



What Kind of System is the Family?

Understanding human behavior through natural systems thinking.

May 23rd & 29th, 2018: Through the Looking Glass - Patrick Stinson

Summary

- Thinking Systems, in General
- Emergent Properties
- Examples of Natural Systems
- Humans as a Natural System
- Modeling the Family



Thinking Systems

Systems thinking is thinking broadly. Families absolutely love that. They get terribly intrigued with a broad way of thinking instead of “I’m going to change you to how I think you ought to be.

(Bowen, 1990)

We demonstrate against war as if we understand the causes of war. We could just as easily demonstrate against schizophrenia.

(Kerr & Bowen, 1988, p. 27)

“It’s a System”

- ❖ We all say it.
- ❖ But what does that mean?
- ❖ What do *we* actually mean?

“It’s a System”

- ❖ “It’s a cultural *system*.”
- ❖ “We have to get to know the whole *system*.”
- ❖ “The family *system*”
- ❖ “...and all the support *systems*.”
- ❖ “A *system* of oppression.”

“It’s a System”

The way a therapist thinks about what energizes or drives the process he observes in a family will govern what he addresses in therapy. Many family therapists, for example, talk about the family being a “system” but they have many different ideas about what makes the family a system.

(Kerr & Bowen, 1988, p. 11)

Possible meanings of “System”

- ❖ *A group?*
- ❖ *A thing?*
- ❖ *A bunch of groups of things?*
- ❖ *A law?*
- ❖ *A workflow?*
- ❖ *An inhuman force? (“a victim of the system”)*
- ❖ *A bunch of related ideas or concepts?*

Possible meanings of “System”

- ❖ My opinion:
 - ❖ “Something that is too *complicated* to think about.”
- ❖ Upside: Serves as a default; i.e. “other related factors.”
- ❖ Downside: Emphasizes *content* (groups; currency; culture) and ignores *process*, which is critical to systems thinking.

Systems Thinking, in General

- ❖ Toward a Buddhist Systems Methodology

(Midgley & Shen, 2005)

- ❖ *Thus, it reframes systems thinking as the exercise of Buddhist discipline applied to organizational life, and is likely to be viewed as a co-operative and culturally valued endeavor.*

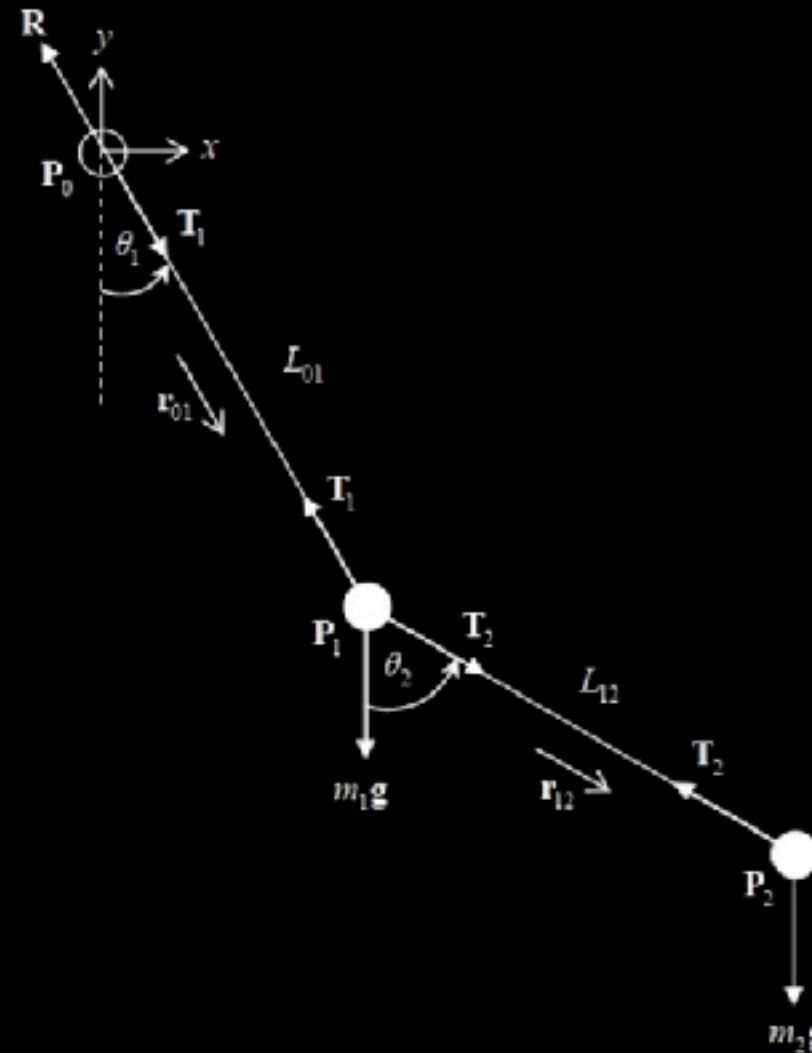
(p. 167)

- ❖ Oriented toward intervention and not study of nature.

Emergent Properties

- ❖ A process / property of a system *not evident* in any one individual.
- ❖ Exists in nature (not just an idea or conceptual device).
 - ❖ Requires a shift to *natural science*.
 - ❖ Cornerstone of the field of *complexity science* (i.e. chaos theory).
 - ❖ Gateway to the *function* of humanism within natural science.
- ❖ Requires a process (not just a category).

Example: Double-Rod Pendulum



$$\dot{\theta}_1 = \omega_1$$

$$\dot{\theta}_2 = \omega_2$$

$$\dot{\omega}_1 = \frac{\frac{g}{L_{01}} \left(\sin \theta_2 \cos(\theta_1 - \theta_2) - \left(1 + \frac{m_1}{m_2} \right) \sin \theta_1 \right) - \omega_2^2 \frac{L_{12}}{L_{01}} \sin(\theta_1 - \theta_2) - \omega_1^2 \sin(\theta_1 - \theta_2) \cos(\theta_1 - \theta_2)}{1 + \frac{m_1}{m_2} - \cos^2(\theta_1 - \theta_2)}$$

$$\dot{\omega}_2 = -\omega_1 \frac{L_{01}}{L_{12}} \cos(\theta_1 - \theta_2) + \omega_1^2 \frac{L_{01}}{L_{12}} \sin(\theta_1 - \theta_2) - \frac{g}{L_{12}} \sin \theta_2$$

Collective Intelligence & Behavior





Collective Intelligence

- ❖ Measures the accuracy of group decisions.
- ❖ An emergent property of a *living* system.
 - ❖ Evading predators, group medical diagnoses, democratic voting, etc.
 - ❖ Effectiveness of coordinated limbic responses in family system?
- ❖ “Uninformed” individuals make better decisions as a collective!
 - ❖ E.g. Individuals getting their news from different sources in democratic elections.

Apis mellifera: Western Honey Bee







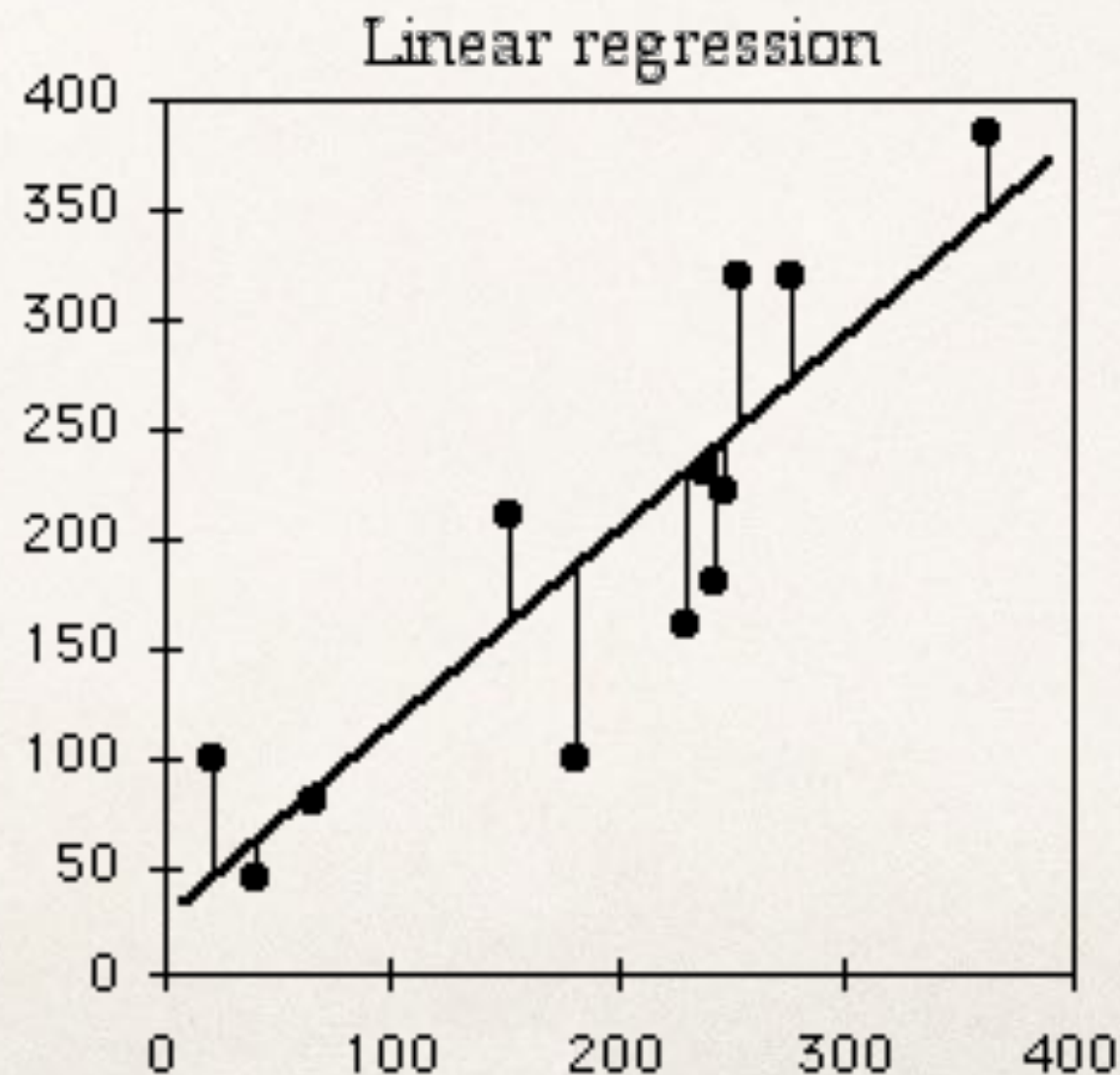
Apis mellifera: Search for Nest Site

- ❖ Individual scouts find candidate site.
- ❖ Advertise / Recruit following with *waggle-dance*.
- ❖ First candidate to reach quorum becomes new site.
- ❖ Natural process works when scouts *compete* for quorum.

(Gruner, Fietz, & Jantsch, 2015)

Central Limit Theorem

- ❖ The greater the collective error, the more *accurate* the representation.

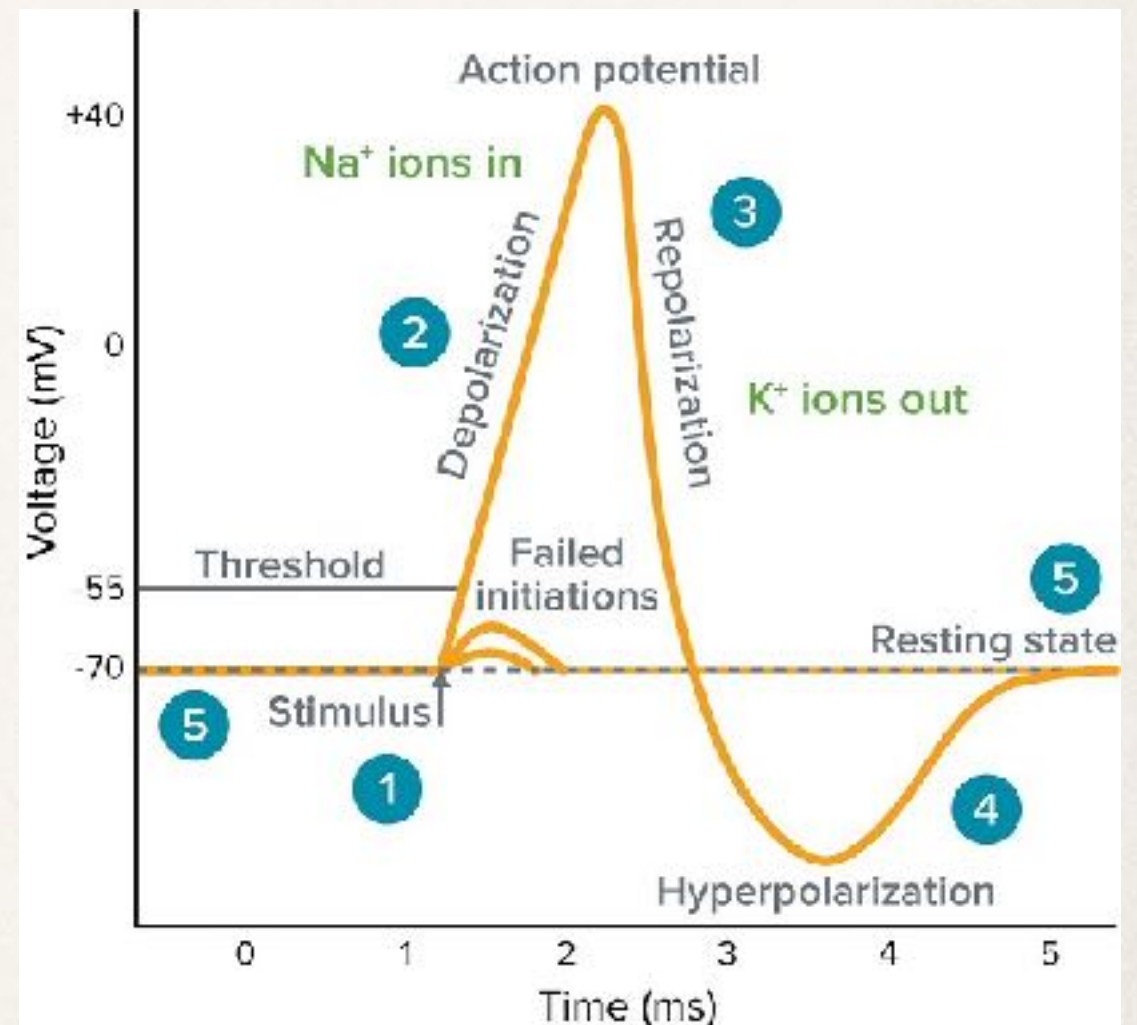


Leptothorax acervorum: Yellow Ants



Leptothorax acervorum: Colony Waves

- ❖ Ants have *action-potential*.
- ❖ Waves emerge at the group level.
- ❖ Model neuron/brain wave relationship.



(Boi, Couzin, Buono, Franks, Britton, 1999)



Natural Systems

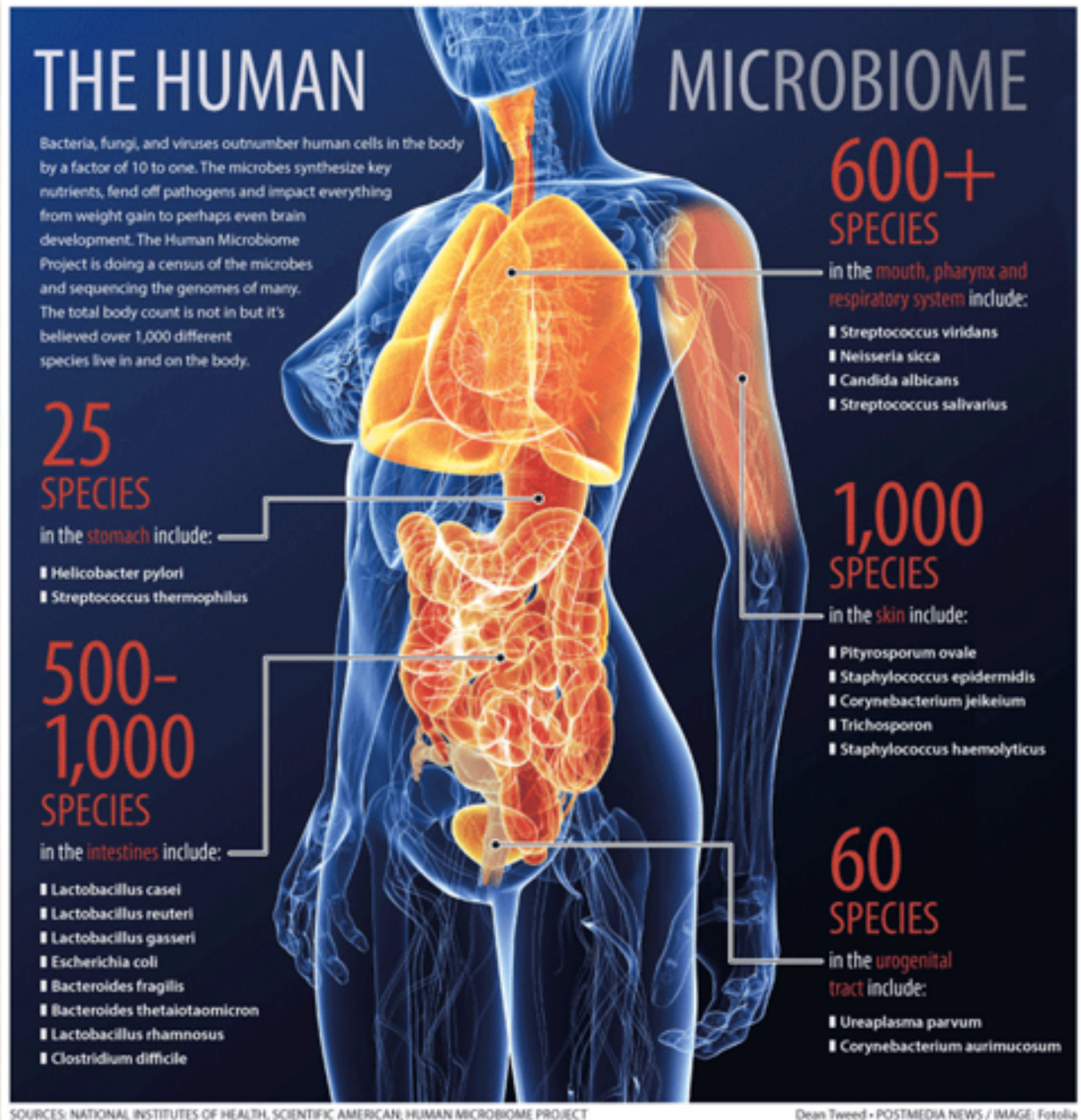
- ❖ Study of nature *as it is*.
 - ❖ i.e. Prior to intervention.
- ❖ Empirical science as *prediction*.
 - ❖ i.e. Requires emphasis on *processes* of nature and not simply *contents* of nature.
- ❖ Very, very difficult the closer we get to *homo sapiens*.

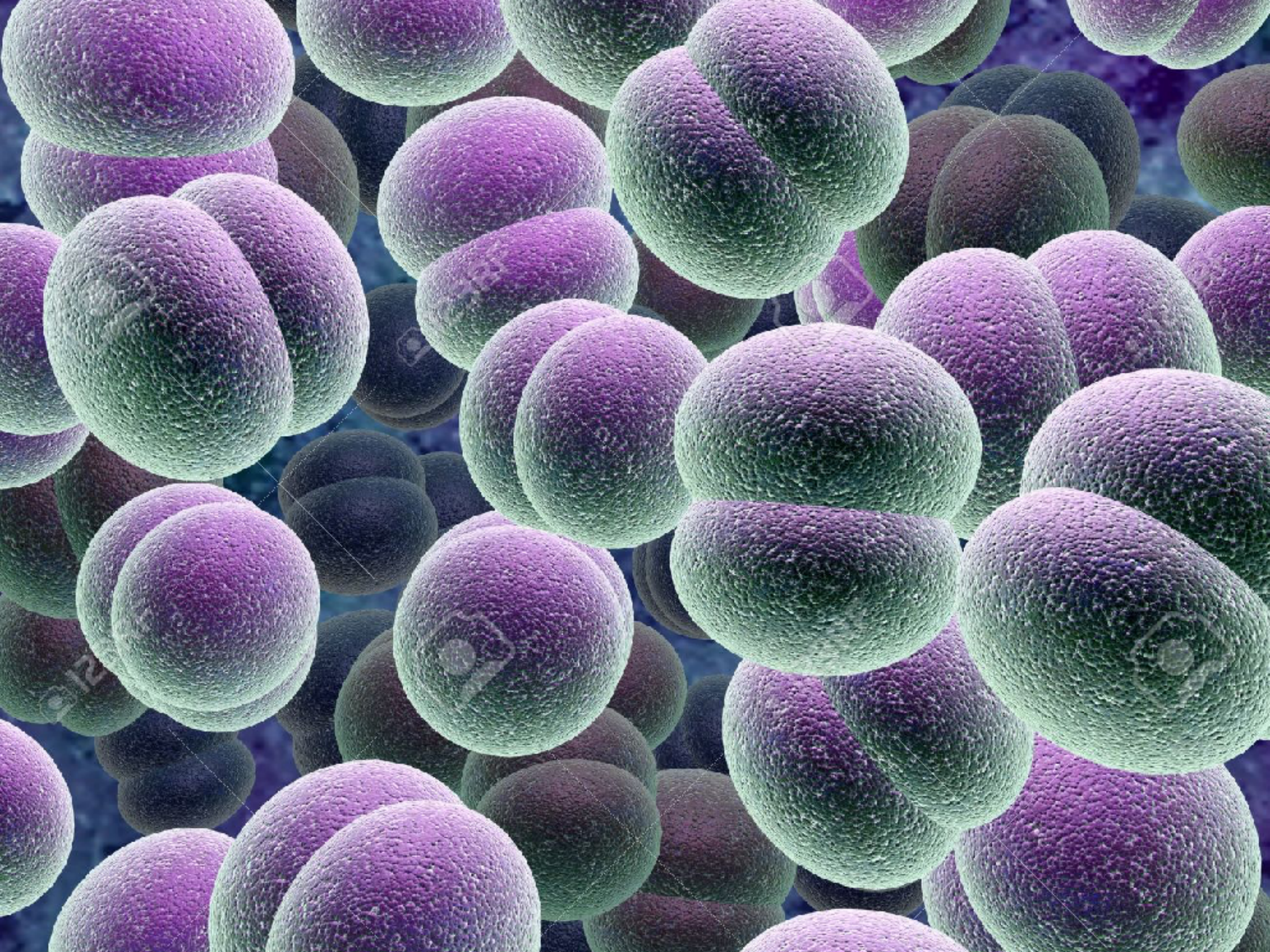
Natural Systems

- ❖ Living individuals *co-evolve* as a unit, i.e. “system.”
- ❖ Living systems *co-evolve* with their environmental context.

99% of your DNA
is not your DNA
(Levitt, 2018)

We are selected
TOGETHER











Natural Systems

- ❖ Living systems *co-evolve* with their environmental context.
- ❖ The environmental context is also a system.







Natural Systems

- ❖ Account for complexity via *emergent properties*.
 - ❖ Moves beyond reductionistic science
- ❖ The *processes* of nature and not simply the *contents* of nature.
- ❖ Connects us deeply to nature at every level via isomorphic organizational principles, e.g. emergent properties.

What about Homo Sapiens?

- ❖ Only one collective behavior study!
- ❖ Some collective intelligence research.
 - ❖ Mostly around human-centric problems.
- ❖ Our greatest challenge is overcoming confirmation bias in studying ourselves.
 - ❖ Taboo in Evolutionary Biology.
 - ❖ “Lag Time”: Time before new scientific theory is accepted.

Original NIMH Study (1954-1959)

- ❖ Housed entire families for up to two years of “naturalistic observation.”
- ❖ Original goal to study reciprocal nature of symptoms between mother and schizophrenic patient.
- ❖ Bowen/Staff read extensively in natural sciences.
- ❖ Emphasis on what homo sapiens has in common with the rest of life.
- ❖ Many novel observations about the functioning of families.

Johannes Kepler (1571-1630)

- ❖ Developed model which accurately described motion of all the planets.
- ❖ Adjusted hypothesis to fit observations, as opposed to the opposite. The goal was *prediction*.
- ❖ Counter-example: Assume “*attitude*” as psychological construct; Adjust observations without questioning *a priori* concept.
- ❖ Counter-example: “Consciousness.” Practically impossible to define, yet organizes an entire field of study.

Novel Findings

- ❖ Staff predicted symptomatic shifts in one person from symptomatic shifts in another person.
- ❖ Fathers (and ward staff) were also involved in symptomatic shifts.
- ❖ Families that actively participated in theory development did better than families who just received therapy.
- ❖ Therapists who continued Tx development in their own families required less supervision / therapy.

The “Family Unit”

- ❖ *Each time there was a significant improvement in the patient, the mother would, within a few hours develop a severe physical illness, that could be prolonged and require hospitalization. . . [it was] so common that any increase in mother’s anxiety would alert the staff for an increase in the patient’s psychosis.*

(Bowen, n.d., as cited in Rakow, 2016, p. 148)

- ❖ Original meaning of the term *family unit*:
 - ❖ Their functioning is so dependent on each other that it did not make sense to assess one person in isolation. Triangles are inherited. All are involved.

Predictability in the Family

- ❖ *When any key member of an emotional system can control his own emotional reactivity and accurately observe the functioning of the system and his part in it, and he can avoid counterattacking when he is provoked, and when he can maintain an active relationship with the other key members without withdrawing or becoming silent, the entire system will change in a series of predictable steps.*

(Bowen, 1978, p. 436)

The 8 Concepts of Bowen theory

- ❖ Emotional System
- ❖ Individuality / Togetherness
- ❖ Differentiation
- ❖ Triangles
- ❖ Family Projection Process
- ❖ Cutoff
- ❖ Multigenerational Transmission Process
- ❖ Emotional Process in Society

Novel Concepts: Emotional System

- ❖ *Emotional System*

- ❖ Pertains to all of life.
- ❖ Emotion as *instinct*; call to action, to motion.
- ❖ “E-motion” as Darwinian call to action. Not necessarily “feelings.”
- ❖ Thinking system, feeling system, emotional system /

The Emotional System

- ❖ *An example of emotionally determined behavior in a lower animal is the activity of a highly stimulated horde of soldier caste ants vigorously responding to intruders into their colony. The ants neither contemplate the meaning of their actions nor harbor strong nationalistic feelings; they simply act. Another example of emotional reactivity in a lower animal is the teeth baring of a male baboon in response to a stranger. The automatic movement of a plant, a barnacle, or a moth toward a light source is another emotional response.*

(Kerr & Bowen, 1988, p. 30)

The Emotional System

- ❖ *Man is conceived as the most complex form of life that evolved from the lower forms and is intimately connected with all living things. . . . Emotional functioning includes the automatic forces that govern protoplasmic life. It includes the force that biology defines as instinct, reproduction, the automatic activity controlled by the autonomic nervous system, subjective emotional and feeling states, and the forces that govern relationship systems. . . . The theory postulates that far more human activity is governed by man's emotional system than he has been willing to admit, and there is far more similarity than dissimilarity between the 'dance of life' in lower forms and the 'dance of life' in human forms.*
(Bowen, 1978, pp. 304-305)

The Emotional System

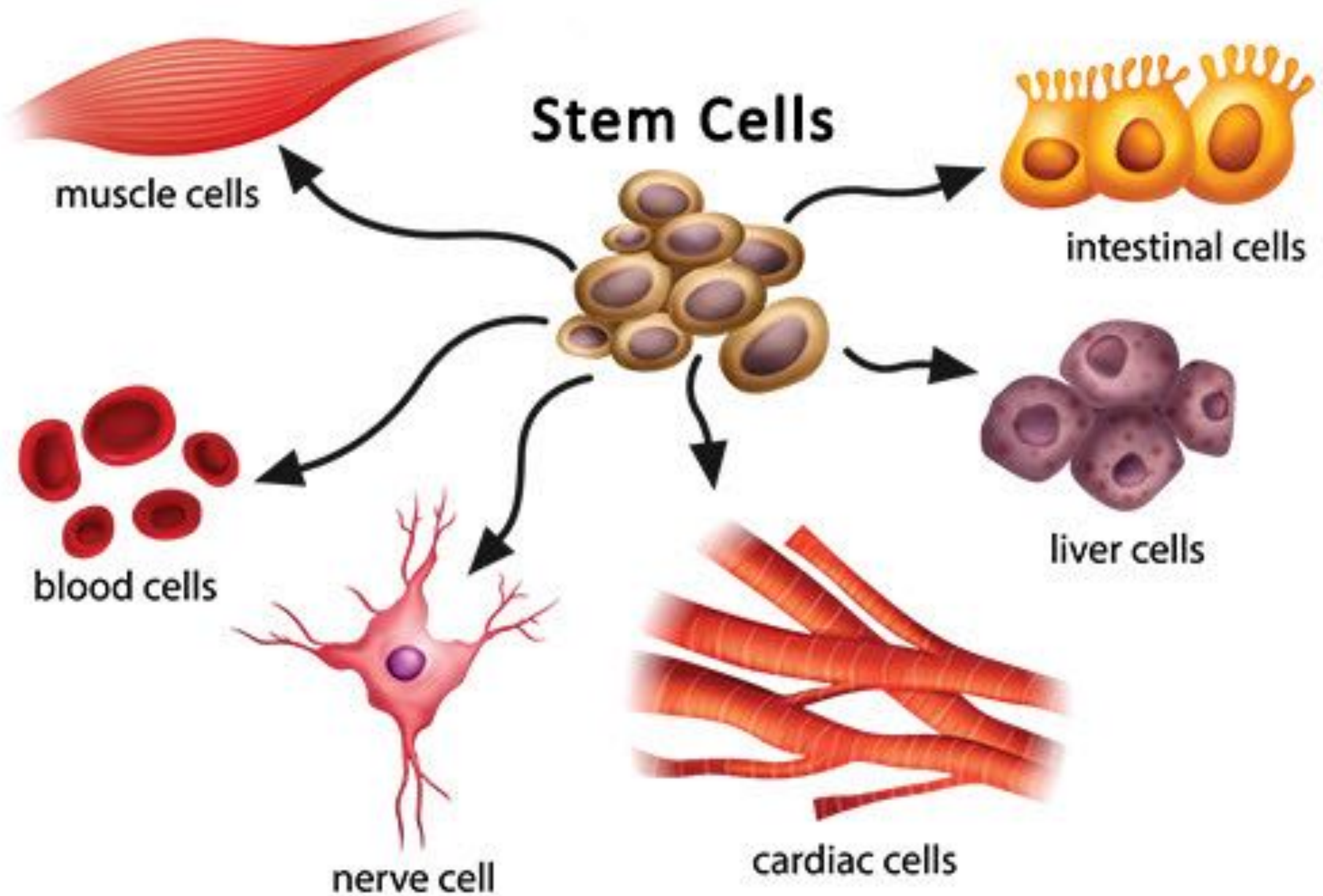
- ❖ For example, thinking of the body as an emotional system may enhance our understanding of a clinical problem such as cancer. If the body can be conceptualized accurately as an emotional system, then cancer may reflect some sort of disturbance in the balance of that system. This way of thinking about cancer is quite different from the way of thinking upon which most cancer research has been based. Research on finding the cause of cancer has tended to focus on what is occurring inside the cancer cell. The research question has generally been, “What has gone wrong with this cell to cause it to behave abnormally?” Research based on the assumption that cancer is caused by a defect or disturbance within the cell may eventually provide an adequate explanation. On the other hand, an adequate explanation may possibly depend on being able to conceptualize the body as a biological unit, for example, as a colony of cells. Cancer would reflect a disturbance in the unit as a whole. The disturbance observed within the cell would be a reflection of a disturbance in the larger system of which the cancer-containing organ is a part.

(Kerr & Bowen, 1988 p. 29)

Novel Concepts: Differentiation

- ❖ *Differentiation*: process of specialization in cells in organismic body.
- ❖ *Differentiation of self*: pertains to individual human in family unit.
 - ❖ The ability to choose between thinking and feeling as anxiety increases in the group while remaining in emotional contact.
- ❖ *Fusion*: Process by which cells agglutinate.

Cell Differentiation



Universal Differentiation

- ❖ Very sophisticated term.
- ❖ Pertains to individual *within the group*.
- ❖ Adaptability by way of increase in complexity and coordination.
- ❖ 1955 Chevy: Cheaper / easier to maintain.
- ❖ 2018 Chevy Bolt: More costly / harder to maintain.

Theoretical Concepts

- ❖ Counterbalancing life forces: Individuality / Togetherness
 - ❖ As in fish / bird models.
- ❖ Triangles: Individual regulated by the group.
- ❖ Family Projection Process.
- ❖ Multigenerational Transmission Process.
- ❖ Emotional Process in Society.

Anxious Families

- ❖ Like huddling cattle.
- ❖ More interested in consensus than truth.
- ❖ Less fact (objectivity), more opinion (subjectivity).
- ❖ More focused on content (i.e. symptoms) than process (i.e. timing with nodal events)
 - ❖ Mother of nail-biting daughter.

Coaching: Content to Process

- ❖ What is the family timeline? What is the timeline of the presenting symptom? What else was happening in the family during major shifts in symptomology?
- ❖ How do they manage stress / problems?
- ❖ How do they solve problems?
- ❖ How do they think about what is important?
- ❖ Who comes out impaired after significant event? How long does it take for them to return to normal?
- ❖ How does the integrity of the family unit look after significant event? Who cuts off? Who fuses?

Emotional Cutoff

- ❖ *The unresolved attachment is handled by the intrapsychic process of denial and isolation of self while living close to the parents: or by physically running away: or by a combination of emotional isolation and physical distance. The more intense the cutoff with the past the more likely the individual to have an exaggerated version of his parental family problem in his own marriage, and the more likely his own children to do a more intense cutoff with him in the next generation. There are many variations in the intensity of the basic process and in the way the cutoff is handled.*

(Bowen, 1978, p. 382)

Cutoff: Dr. Baker's Research

- ❖ Dr. Katharine Baker studied the effects of cutoff at the University of Moscow. There, many people of one generation had been killed in Stalin's "purges." When records in Russia were opened, many people showed a great deal of interest in finding out all they could about this, their (by now) grandparent generation.
- ❖ As predicted, those who knew most, *or showed the most interest in finding out about their grandparent generation* were also functioning the best. Those who knew less and showed less interest (an evidence of cutoff) were doing less well in their life functioning.

(Gilbert, 2006)

Modeling the Family System

- ❖ Family diagram is beginning of a predictive model of the family as a natural system
- ❖ Aiming for prediction of process, not content
 - ❖ Content: [who+when+where+what]
 - ❖ Process: how (emergent properties)
 - ❖ Example: Double-rod Pendulum.

Family Diagram app

- ❖ Clinical Tool: Diagramming / symptom tracking.
- ❖ Research Tool: “Family Variable” framework.
- ❖ Develop predictive models of emotional system.
- ❖ Systems-Oriented Personal Medical Record (PMR).

Predict Behavior? What?

- ❖ Predict *process* not *content*.
- ❖ $2 + 2 = 4$
 - ❖ 2, 2, & 4 is *content*.
 - ❖ + is *process*.
 - ❖ The “+” is a “predictive model.”

Emotional System Model

- ❖ When a nodal event hits this family:
 - ❖ Y & Z will focus on X to manage marital conflict.
 - ❖ X will become symptomatic.
 - ❖ X will get better if Y or Z become symptomatic, or overt conflict erupts.

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It is a common characteristic for the human to differ with others about terminology. It occurs with all terms, whether frequently or infrequently used. Even when the author is specific about the use of terms, the reading audience “hears through” a fairly fixed screen that is mostly within the individual. . . Unless there is an inborn deficit, most people can become flexible in their ability to “hear.” It merely requires longer for the more fixed people. The ability to “hear” does not appear to be significantly influenced by social class or formal education. . . In any audience, lay or professional, there is a small percentage that either “hears” the presenter or asks pertinent questions. A much larger mid-scale group “hears” part of the presentation and is motivated to hear more. They hear best through what others think rather than from within themselves. They can slowly learn to think for themselves rather than depend on others. The other percentage is the most fixed. They are prisoners of the emotional system, and teaching is slow and difficult. They hear very little and tend to be critical of the presenter, go to sleep, or otherwise absent themselves.

—Murray Bowen (Kerr & Bowen, 1988, p. 349)