

# THE EMOTIONAL COHERENCE OF THE ISLAMIC STATE

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# Coherence: From Hegel to Cognitive Science



Hegel: the truth is the whole.

British idealists, e.g. Bosanquet.

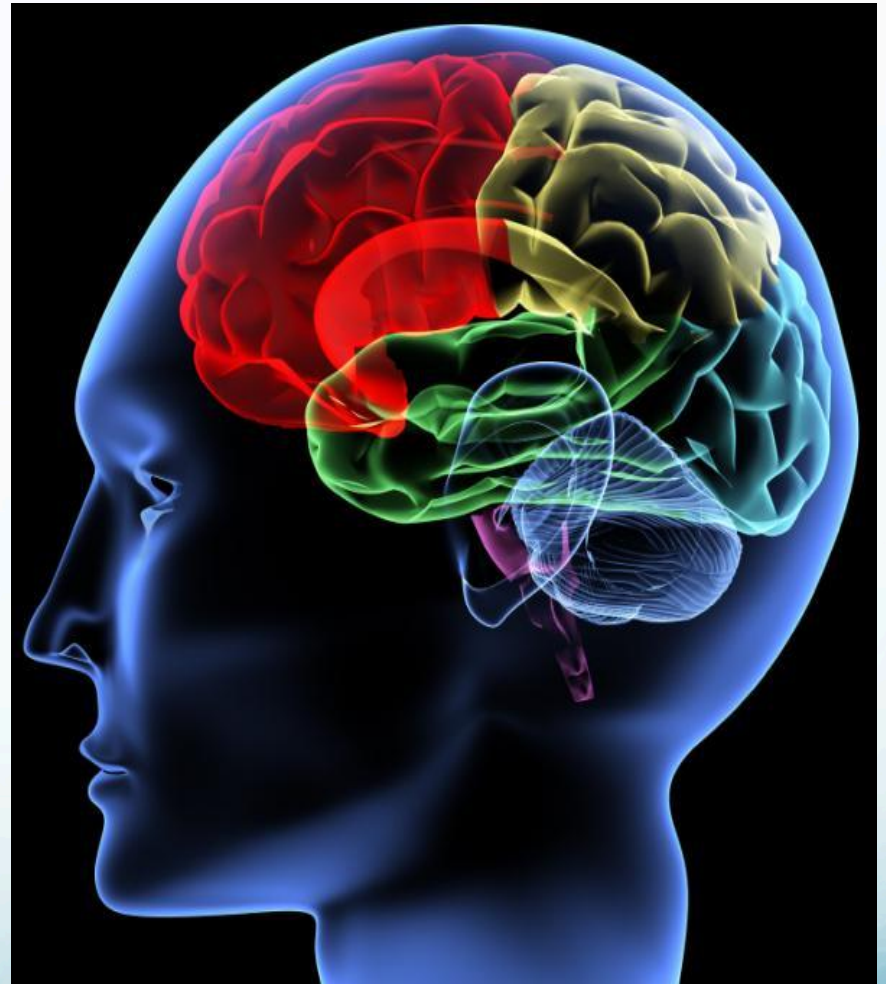
Explanatory coherence: Sellars, Harman.

1989 BBS.

2000 Coherence book.

# Outline

1. Decisions
2. Ideology
3. Value maps
4. Emotional coherence
5. Emotions
6. Ideological change

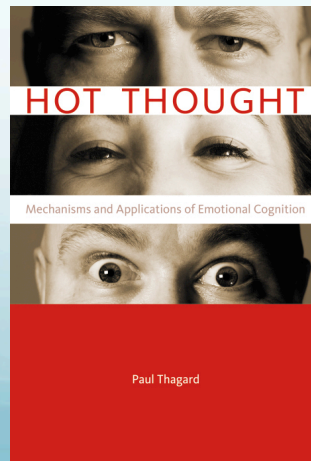


# Individual Decisions



# Models of Decision Making

1. Rational choice by maximizing expected utility based on preferences.
2. Fast and frugal heuristics.
3. Inference to the best plan based on emotional coherence, tied to values.  
Thagard (2006), *Hot Thought*, MIT Press.



# Ideology



1. Obama 2015: “Ideologies are not defeated with guns, they're defeated by better ideas.”
2. Ideologies are systems of concepts, beliefs, and values.
3. Values are bindings of emotions and concepts or beliefs.
4. Decisions, including ideological ones, are inferences based on emotional coherence.

# Values in Decision Making

Why have tens of thousands of foreigners joined the Islamic State?

Values: Islam, Sunni, Sharia law, etc.

What are values?

1. Preferences?
2. Abstract ideas?
3. Subjective opinions?
4. Values are mental processes that combine cognitions and emotions in the brain.



Values are not isolated, but occur in *systems*.

# Cognitive-Affective Maps

New kind of concept map that represents values and emotions.

Nodes represent concepts and objects.

Positive: green ovals



Negative: red hexagons



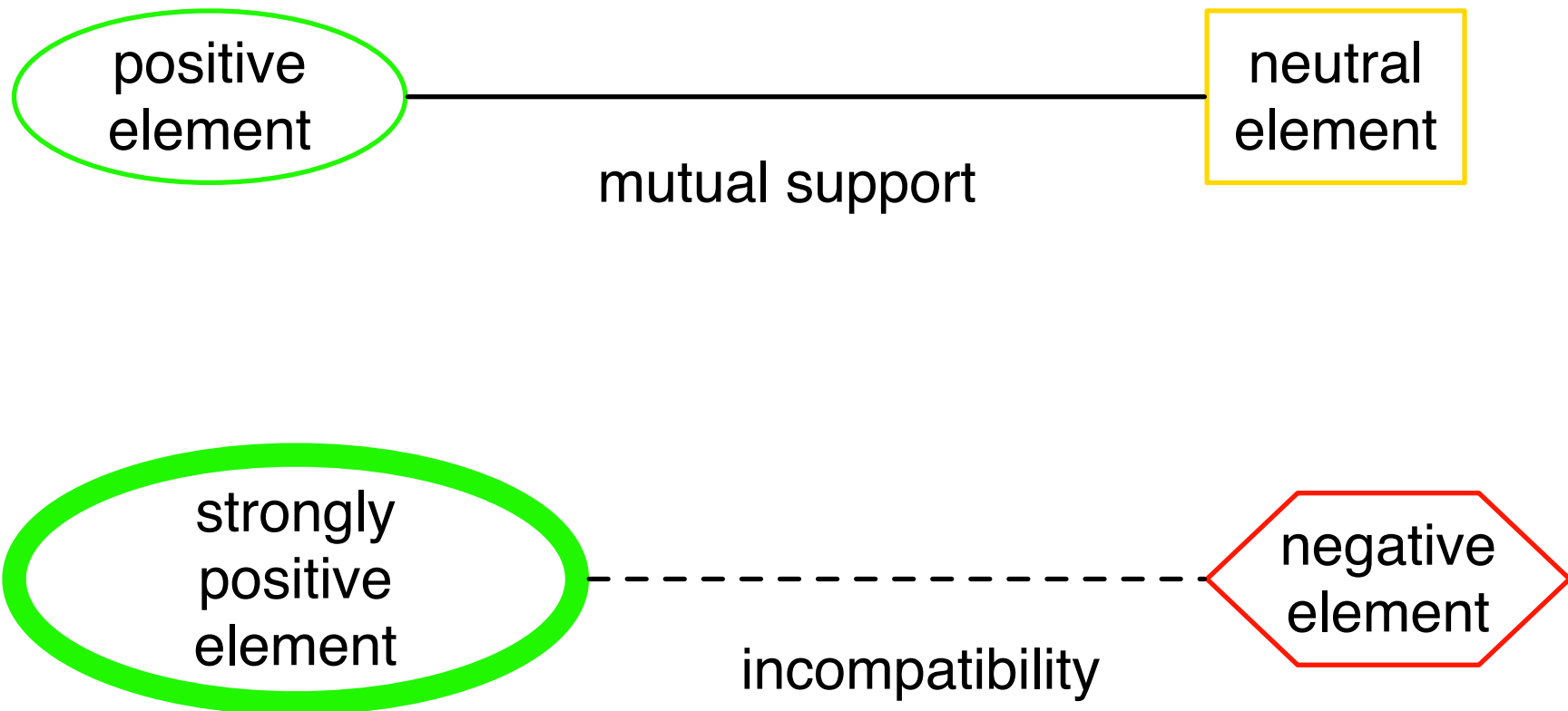
Neutral: yellow rectangles



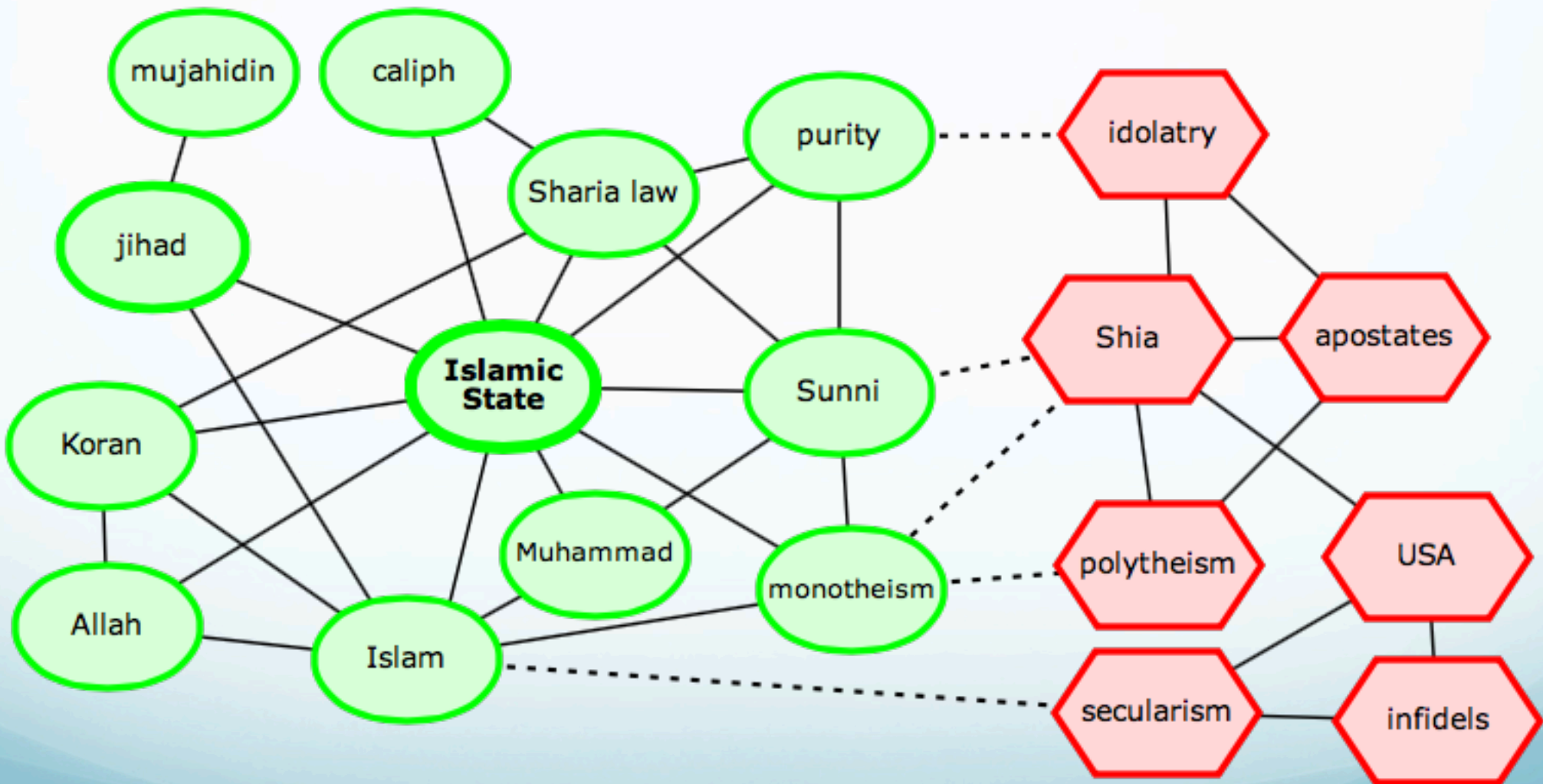
Lines represent mutual support (solid) or incompatibility (dotted).



# Cognitive-Affective Maps



# Value Map: Islamic State



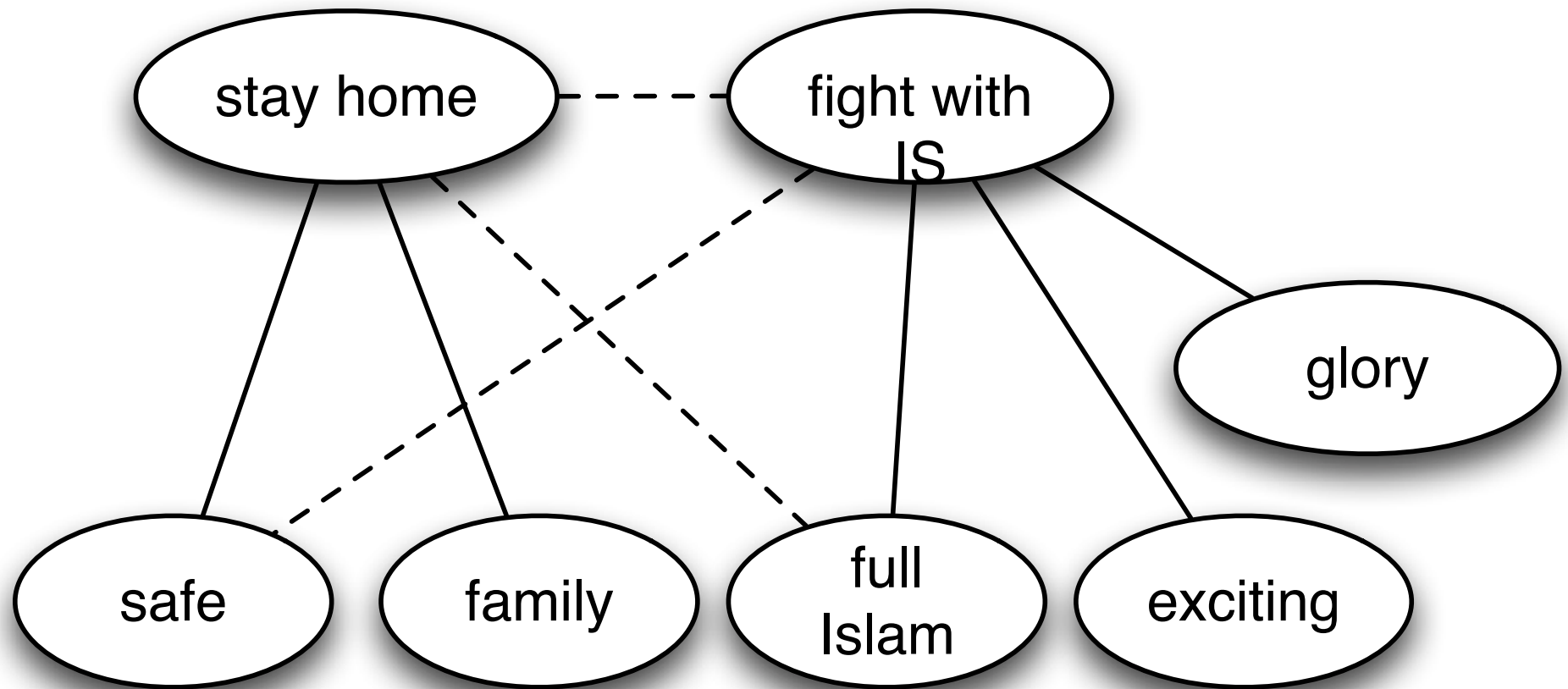
# EMOTIONAL COHERENCE

Inference (e.g. going to fight) is not based on argument, but on parallel processing of coherence (Thagard 2000, 2006).

Coherence can be modeled computationally using units that stand for mental representations (e.g. beliefs, concepts) that have excitatory and inhibitory connections.

In emotional coherence, representations have both an acceptability and an emotional valence.

# Fight Decisions



# EMOTIONAL COHERENCE

Decisions and other inferences result from an “emotional Gestalt”, in which people figure out what fits best with their beliefs and their goals.

People adopt a plan because it “makes sense”, cognitively and emotionally, i.e. because it is emotionally coherent.

HOTCO (for hot coherence) provides a mathematical/computational model of how emotional coherence produces inferences.

Problems: What are emotions? How does the brain compute emotional coherence?

# The New Synthesis



Thesis (1950s): Intelligence results from the processing of physical symbols (Herbert Simon, traditional AI, ACT).

Antithesis (1980s): Intelligence results from sub-symbolic processes in neural networks, operating with distributed representations.

Synthesis: Neural networks are capable of symbolic processes, using semantic pointers.

Chris Eliasmith: *How to Build a Brain*, Oxford U. Press, 2013. Eliasmith et al. (2012), *Science*.

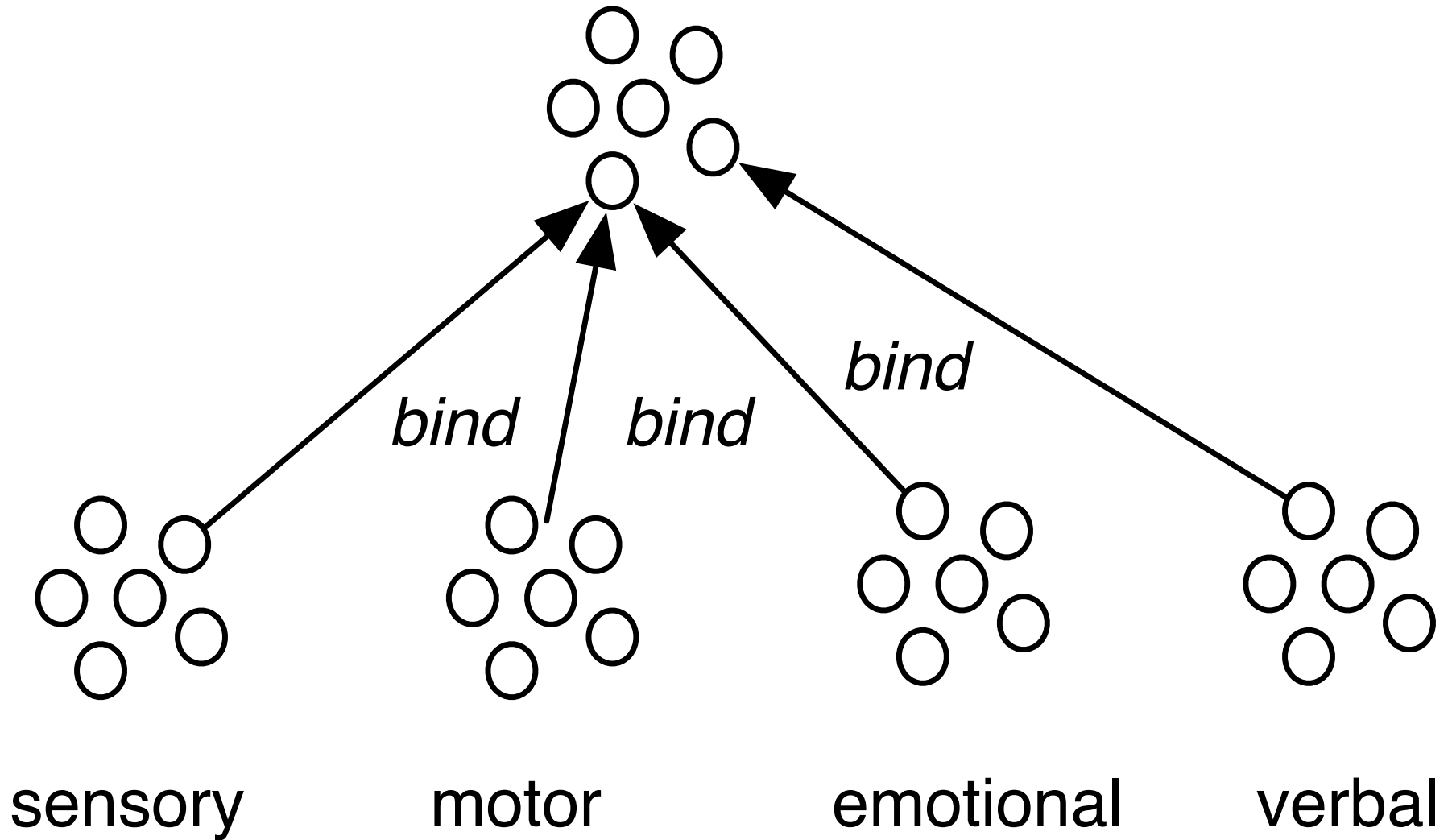
# Semantic Pointers (Eliasmith 2013)

Semantic pointers are patterns of neural firing that:

1. provide *shallow meaning* through symbol-like relations to the world and other representations;
2. expand to provide *deeper meaning* with relations to perceptual, motor, and emotional information;
3. support complex syntactic operations;
4. help to control the flow of information through a cognitive system to accomplish its goals.

# FORMATION

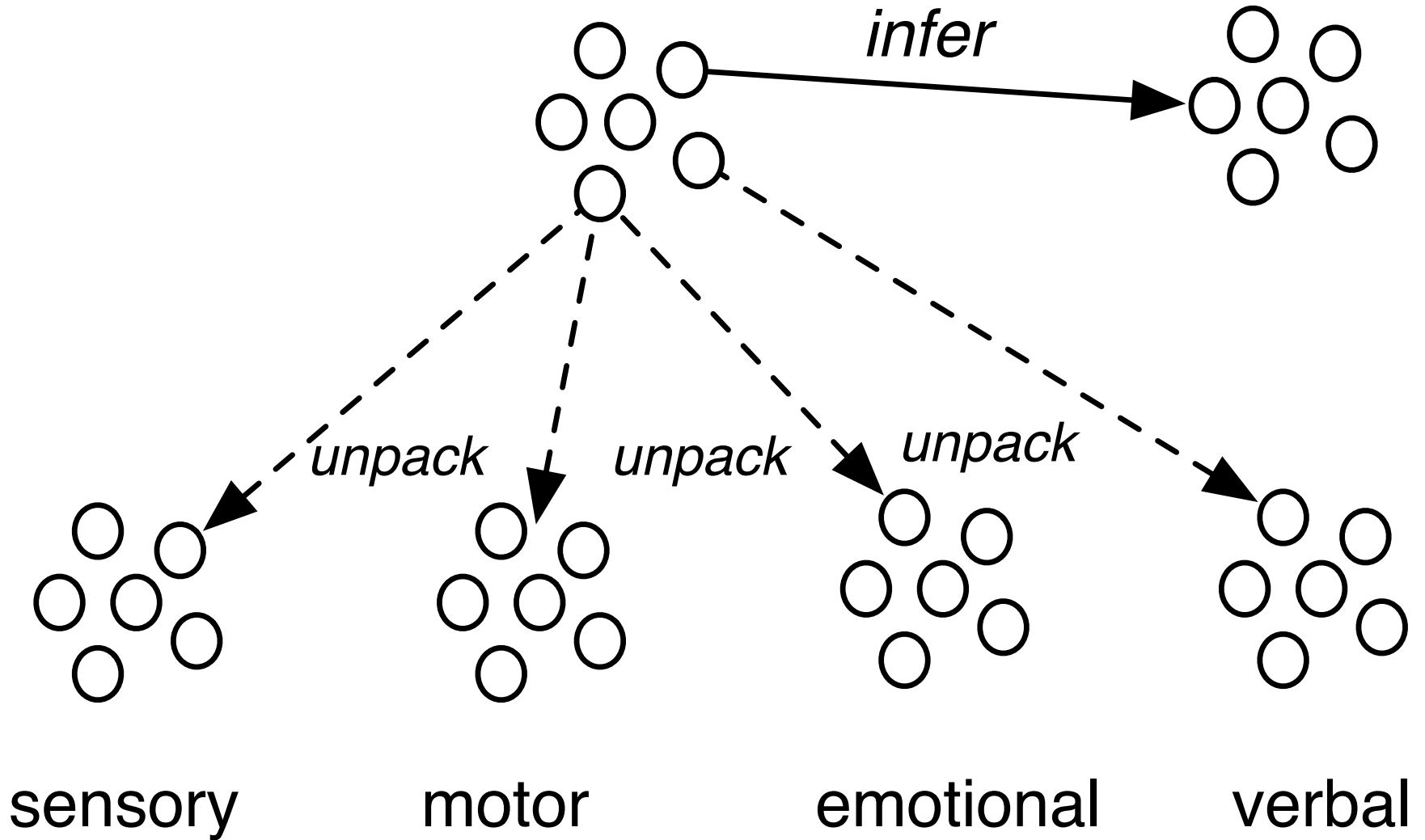
semantic pointer





# FUNCTION

semantic pointer



# Emotions are Semantic Pointers

Emotion = bind (representation, cognitive appraisal, physiological perception)

Example: being happy to be in Reno = bind (Reno, appraisal, physiology)

Concepts, beliefs, appraisal, and physiology are all patterns of neural firing.

Binding is by convolution as performed in the Semantic Pointer Architecture.

Thagard and Schröder, Emotions as Semantic Pointers, 2014.

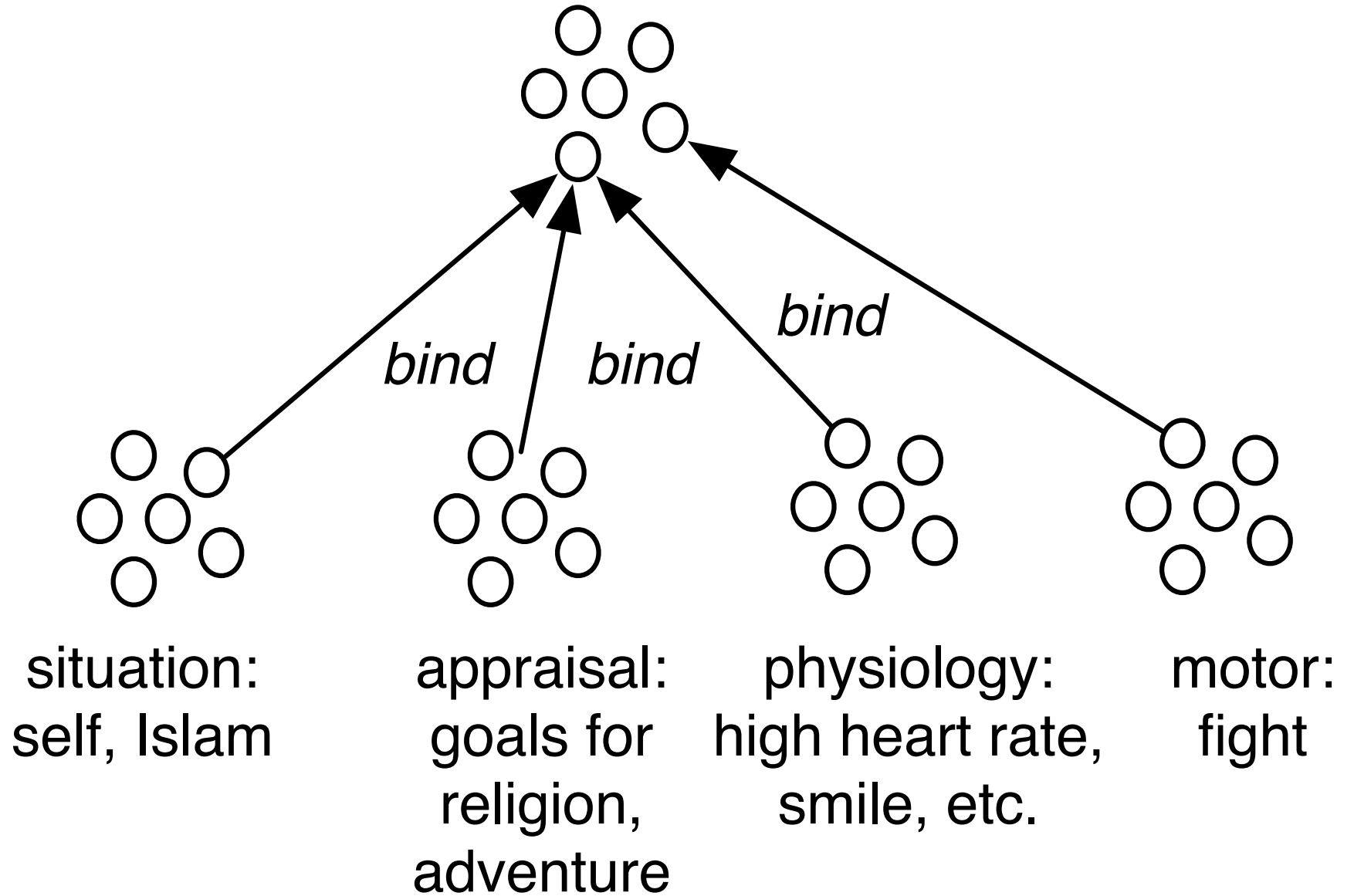
# Values are Semantic Pointers

Value = bind (concept or belief, cognitive appraisal, physiological perception)

Example: valuing Islam = bind (Islam, appraisal, physiology)

Result: an ideology is appealing as the basis for personal decisions if its values fit with your own values and needs.

# Islam semantic pointer



# Battling Ideologies

Force rarely works, e.g. Vietnam.

Piecemeal criticism rarely works, e.g. questioning Sharia law.

Replacing an ideology requires an alternative ideology that provides a better fit with values, needs, and beliefs: emotional coherence.

1. Propose an alternative.
2. Show that it is superior.

# Social Cognitive-Emotional Workup of IS



Concepts and values: Islam, Sharia law

Images: flag, gestures, songs

Beliefs: only one God – Allah, Koran is true

Rules, e.g. if you are a devout Muslim, then you go to heaven

Analogies: Islamic state is like the ancient caliphate

Emotions: pride, hope, enthusiasm, anger, fear, resentment

Inferences: coherence, motivated, fear-driven

# Emotional Communication

Mirror neurons

Emotional contagion via mimicry

Nonverbal spread

Verbal spread

Attachment-based learning

Empathy and emotional analogy

Altruism and sympathy

Emotional cuing, e.g. anger -> guilt

Power: provide something desired, or threaten something feared

Propaganda, advertising

Teaching

Interaction rituals



# Conclusions

1. Ideologies are value systems, where values are emotional.
2. Ideologies govern actions by emotional coherence.
3. Emotions and values are semantic pointers.
4. Ideological change is a battle of systems of values and beliefs.





PAUL THAGARD

THE BRAIN  
AND

THE MEANING OF LIFE



The Cognitive Science of Science

Explanation, Discovery, and Conceptual Change

Paul Thagard

