

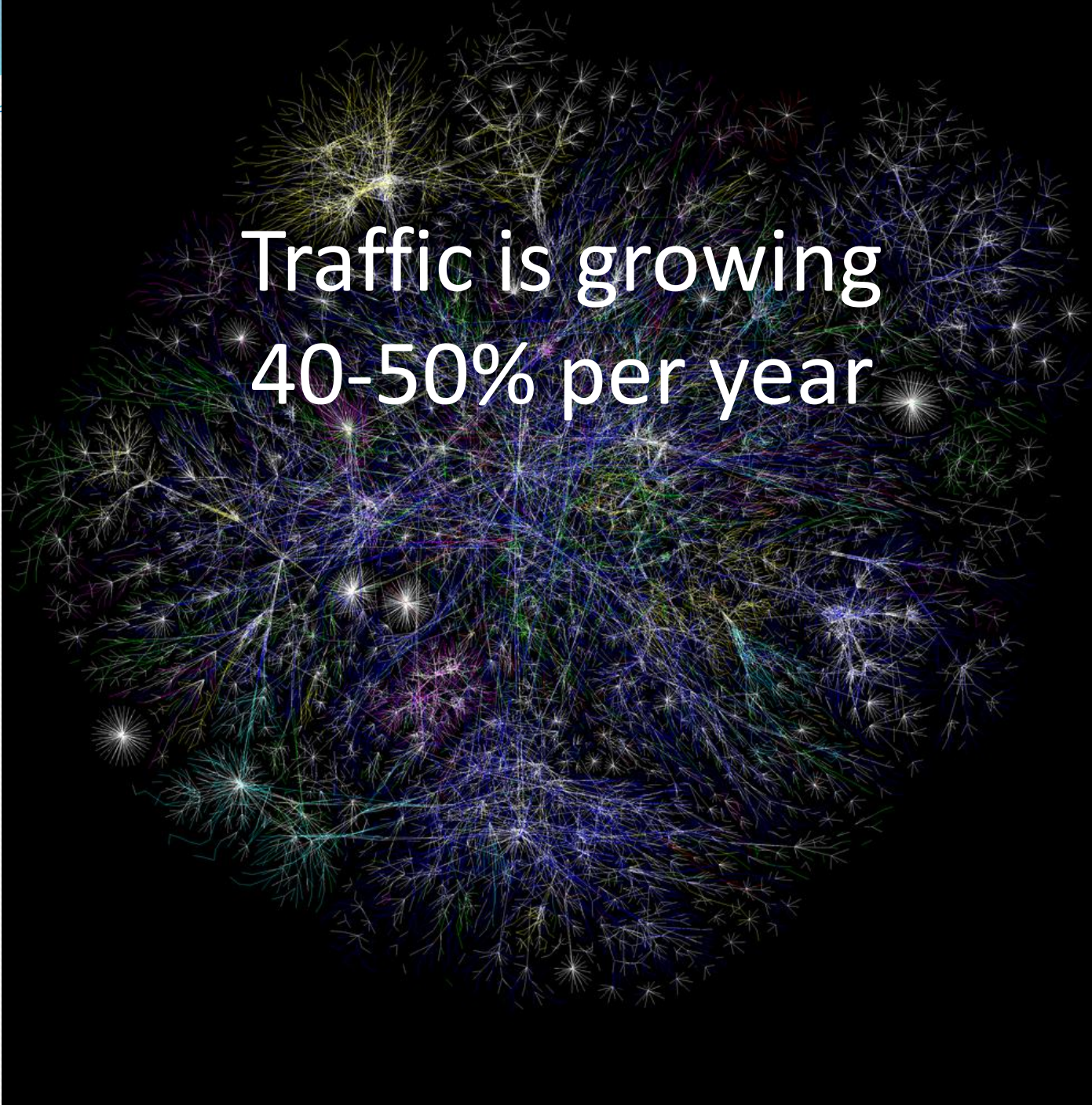
The Wisdom of the Global Brain

Steve Omohundro, Ph.D.
Self-Aware Systems

The Global Brain

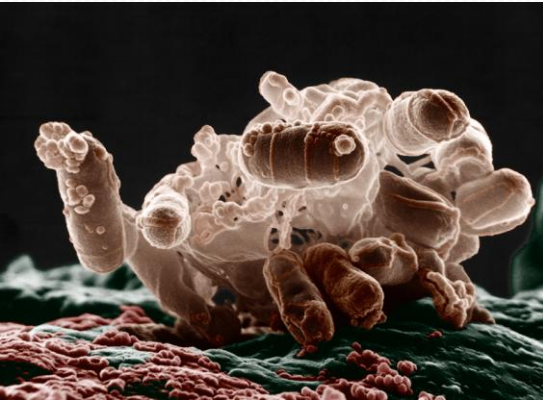
- 6.7 billion people
- 1 billion computers
- 4 billion cellphones
- 1 trillion webpages
- 10 million terabytes of monthly internet traffic





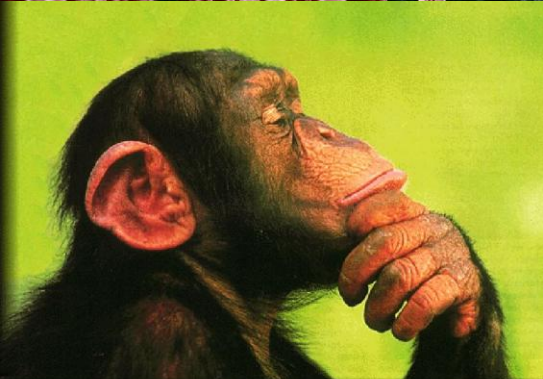
Traffic is growing
40-50% per year

Lessons From Other Brains

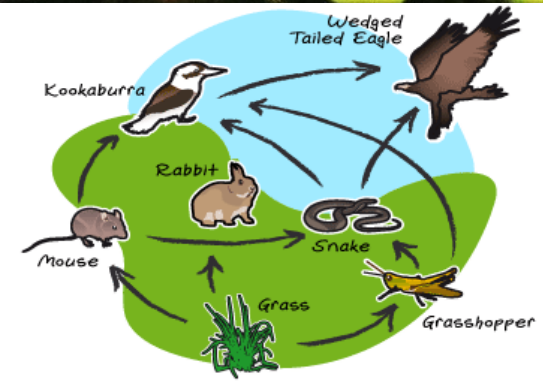


Bacterial colonies

Immune Systems



Animals



Ecosystems

Hives



Corporations



Economies

Societies



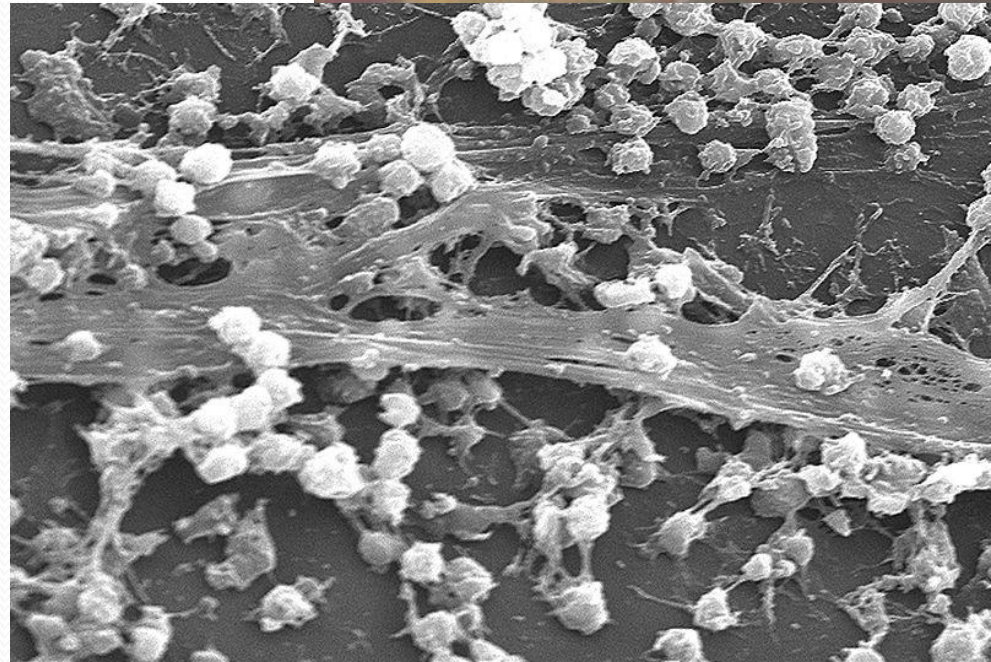
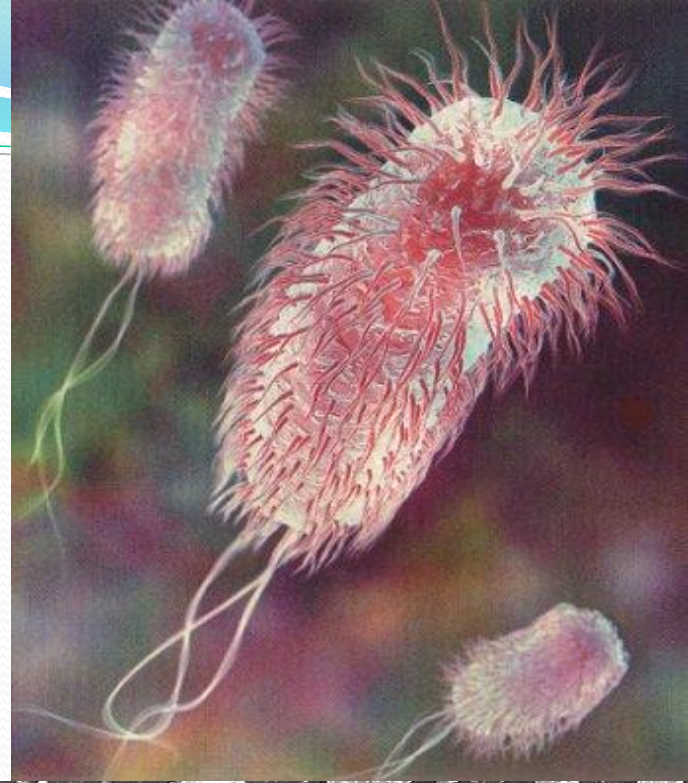
Universal Principles of Brains

1. Built from parts with intentions
2. Use honest signals from shared part intentions
3. Suppress deceptive signals
4. Generate strategy diversity
5. Select effective strategies
6. Adapt parts
7. Suppress selfish part actions
8. Dysfunction from part conflict
9. Emergent collective intention

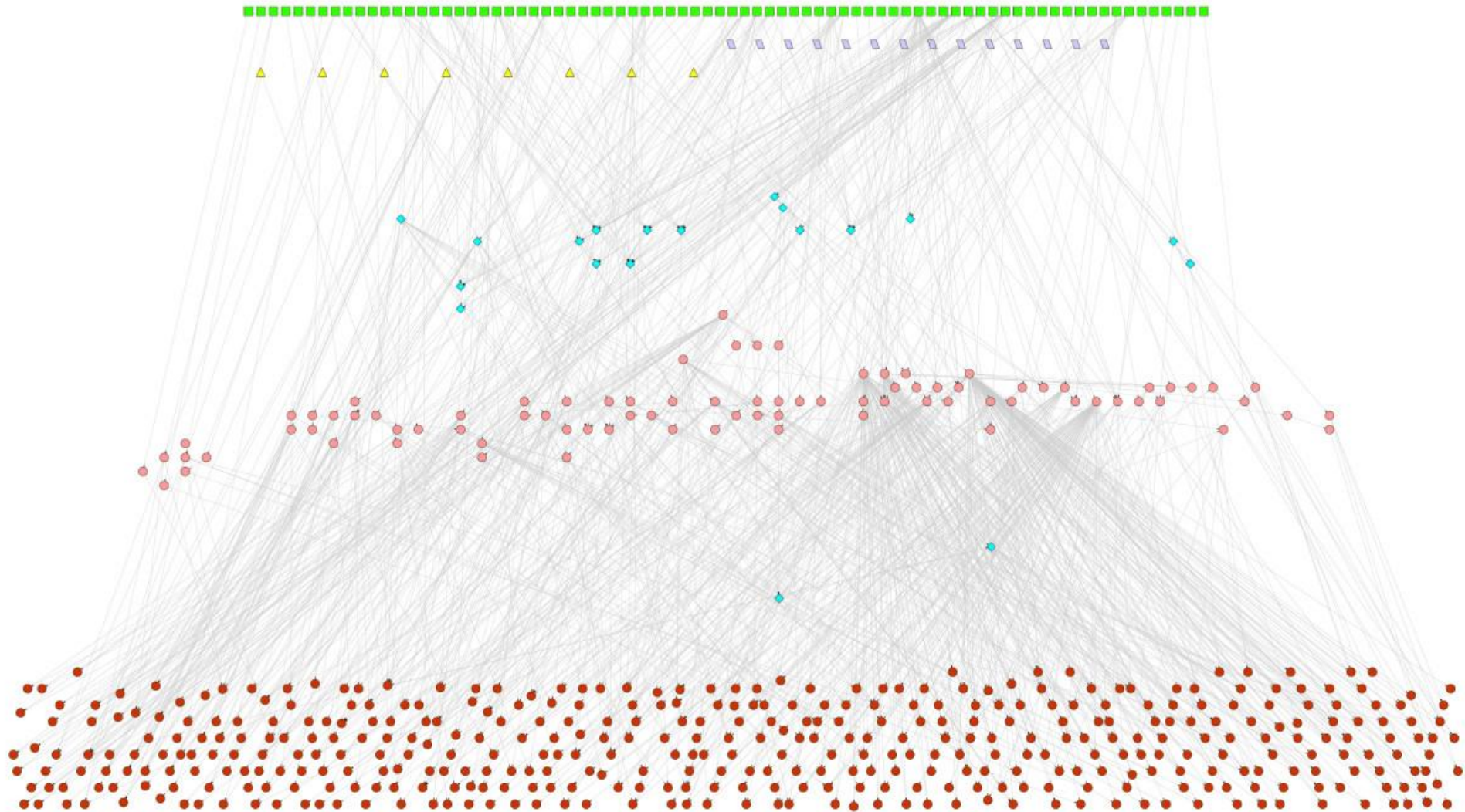


E. Coli K-12

- Billions in your gut
 - Only 4,377 genes
 - Survives frozen soils
 - Stomach acid -> Zen state
 - Senses optimal gut location
-
- Joins to form “biofilms”
 - Communicate
 - Launch suicide attacks
 - Punish cheaters
 - Rapidly adapt to predict environmental regularities



E. Coli's Brain



External metabolites green, Stimuli yellow, Enzyme genes brown, TFs pink

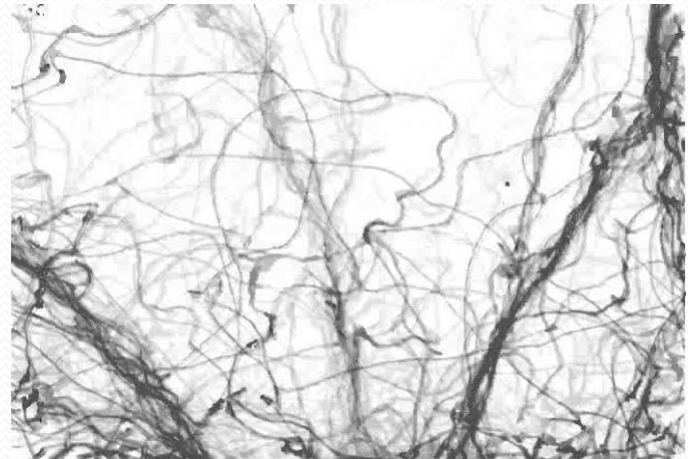
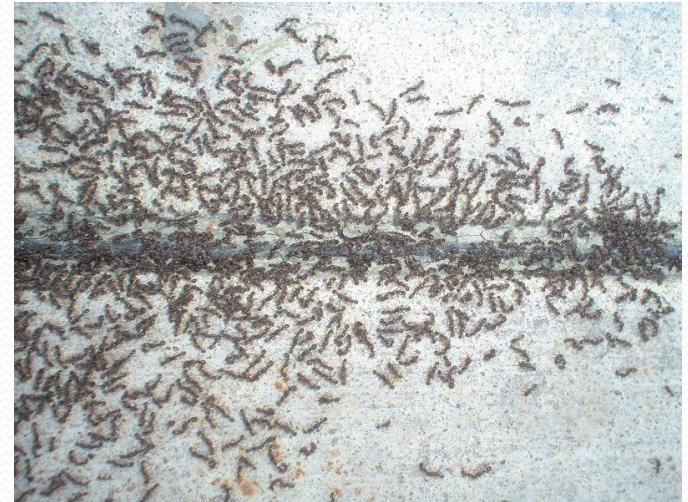
Honest vs. Deceptive Signals

- Monkeys: Threat calls vs. food calls – punishment for lying
- Economies: Counterfeit money – Secret Service
- Internet: Ad Fraud, Phishing, Pharming, Trojans, Identity Theft
 - Spam Filters, Anti-virus, Firewalls, Fraud police



Strategy Generation and Selection

- E. Coli persisters vs. antibiotics
- Immune system T cells
- Ant trails
- Bee foraging and dance
- Neuronal Hebb rule
- Affiliate programs – Clickbank
- Reputation systems – “Best seller lists”
- Google Adsense



Internet Marketing

Frank Kern Mass Control
Marketing Programs:

- Neil Strauss dating program, \$1.4 million in 4 hours
- Fallon's Pipeline Profit, \$3.1 million first day
- October 2006, StomperNet SEO and internet business program, \$18.3 million in first day

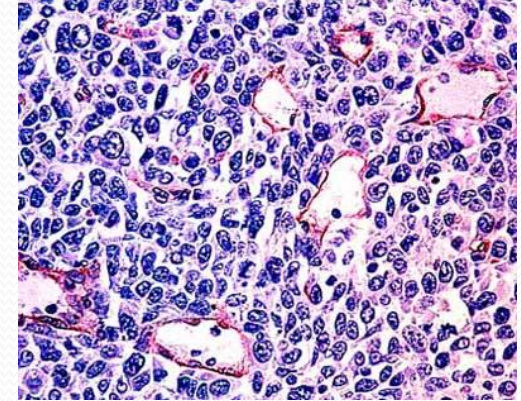


Bee mind vs. Hive mind



Suppressing Selfish Parts

- E. Coli cheaters who don't go dormant
- Cancers → immune systems
- Laying worker bees
- Bit Torrent leechers → membership sites with ratio controls
- Spam that overwhelms email and blog comments → filtering, ratings
- Self-serving ratings and reviews → karma and reputation systems
- Criminals → court systems and police forces



amazon.com



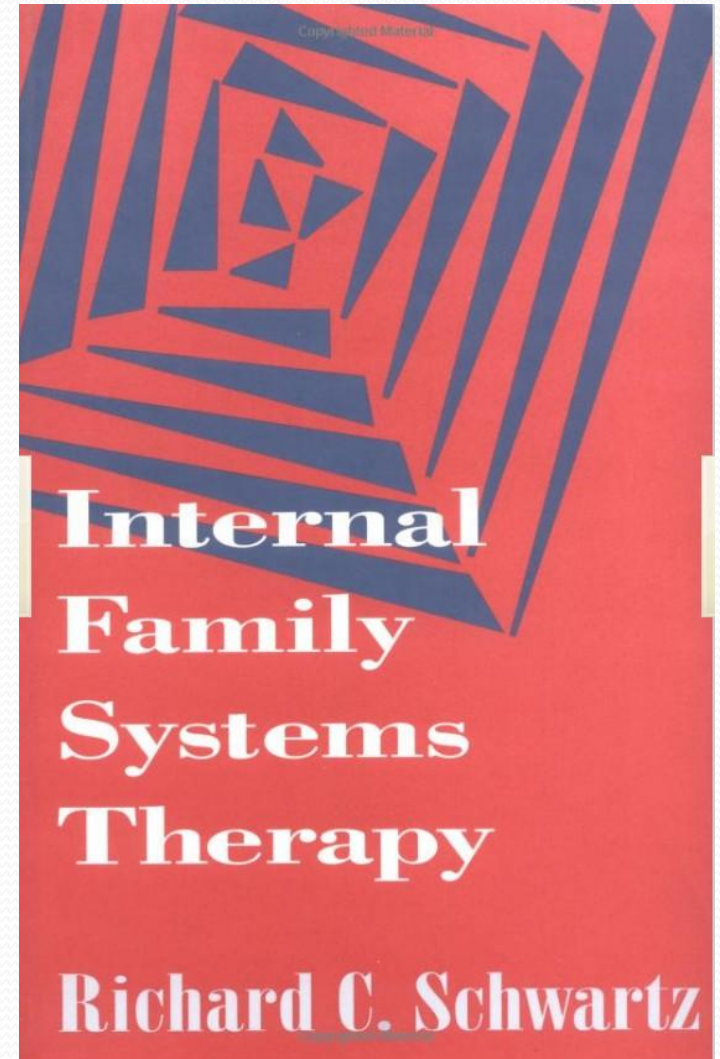
Dysfunction from Part Conflict

- Gestational diabetes
- Sibling rivalry
- Feuding families
- Civil wars
- Pirate bay vs. MPAA



Parts Conflict in the Human Psyche

- Internal Family Systems Therapy
- Rapid and effective therapy
- The psyche is an ecosystem of interacting subpersonalities
- Exiles and Protectors
- Dysfunction arises from conflict between parts



Eg. Alcoholism



Critic Protector



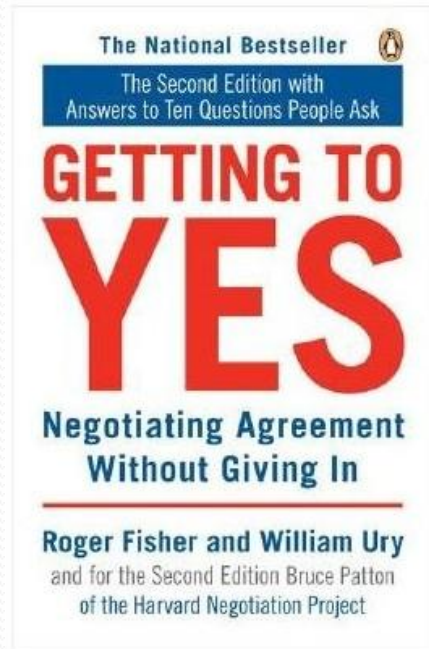
Drinking Protector

Hurt Exile



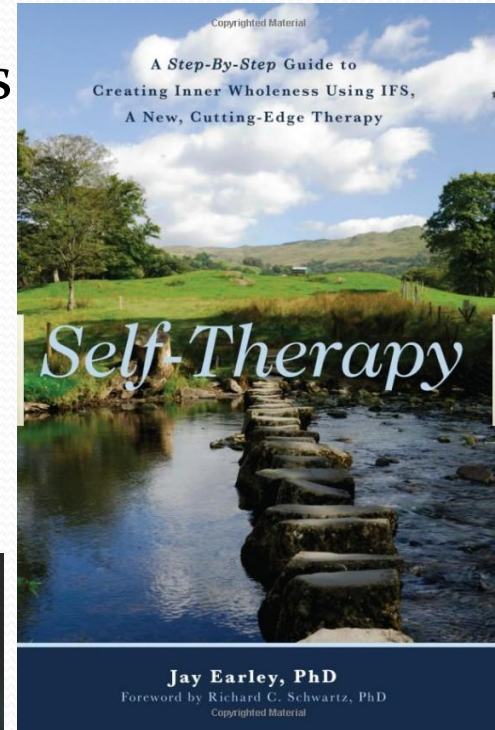
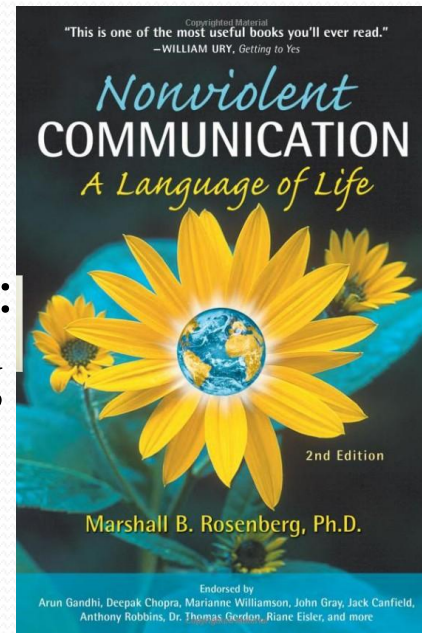
Resolving Parts Conflicts

- IFS: Unburdening exiles, Resolving polarities



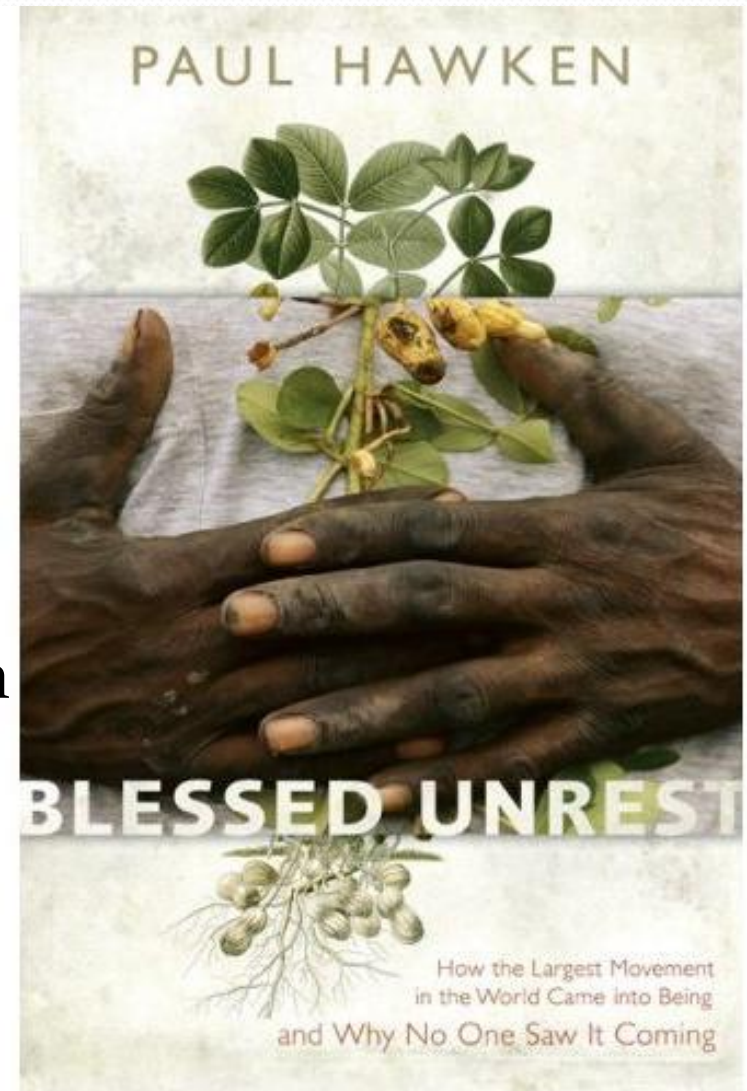
- Mediation

- Non-violent communication: Empathy and understanding the other's needs



Emergence of Global Intension

- Human moral development: slavery, torture, animal rights, ecological sustainability, etc.
- Global citizens
- Hawken: Biggest movement in human history, over 1 million organizations for social good



What's next?

- Increased connectivity and more seamless interaction
- Global immune system
- Self-healing infrastructure
- Information markets in everything
- Ascendancy of “Free”
- Fluid workforce
- Intelligent agents
- Human empowerment
- Emergence of a new global morality

