



Strategic Decisions Group

Insights from the Brain Sciences for Decision Professionals

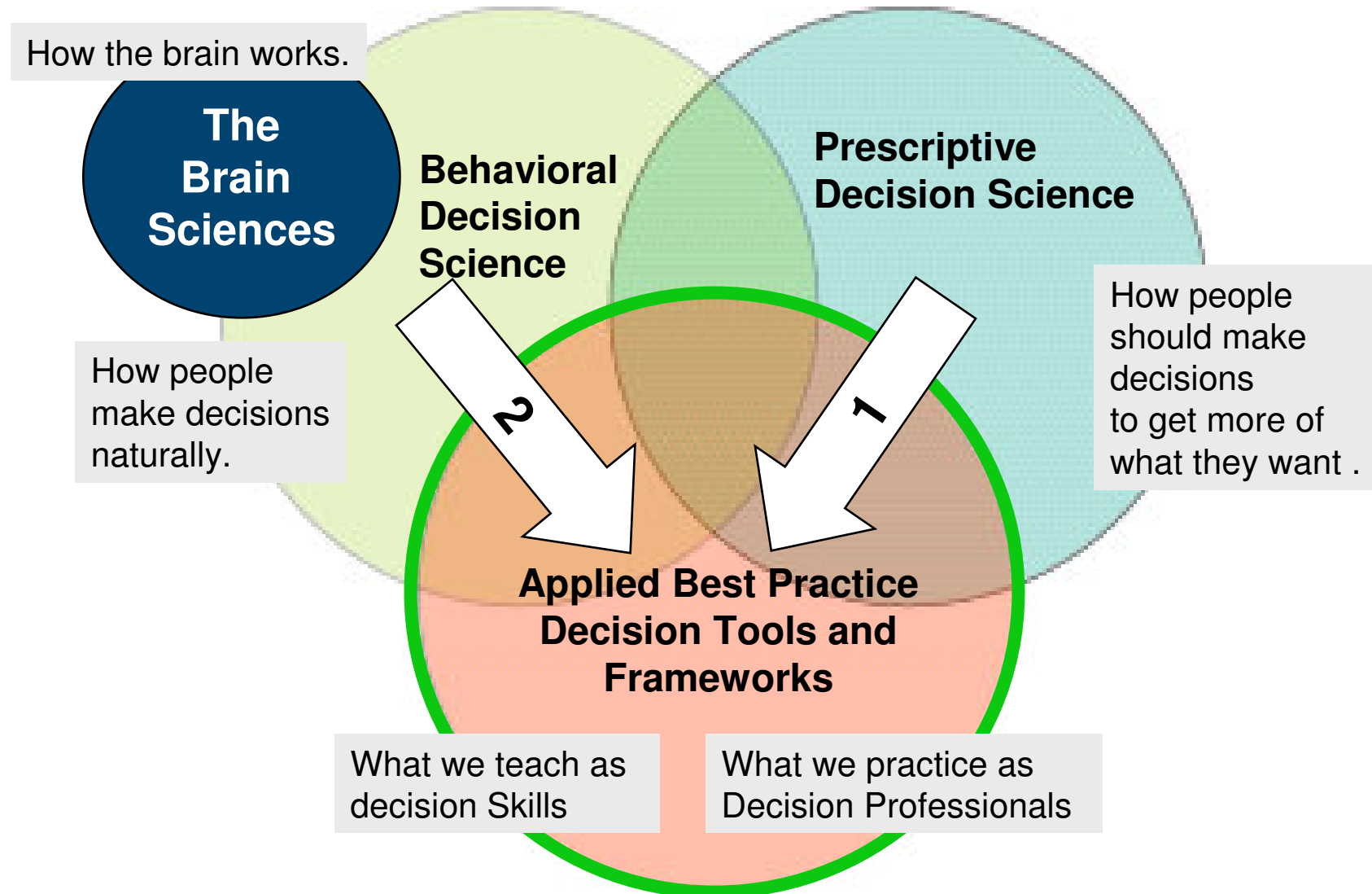
Presented to:

DAAG Meeting, April 2010

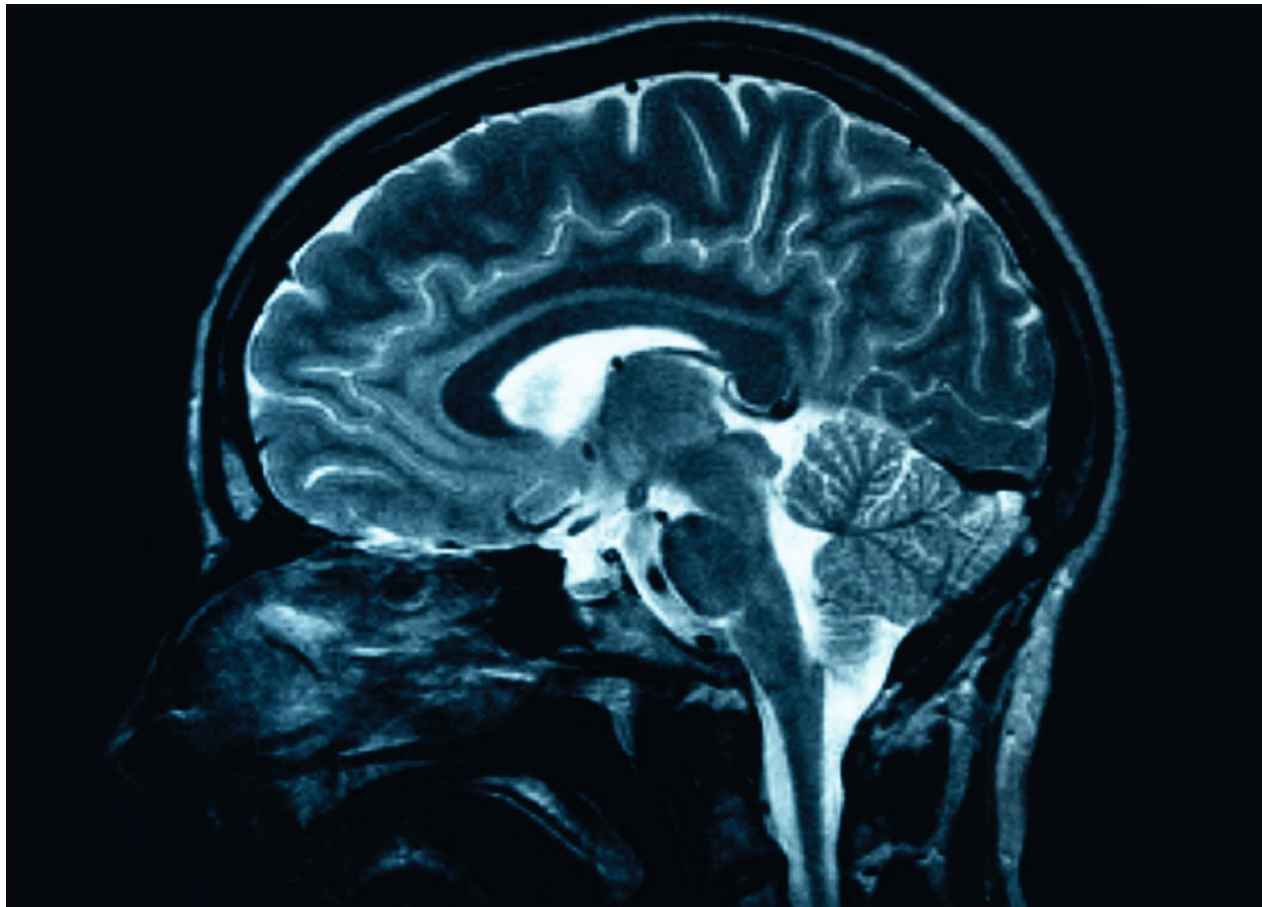
Presented by:

Carl Spetzler

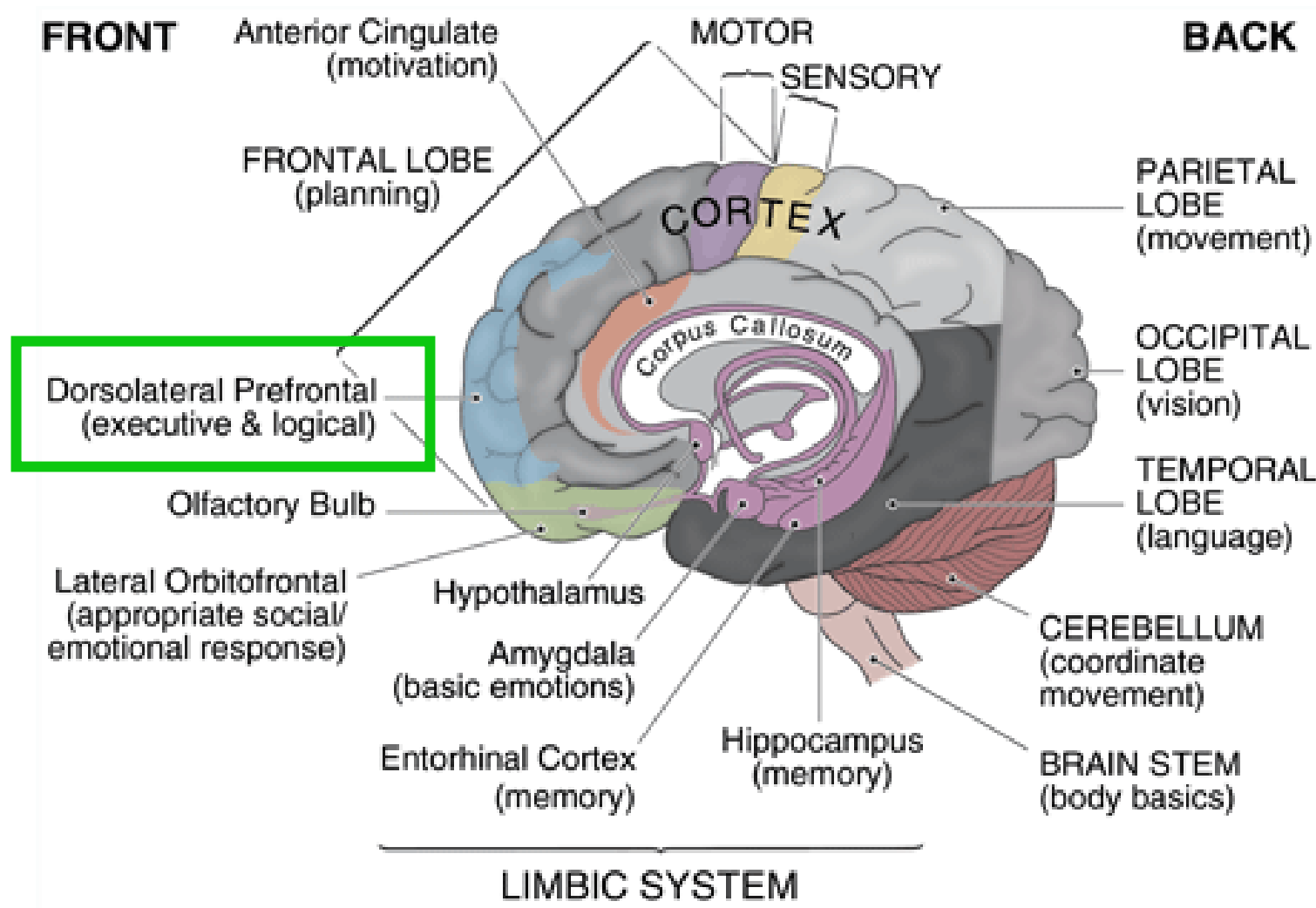
Two academic communities provide the scientific foundation for applied best practice decision making.



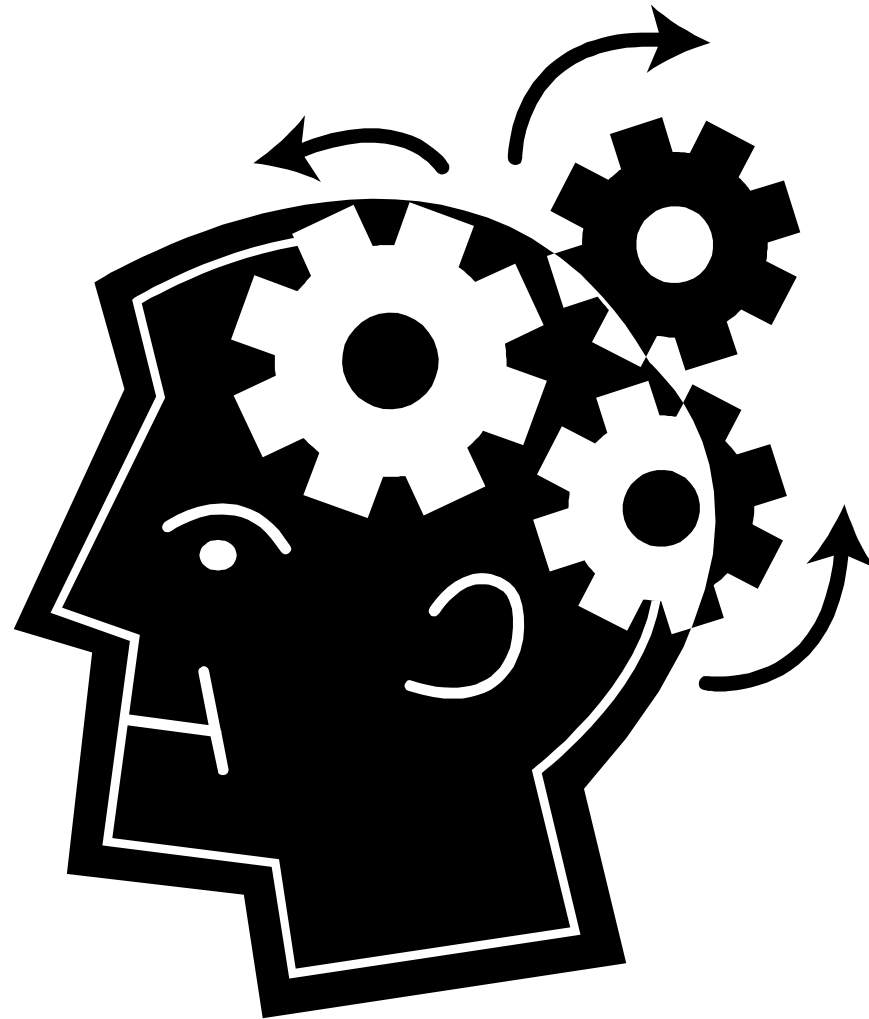
“Now, recent technological advances in brain imaging and fresh insights into the functioning of the human brain at the level of systems, cells and molecules, provide extraordinary new opportunities for uncovering the neurological underpinnings for a large array of mental functions – from emotion and decision-making to innovation and creativity”. The Brain and Creativity Institute founded by Antonio Damasio and Hanna Damasio in 2006 at USC.



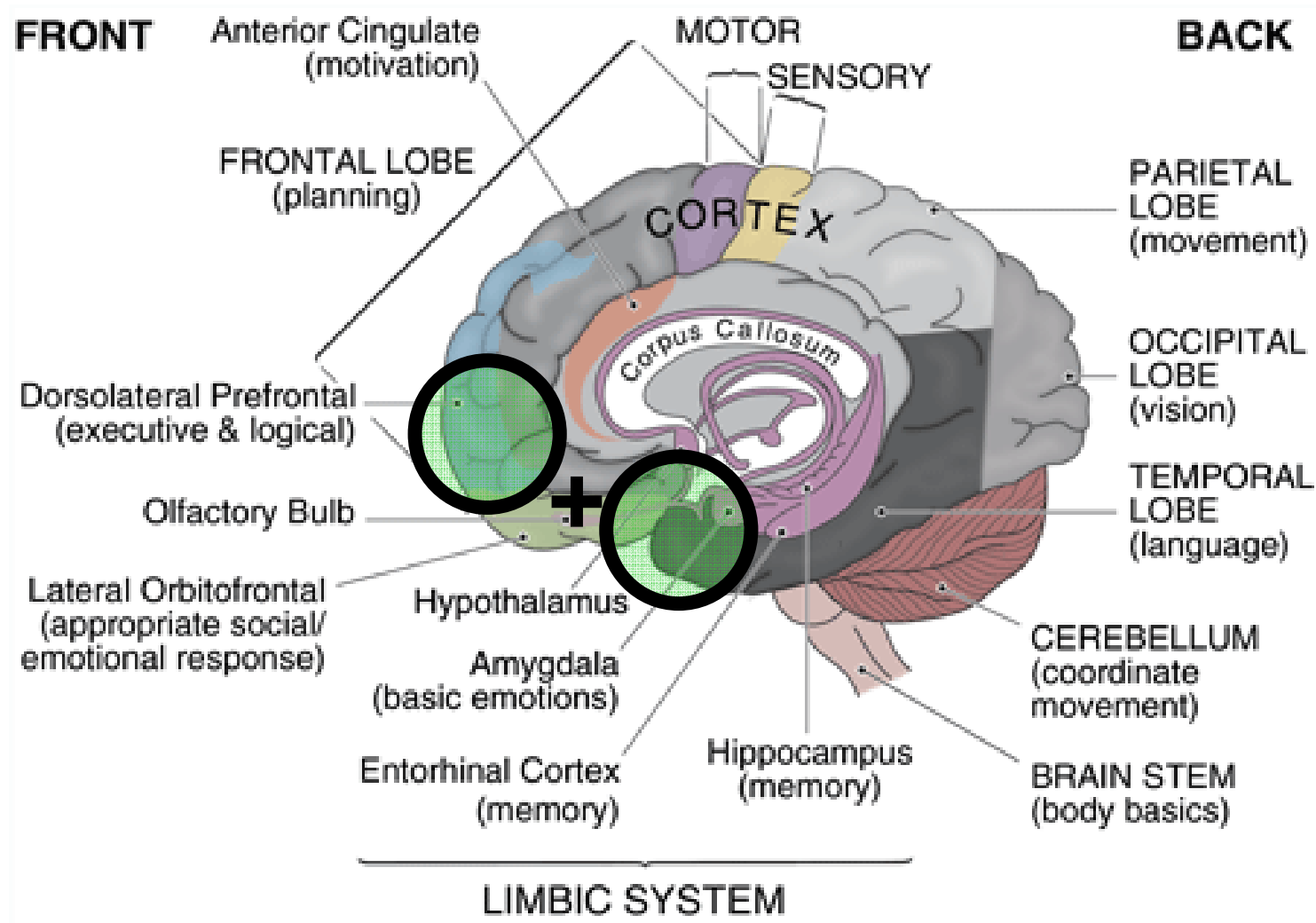
Decision making has traditionally focused on the Prefrontal Cortex.



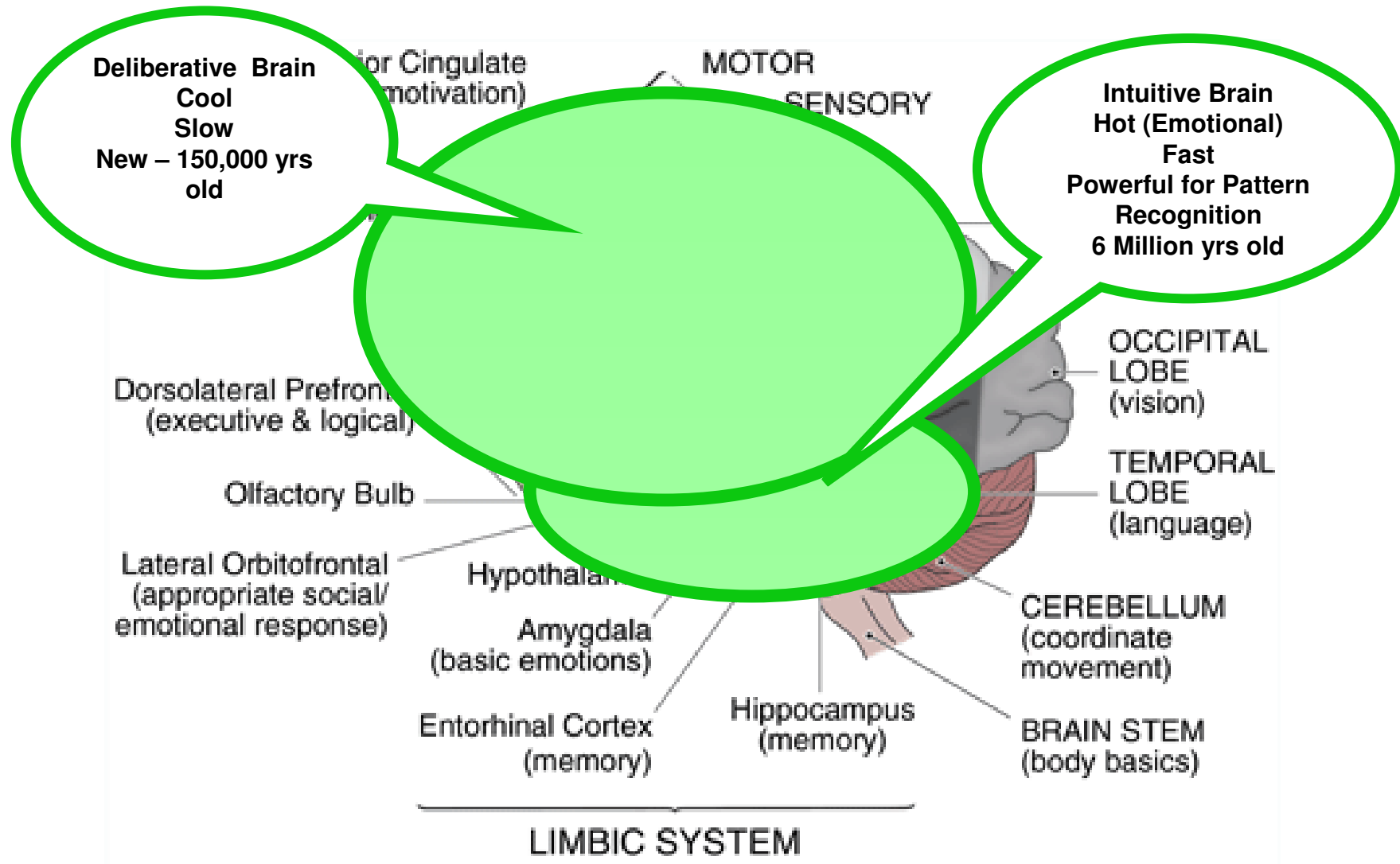
**Decision making is not mediated by the orbitofrontal cortex alone, but arises from large-scale systems that include the amygdala – the seat of emotion.
(Antonio Damasio, et al)**



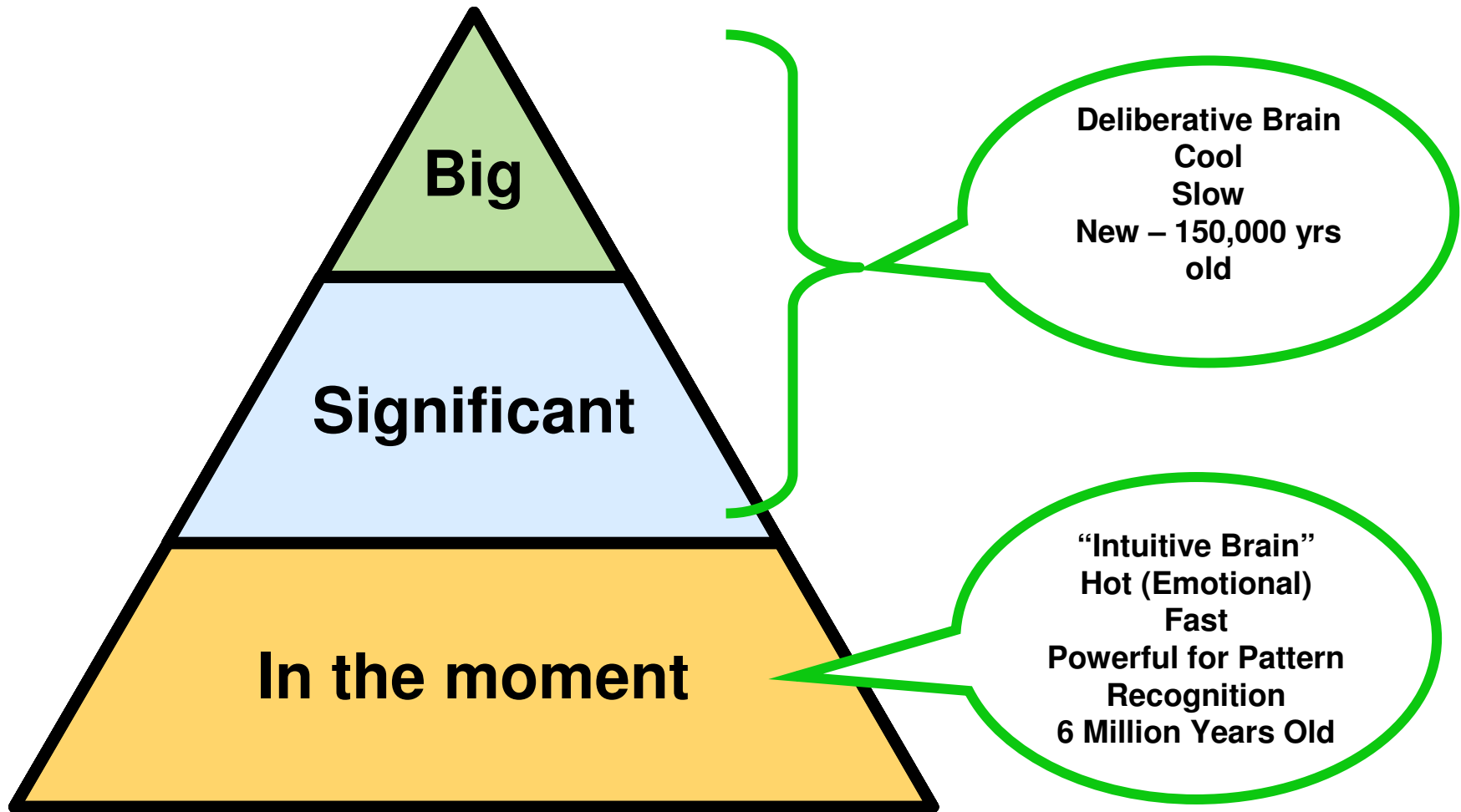
So, emotions and the limbic system are both significantly involved in deliberative decisions.



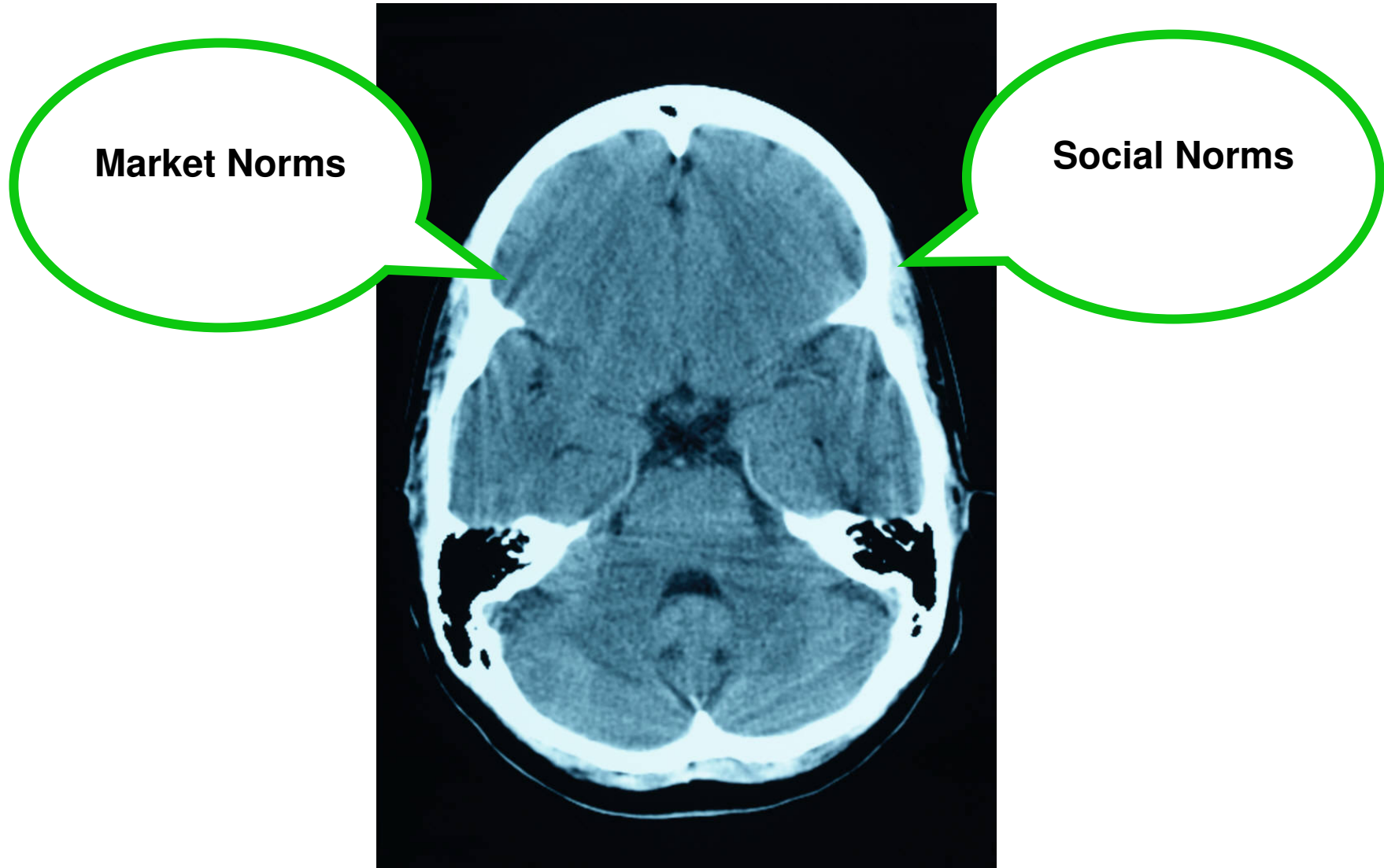
At the risk of oversimplifying, the brain processes decisions in two significantly different ways.



So, we use two very different mental processes in our decision-making.

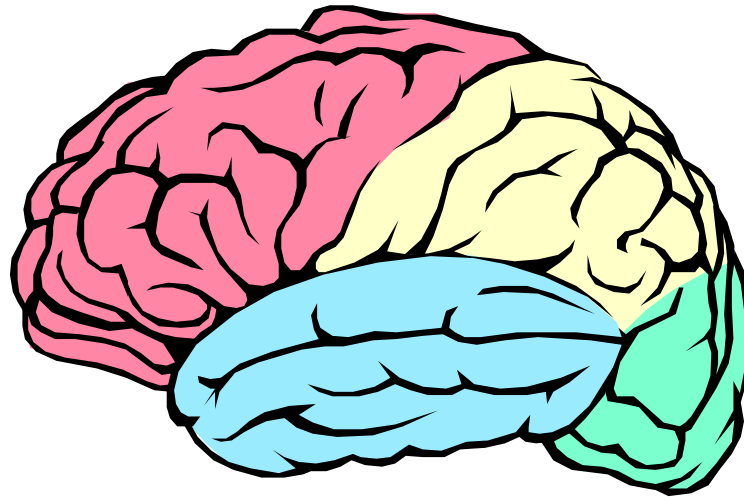


We also automatically select different ways of processing decisions.



When it comes to decision making, our amazing brains are:

- 1. Deliberate plus Emotional/Social**
- 2. Limited -- 5 (plus or minus 2), therefore Hierarchical and Relational Memory Store “abstracts” and fill in during recall**
- 3. Filled with our “mindset” – and a sense of knowing**
- 4. Relative – primarily compare (... to what?)**
- 5. Lazy – avoid effort and simplify**
- 6. Mostly operating unconsciously**
- 7. Plastic – repair themselves, adjust, and grow**



1. Read the following excerpt at normal speed. Don't skim or skip.

A newspaper is better than a magazine. A seashore is a better place than the street. At first it is better to run than to walk. You may have to try it several times. It takes some skill, but it is easy to learn. Even young children can enjoy it. Once successful, complications are minimal. Birds seldom get too close. Rain, however, soaks in very fast. Too many people doing the same thing can also cause problems. One needs lots of room. If there are no complications, it can be very peaceful. A rock will serve as an anchor. If things break loose from it, however, you will not get a second chance.

2. Take a moment and ask yourself how you feel about the paragraph. Is the paragraph comprehensible or meaningless?

3. Now consider a single word. **KITE**

4. Reread the paragraph and notice the discomfort shifting to a pleasant sense that everything fits. It works and has meaning.

5. Reread the paragraph again and see if you can regain the lack of understanding.

Source: On Being Certain: Believing You Are Right When You're Not. Robert Burton, MD.

Where were you when the challenger blew up?

- Within one day of the accident, a psychologist, Ulric Neisser, asked a class of 106 students to write down exactly where they were, what they'd been doing, and how they felt.
- Two and a half years later they were again interviewed.
- Less than 10% had all the details correct. More than half had significant errors. And, 25% had strikingly different accounts.
- Yet, before seeing their original writing, most presumed that their memories were correct.
- One student commented: "That's my handwriting, but that's not what happened."

Source: On Being Certain: Believing You Are Right When You're Not. Robert Burton, MD

The feeling of knowing is separate from the knowledge.

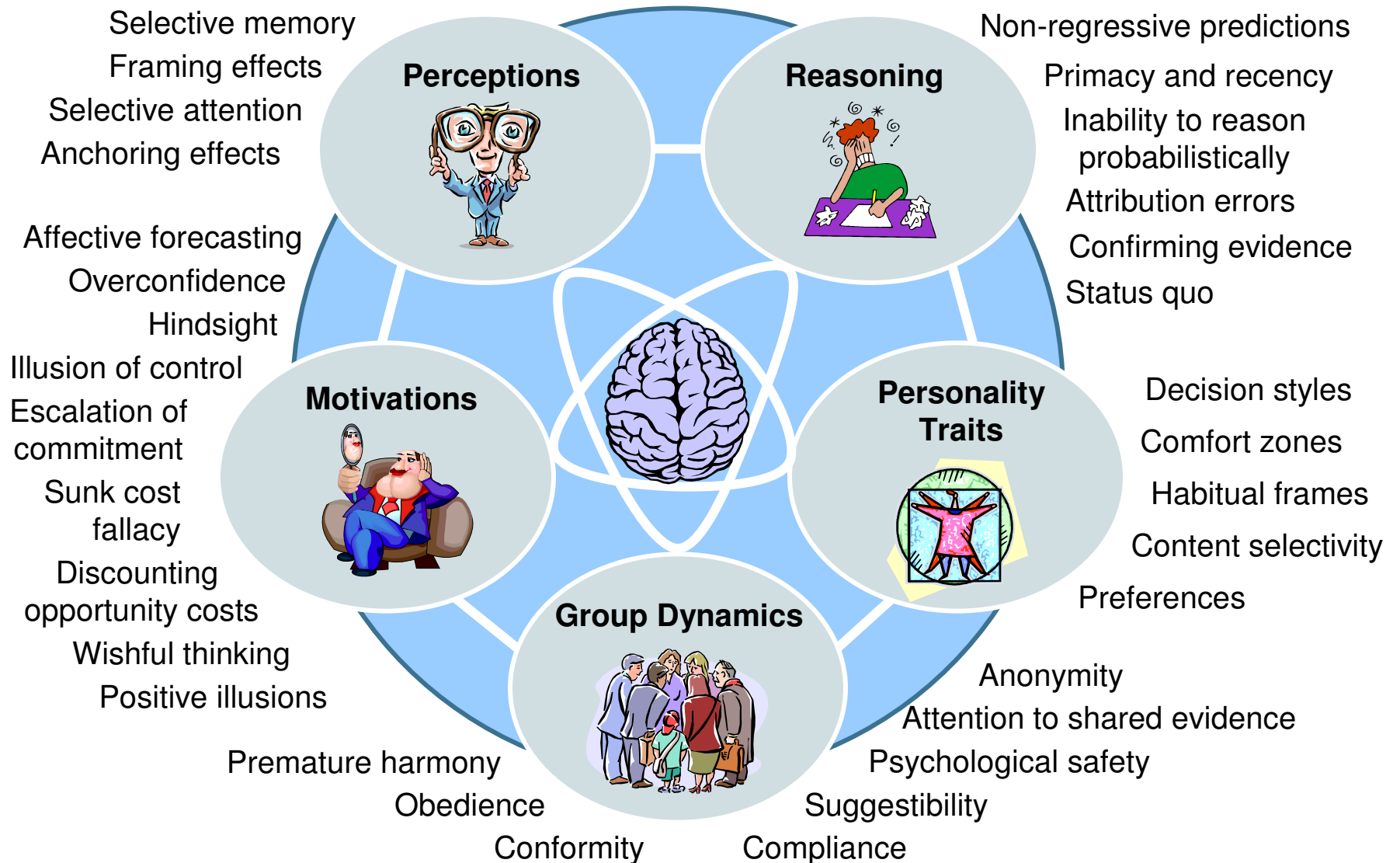
- The feeling of knowing is a primary feeling like anger and fear. It is universal.
- It isn't just our cool heads that are our source of probability statements as a subjective "degree of belief".
- Knowing has its roots in the limbic system – the seat of emotions.
- We can have a strong feeling of certitude that can't be reasoned away, but that is totally misplaced.
- No wonder our sense of the likelihood of an accident rises significantly upon seeing one.
- Remember the collective sense of risk after 9/11?

Source: On Being Certain: Believing You Are Right When You're Not. Robert Burton, MD

The advances in brain sciences and their broad implications are resulting in a flood of publications.

- (1997) Why People Believe Weird Things (Shermer)
- (1998) Phantoms in the Brain (Ramachandran and Blakeslee)
- (1998) Sources of Power (Klein)
- (2000) The Tipping Point (Gladwell)
- (2001) Seven Sins of Memory (Schacter)
- (2005) Blink (Gladwell)
- (2006) A Mind of Its Own (Fine)
- (2006) In Search of Memory (Kandel)
- (2006) Stumbling on Happiness (Gilbert)
- (2007) Blind Spots (Van Hecke)
- (2007) Mistakes Were Made (But Not by Me) (Tavris and Aronson)
- (2008) Blunder (Shore)
- (2008) Nudge (Thaler and Sunstein)
- (2008) On Being Certain (Burton)
- (2008) Predictably Irrational (Ariely)
- (2008) Sway (Brafman and Brafman)
- (2009) Bozo Sapiens (Kaplan and Kaplan)
- (2009) How We Decide (Lehrer)
- (2009) Management Rewired (Jacobs)
- (2009) Scientific American Day in the Life of Your Brain (Scientific American and Horstman)
- (2009) The New Executive Brain (Goldberg)
- (2009) Why We Make Mistakes (Hallinan)

Our brain and habits of mind cause many distortions.



So what should we do to improve on our human nature?

- **Solve the real problem – frame it well**
 - Not the one that presents itself to me
 - Don't drag the issue into my comfort zone
- **Adopt a learning frame**
 - Check for overconfidence
 - We know less than we think – stretch our ranges
 - Look for information that would change our mind
 - Revise opinions (learn)
- **We differ a lot in our decision habits and preferences**
 - Celebrate the difference
 - Recognize strengths and weaknesses
 - It takes all of the “functions” to make good decisions
- **Don't reason casually about uncertainty**
- **Use comparisons against credible standards**
- **Use groups to advantage**

SDG partners with the Stanford Center for Professional Development to offer on-campus and online decision skills courses

