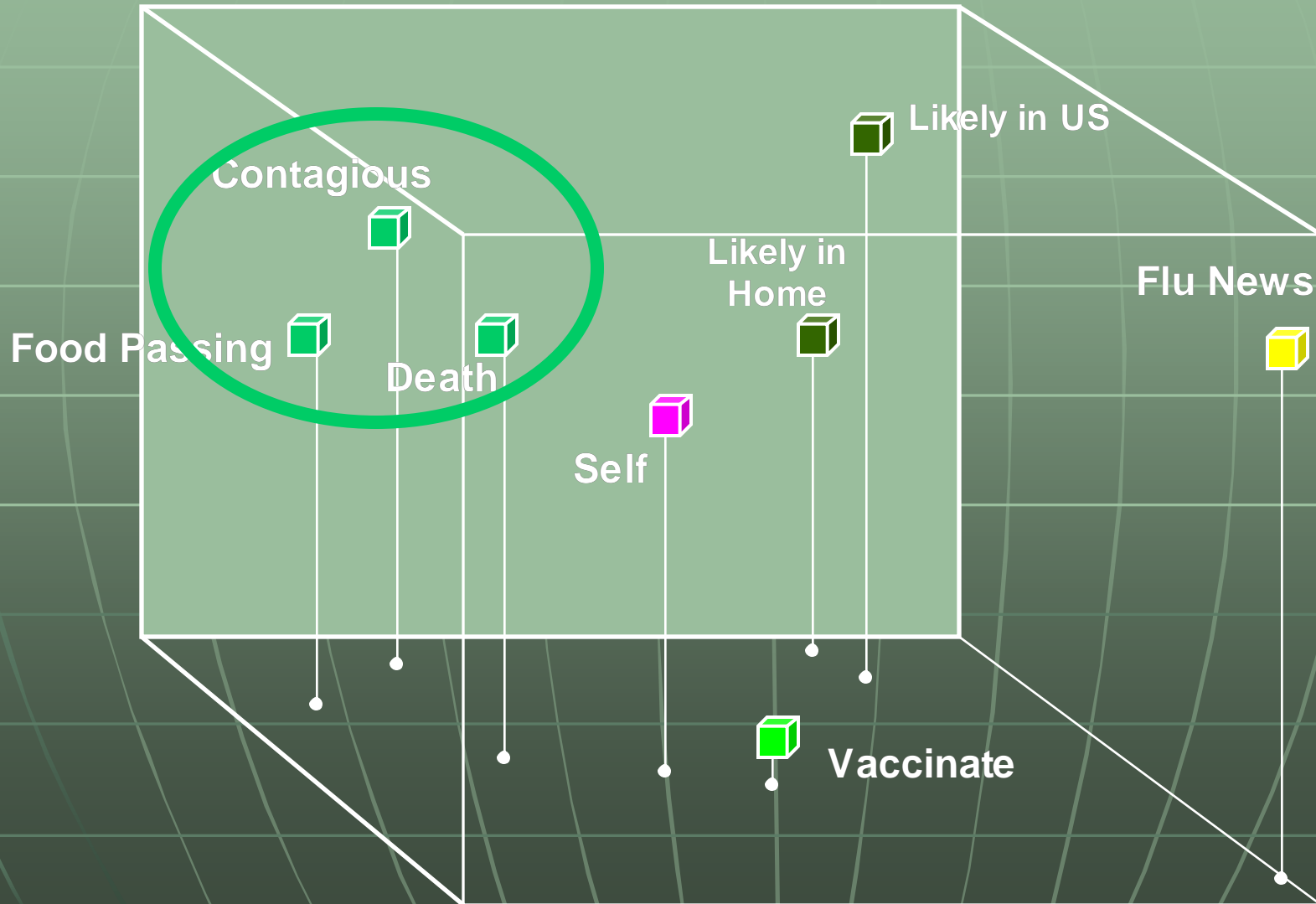
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- | | |
|--------------------------|------|
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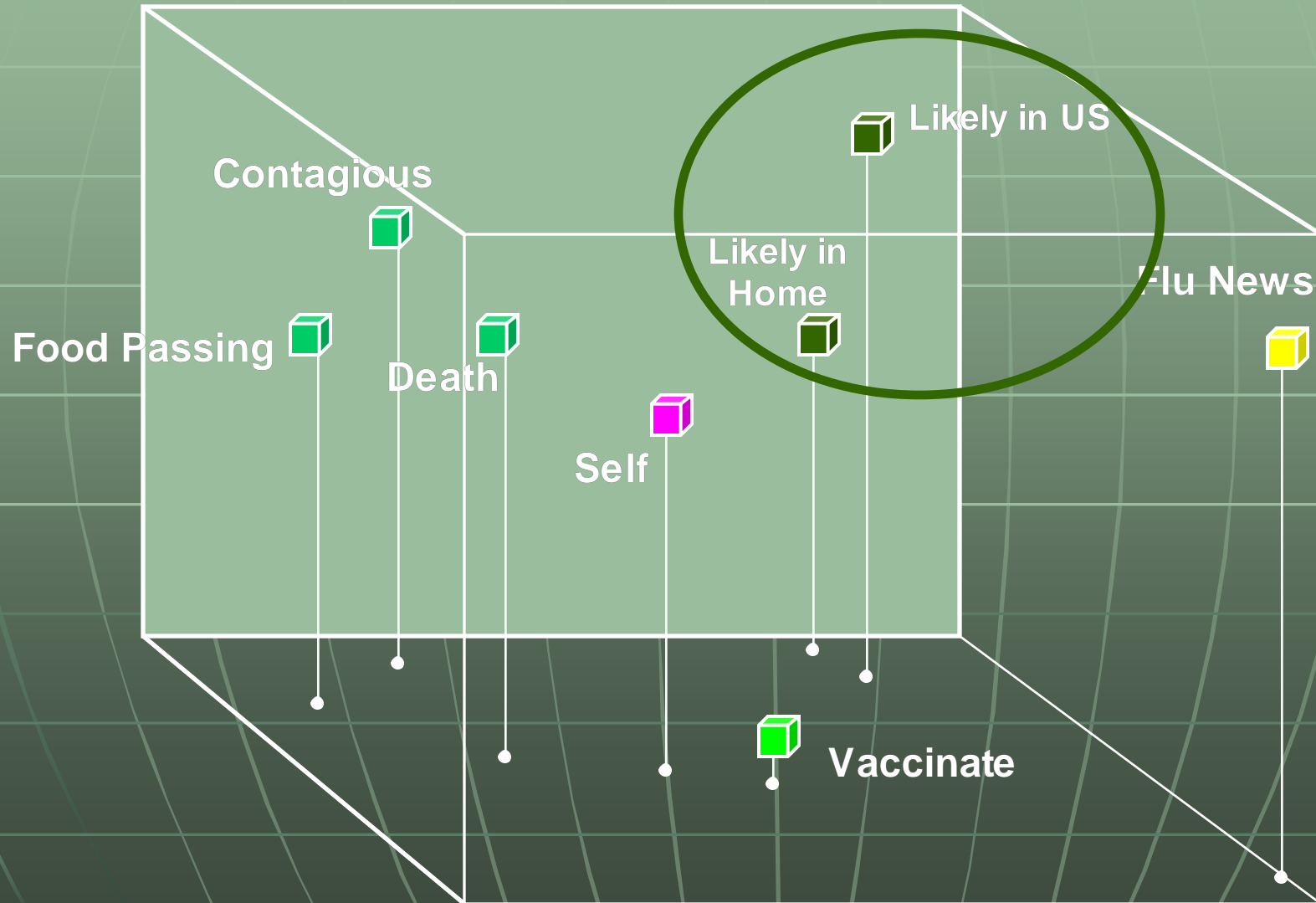
Perceptual Map: Avian Flu - Conceptualization



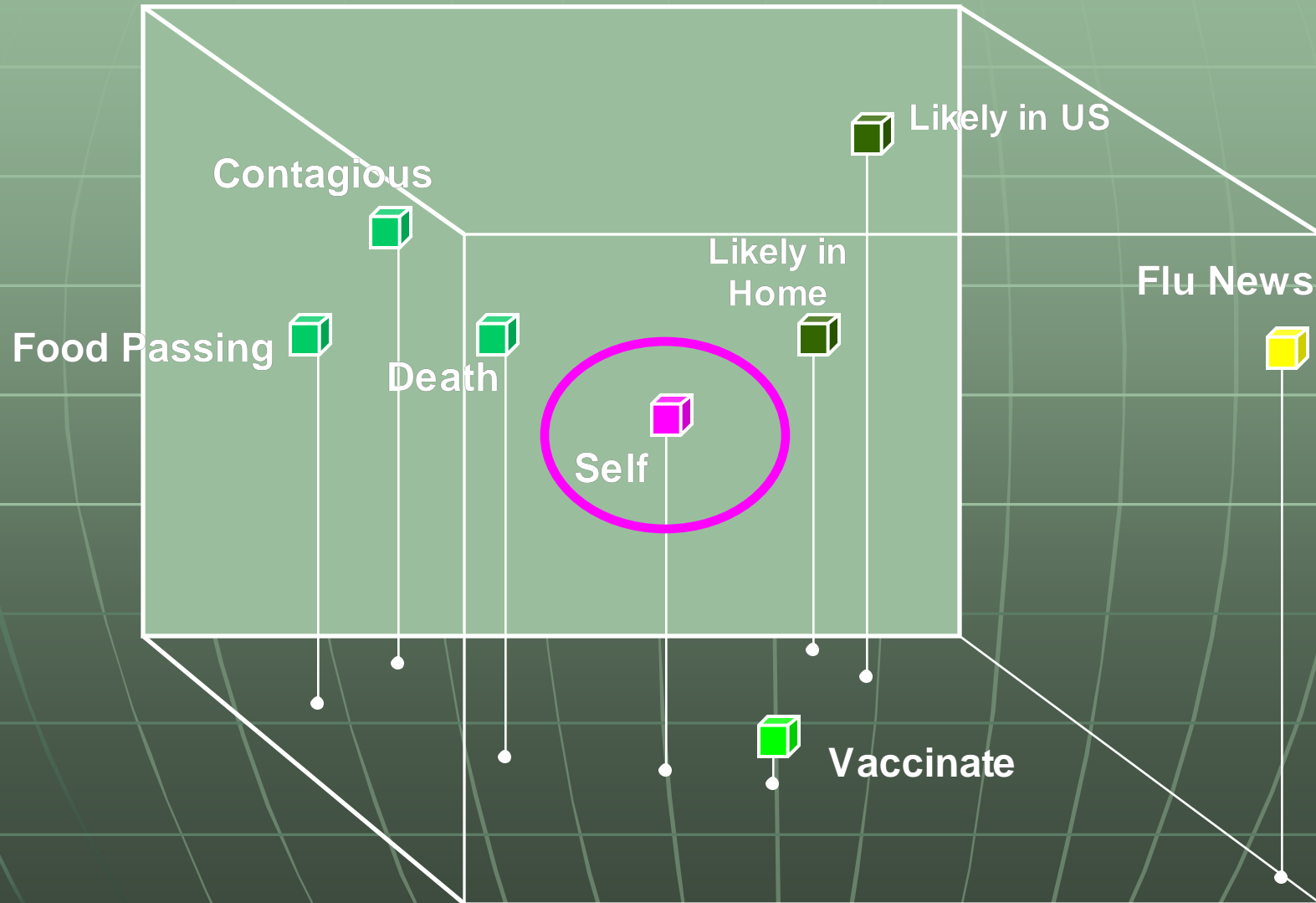
Perceptual Map: Avian Flu - Conceptualization



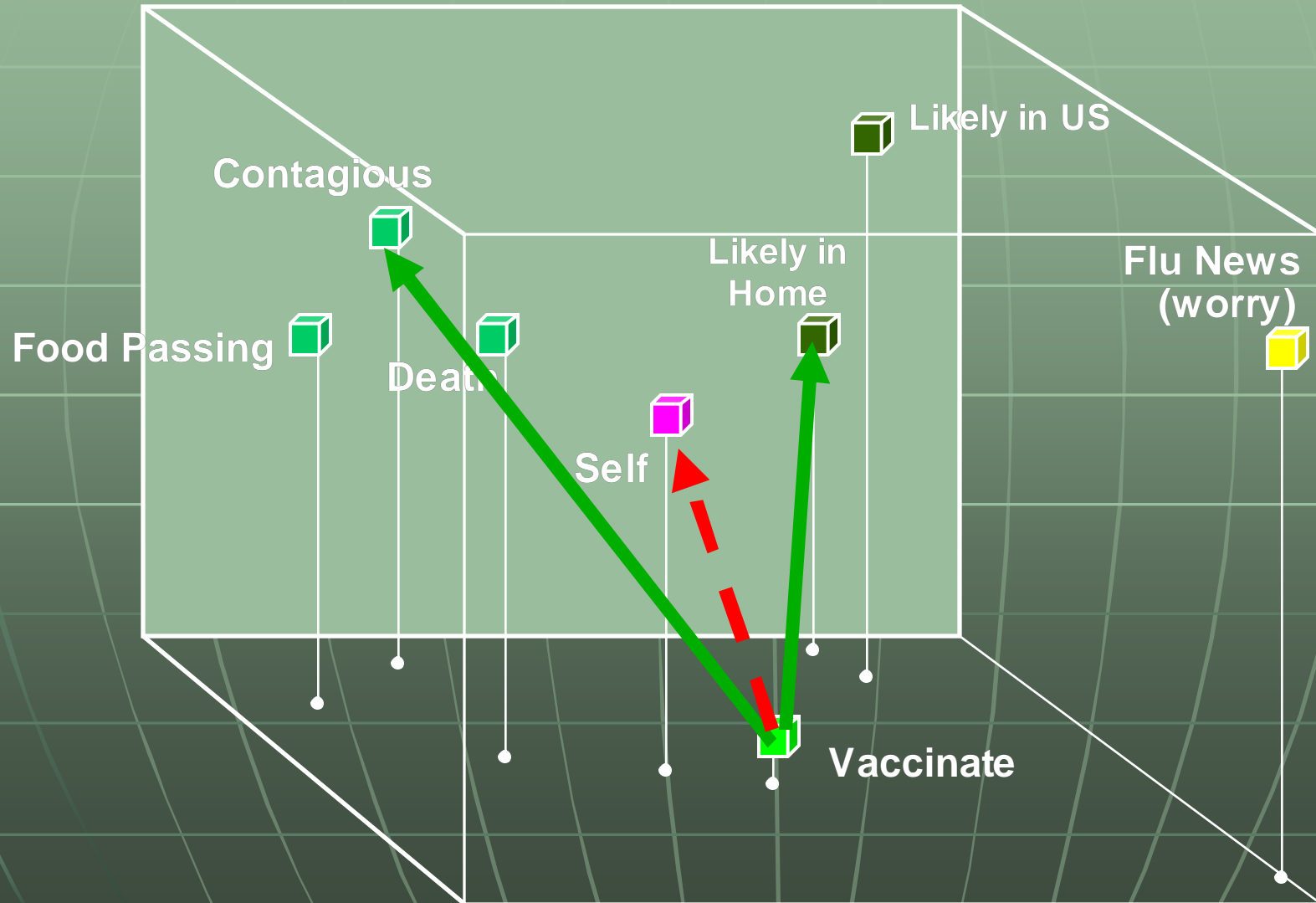
Perceptual Map: Avian Flu - Conceptualization



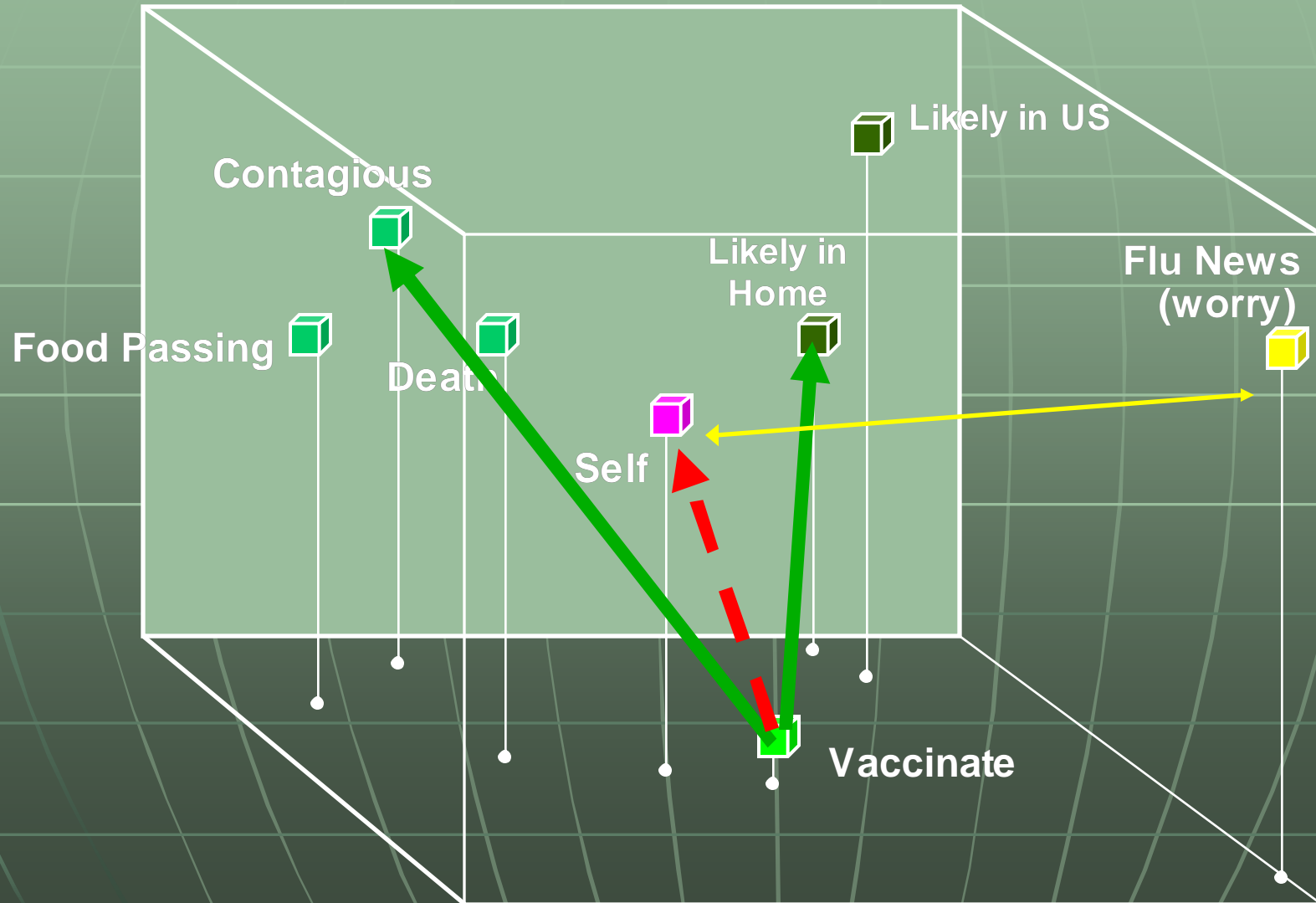
Perceptual Map: Avian Flu - Conceptualization



Perceptual Map: Avian Flu - Conceptualization



Perceptual Map: Avian Flu - Conceptualization



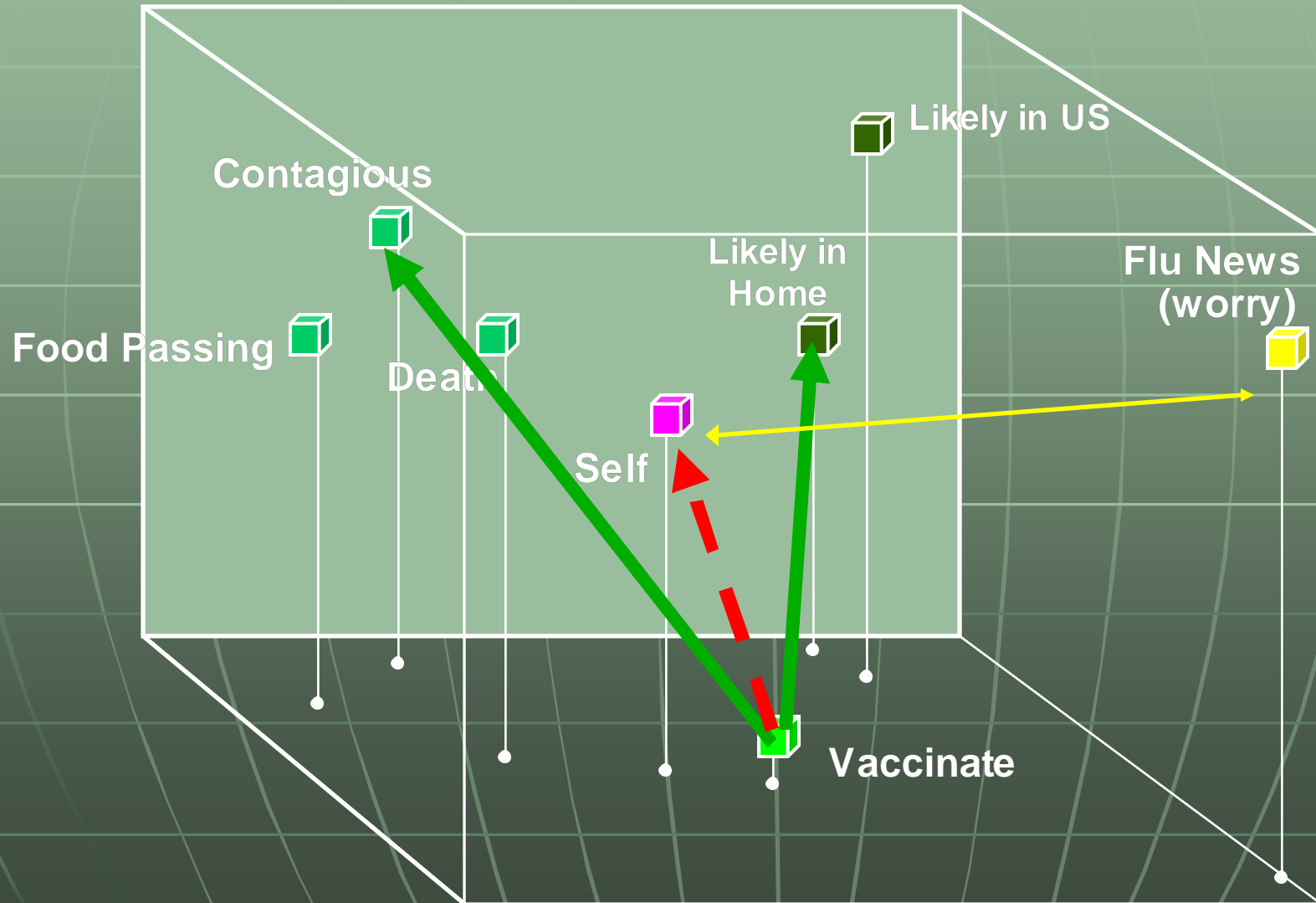
Survey: Perceptions of Avian Flu

As things are today

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| • I would get vaccinated | 6.02 |

Perceptual Map: Avian Flu - Conceptualization



Potential Contributions to Public Health Research

- **Modeling** how health issues are conceptualized
- **Developing** message strategies (simulation & testing).
- **Tracking** message effects over time.
- **Refining** long-term strategies to anticipate or predict needs.

Smallpox Pilot Study - Questionnaire

Survey asked about attributes of smallpox vaccination in four situations:

- Today - no cases of smallpox
- If another terrorist attack happens in US
- If a smallpox attack happens somewhere in the United States
- If a smallpox case happens in our area

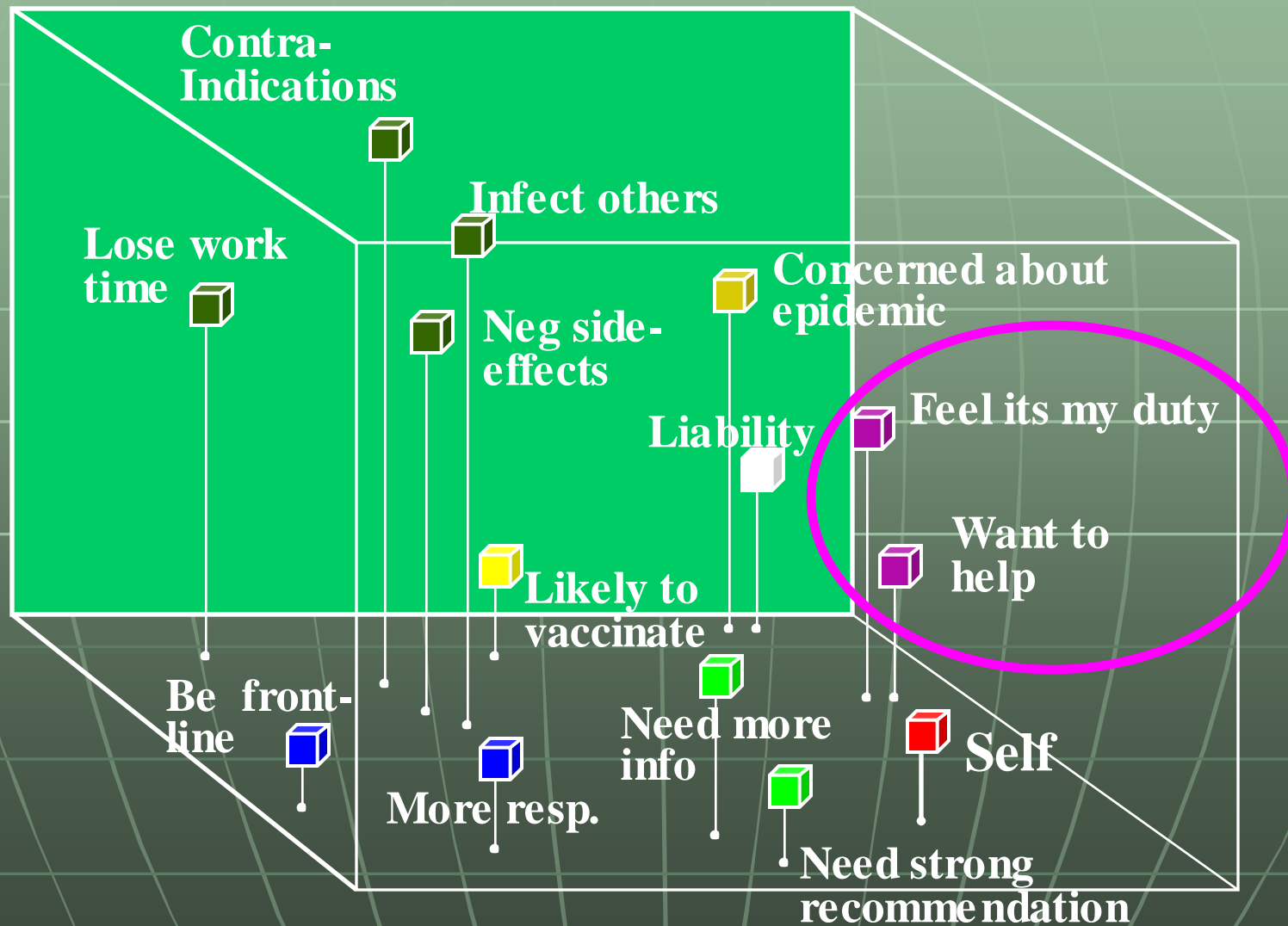
Perceptual Map -- Smallpox Vaccination

Today -- no smallpox cases



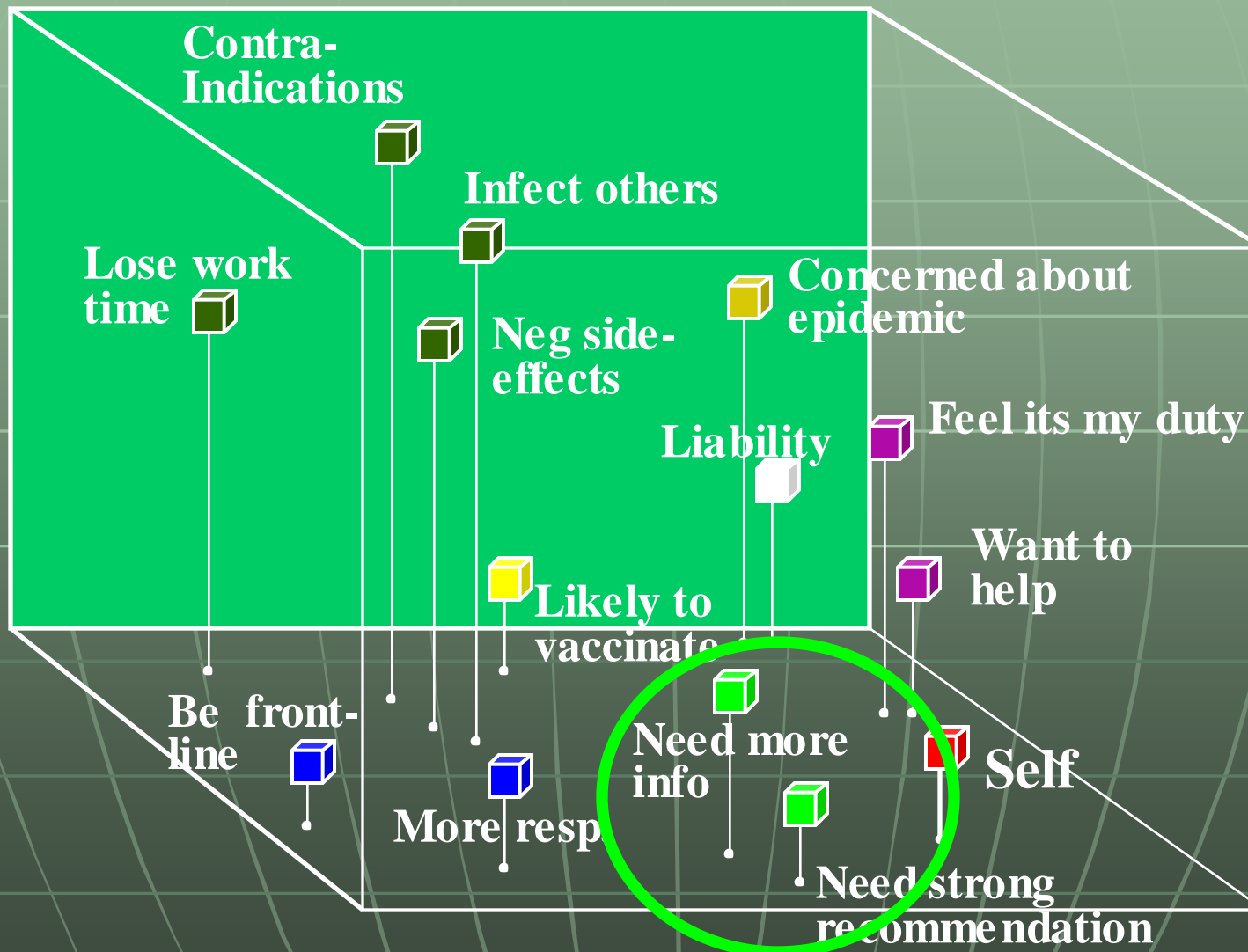
Perceptual Map -- Smallpox Vaccination

Today -- no smallpox cases



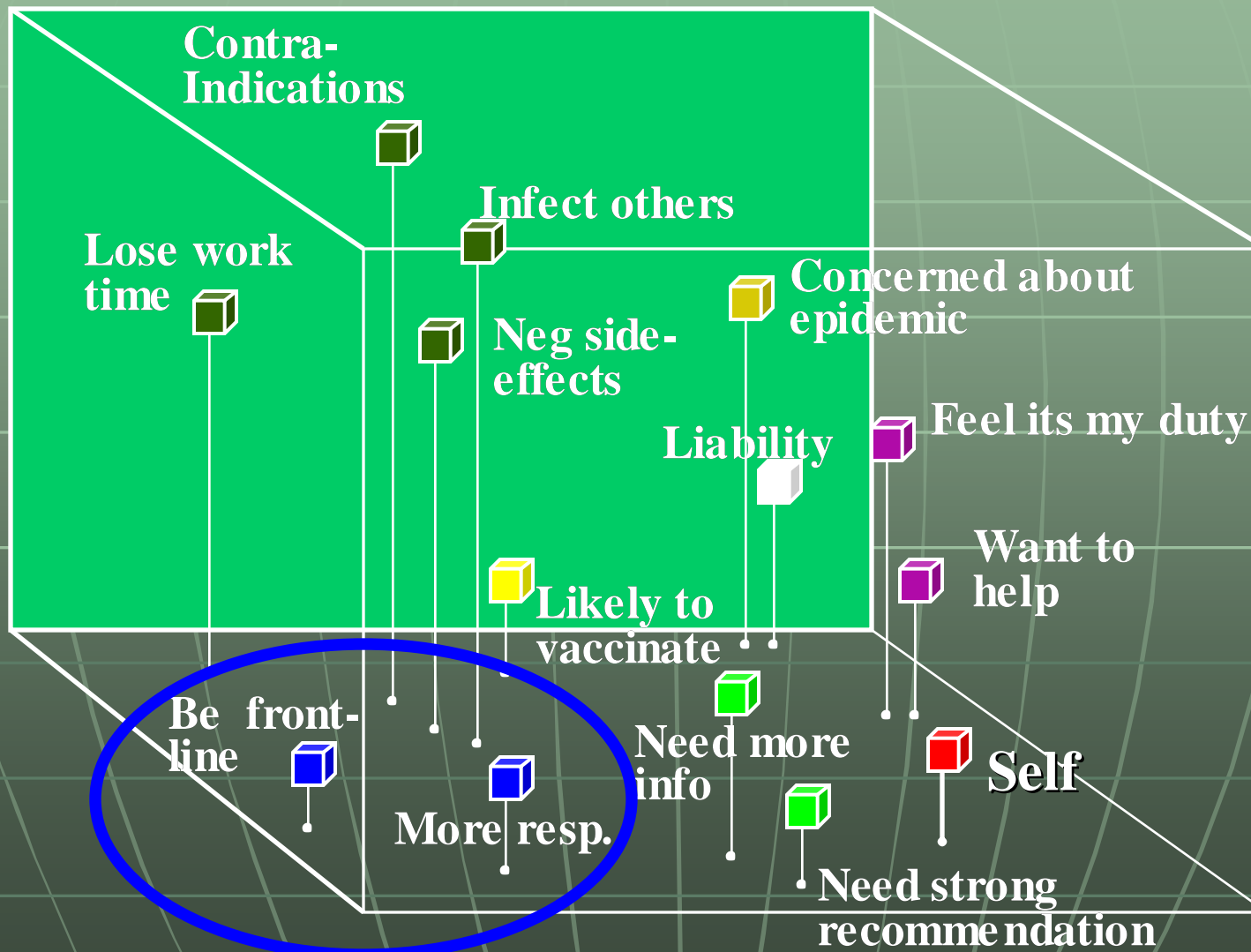
Perceptual Map -- Smallpox Vaccination

Today -- no smallpox cases



Perceptual Map -- Smallpox Vaccination

Today -- no smallpox cases



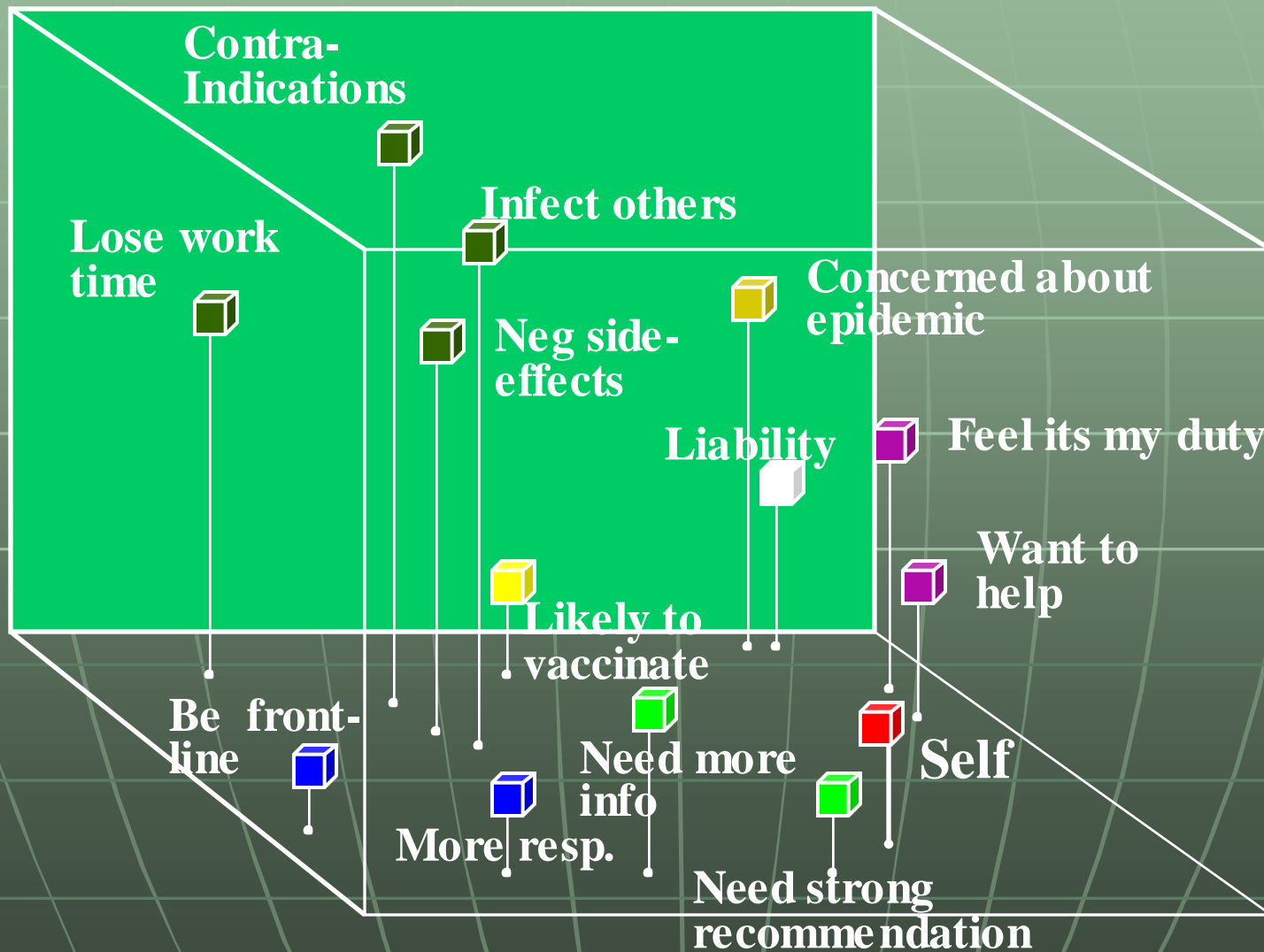
Perceptual Map -- Smallpox Vaccination

Today -- no smallpox cases



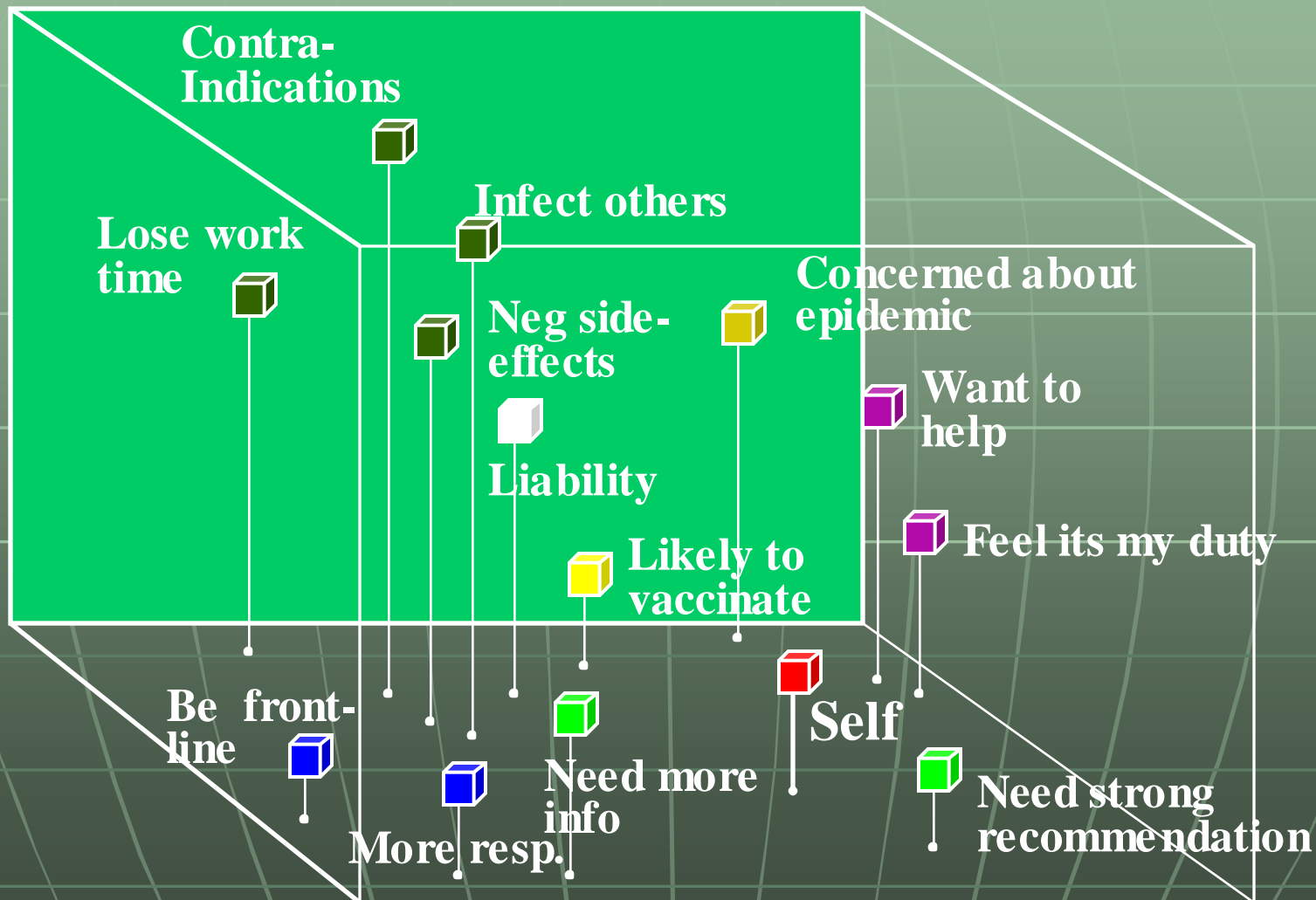
Perceptual Map -- Smallpox Vaccination

After terrorist attack of any kind in the USA



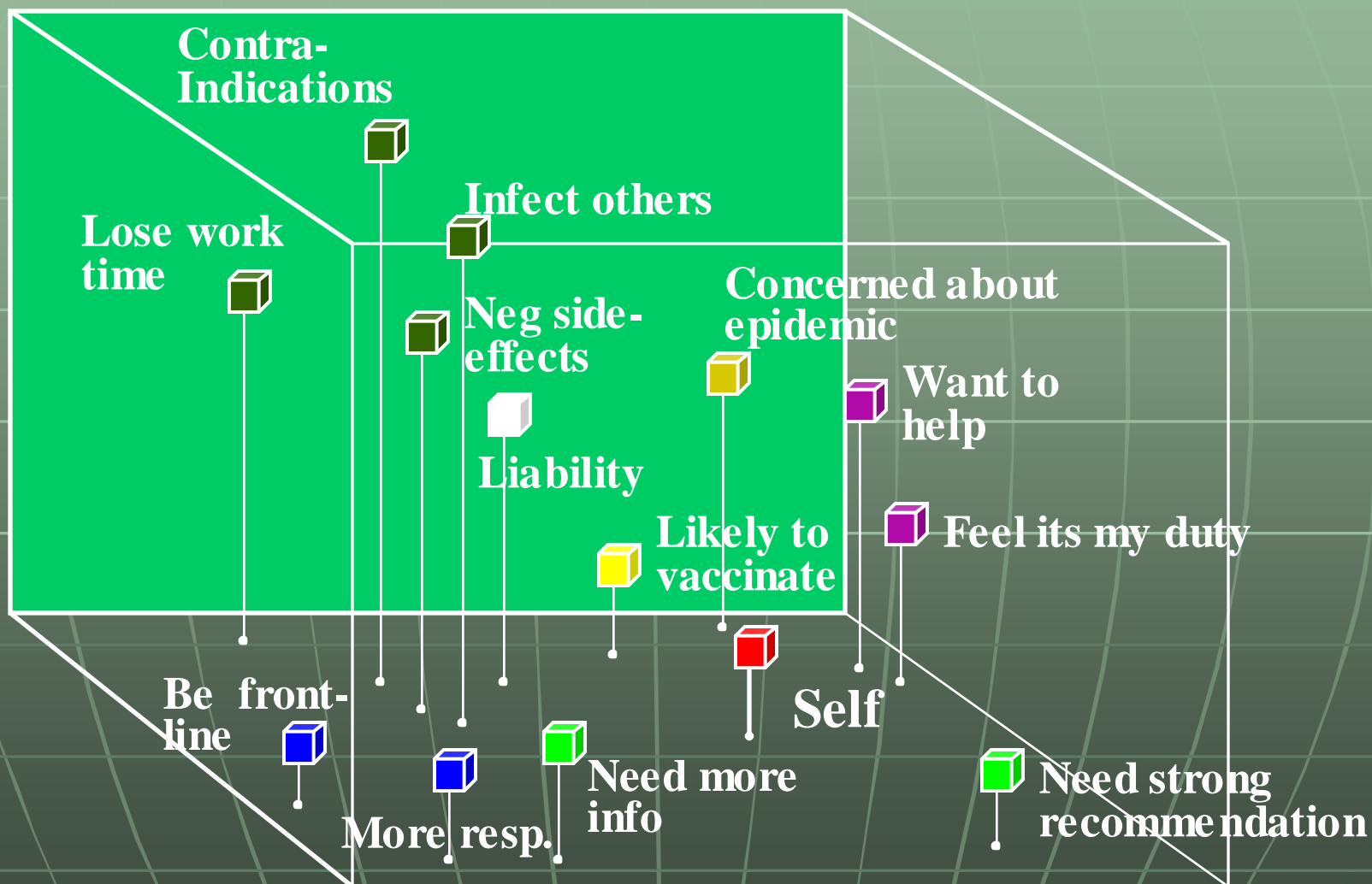
Perceptual Map -- Smallpox Vaccination

Terrorist Smallpox Attack in the USA



Perceptual Map -- Smallpox Vaccination

Confirmed Smallpox Case in My Community



Perceptual Map -- Smallpox Vaccination

Repositioned Self



Potential Contributions to Campaign Development

- Modeling public conceptualizations (understanding) of issues/events.
- Developing message strategies (simulation & testing)
- Tracking message effects over time.

Contact Information

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