Introduction to Network Criminology

CRJ 523

Network Criminology

Learning Goals

- Developing a "problem" for network criminology.
- Review network *theories* and *theories of* networks.

Network criminology needs a "problem"

- An analogy: Robins's (1978) Paradox
  - (i.e. explaining continuity and change)
- Why is this a paradox?
  - How can it be explained?

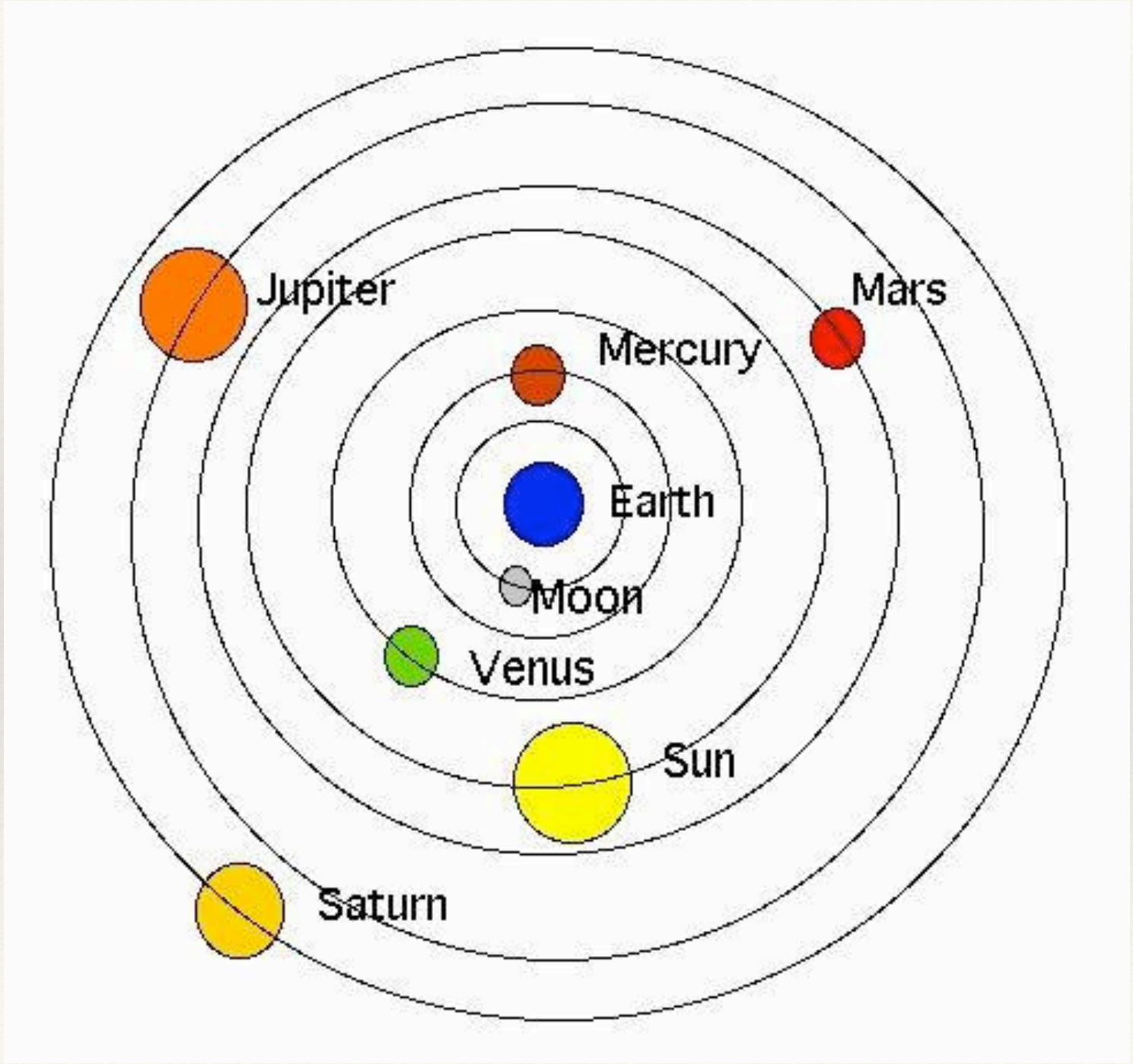
Network criminology needs a "problem"

- Think about this question throughout the semester:
  - *What is the paradox that is problematic for existing theories in criminology that a network approach can address?*
    - **THINK BROADLY!**

What's wrong with non-network criminology?

- Kuhn's (1962) "The Structure of Scientific Revolutions"
- Paradigms are "models of the world" that provide "problems to solve"
  - The model necessarily creates a lens of nature.

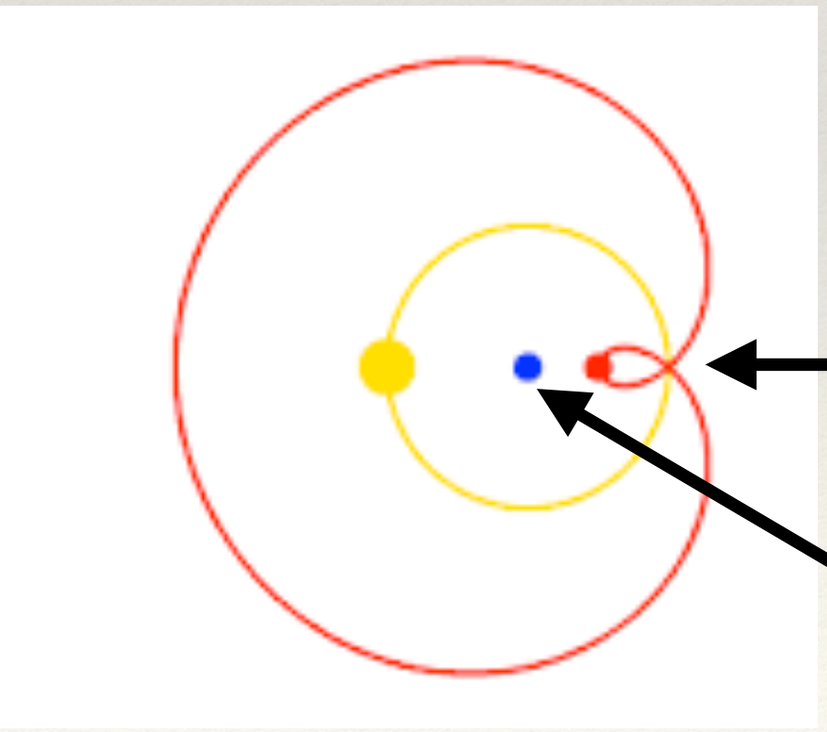
Example: Geocentric Model



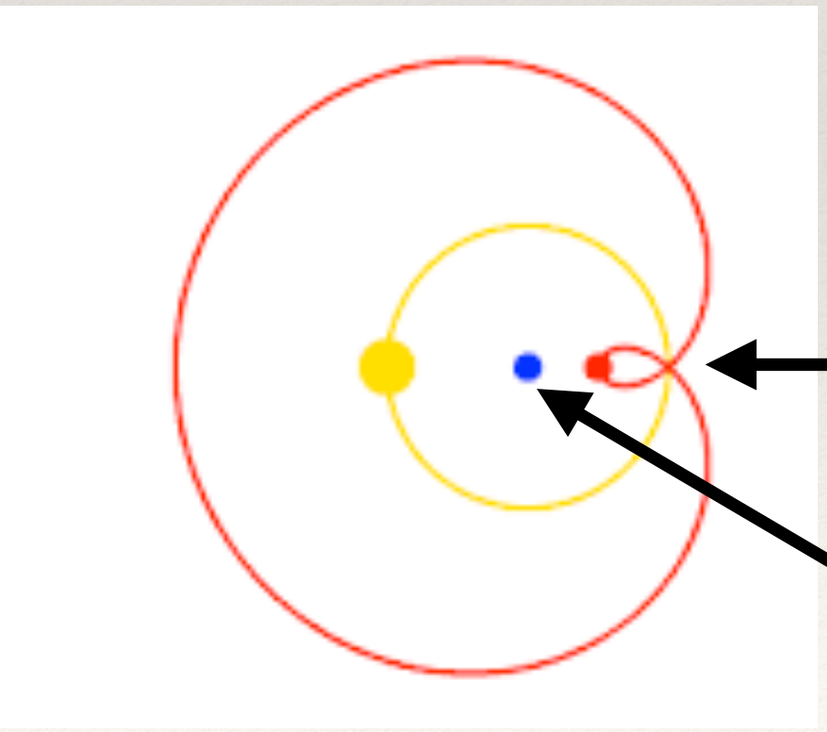
Why "network" criminology?

- Kuhn (1962)
- As research is conducted, "anomalies" develop.
- **Paradigm shifts** occur when "candidate" paradigms do a better job explaining anomalies or paradoxes.

Example: Geocentric Model and Retrograde motion of Mars



Example: Geocentric Model and Retrograde motion of Mars



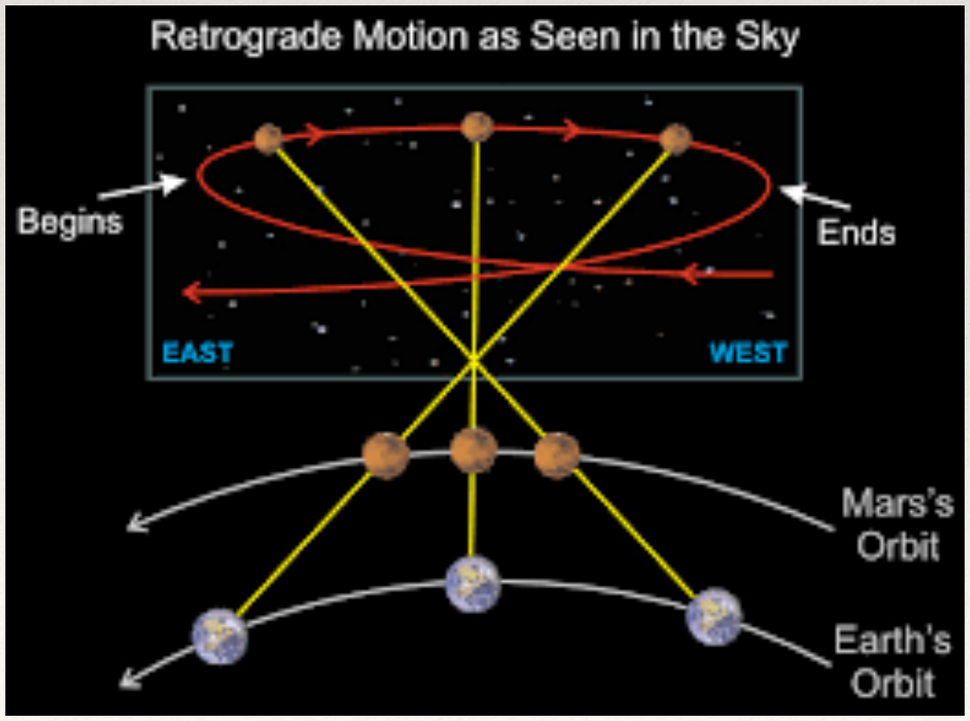
So what is the problem???

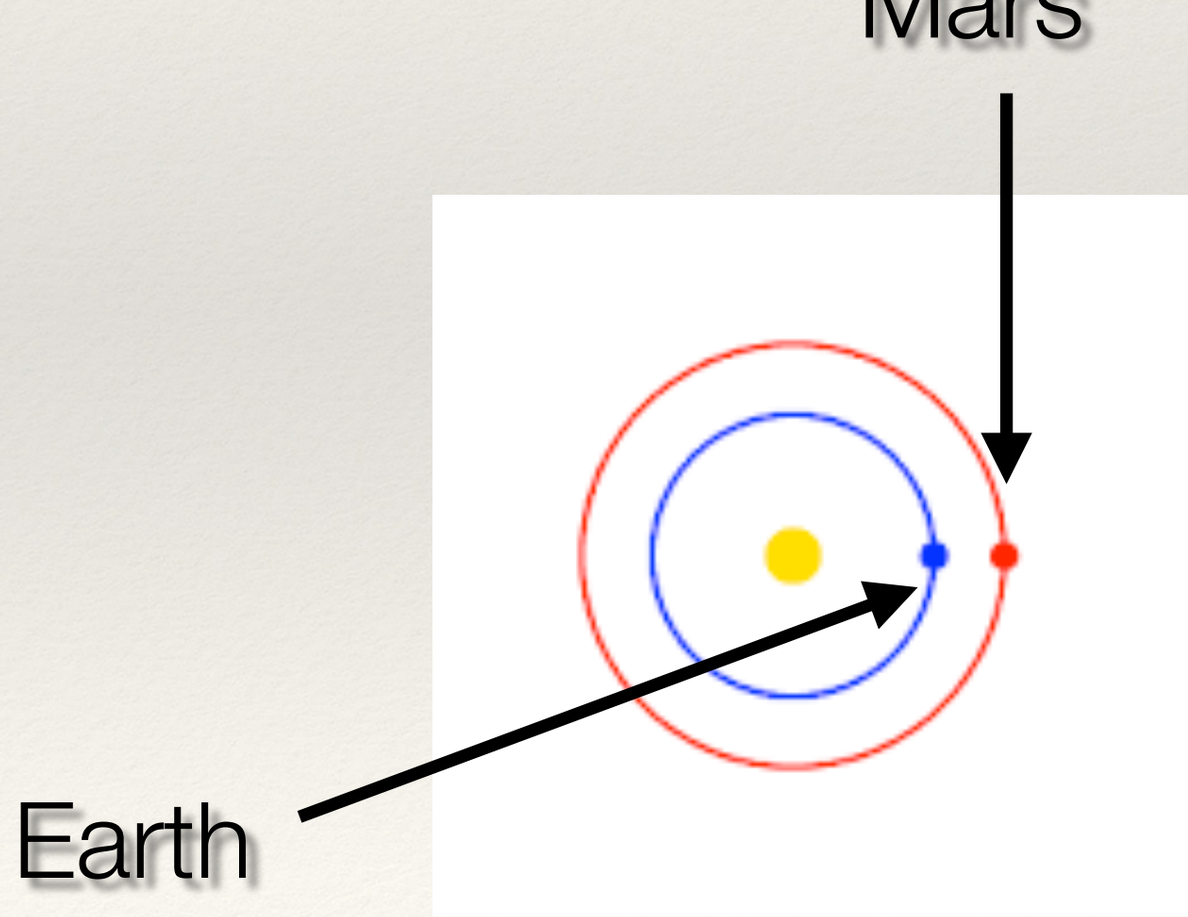
Example: Heliocentric Model and Retrograde motion of Mars

What if the sun is actually the center of the solar system?

Example: Heliocentric Model and Retrograde motion of Mars

Then we can explain the observation…





Network criminology needs a "problem"

- Think about this question throughout the semester:
  - *What is the paradox that is problematic for existing theories in criminology that a network approach can address?*
  - **THINK BROADLY!**
- What is our "paradigm"?

What's wrong with non-network criminology?

- In criminology, the prevailing paradigm is *Substantialism*.
- "…the notion that it is *substances* of various kinds (things, beings, essences) that constitute the fundamental units of all inquiry" (Emirbayer 1997: 282, emphasis in original)

What's wrong with non-network criminology?

- Here, the focus is on:
  - units acting under their own power (e.g. rational choice, self-control)
  - or interactions among units that then settle on a single unit (e.g. social learning in peer groups)

- This is a "model" of how the world works.
  - And the model tells us what to focus on.
    - In this case, independent units.

Why "network" criminology?

- Kuhn (1962)
- Paradigm shifts occur when "candidate" paradigms do a better job explaining anomalies or paradoxes.
  - So, what are some issues???

Limitations

- **Measurement as a paradox**
  - Research requires *conceptualization* and *operationalization*.
  - Conceptual overlap among existing theories; same thing, different name
    - Example: social bonds vs. reinforcement
  - Operational overlap among theoretical constructs; different concepts, same operational measure
    - Example: “do you care what your friends think?”, bond or reinforcement or strain?
  - Vague/Intuitive concepts; “sensitizing concepts”
    - Example: what is “agency,” “legitimacy,” “trust”?

Limitations

- **Measurement as a paradox**
  - Paradigms produce particular methodological approaches.
    - In criminology, most research in conducted through survey's because substantialism suggests that we can measure the construct of interest.
      - This is problematic.
        - Example: Peer influence

Why "network" criminology?

- Why "network" criminology?
  - The *Relational* paradigm, where the "relation" is the unit of analysis, provides a better foundation for the problem I have identified.

Why "network" criminology?

- Emirbayer & Goodwin (1994: 1418, emphasis in original) on a network approach:
  - "It is more *general* because many different kinds of… [things]… can be understood in, or be 'translated' into, network terms."
  - "It is more *concrete* because the structures…can be desegregated into their constituent elements."
  - "…able to provide far more precise and accurate representations of social structures…"

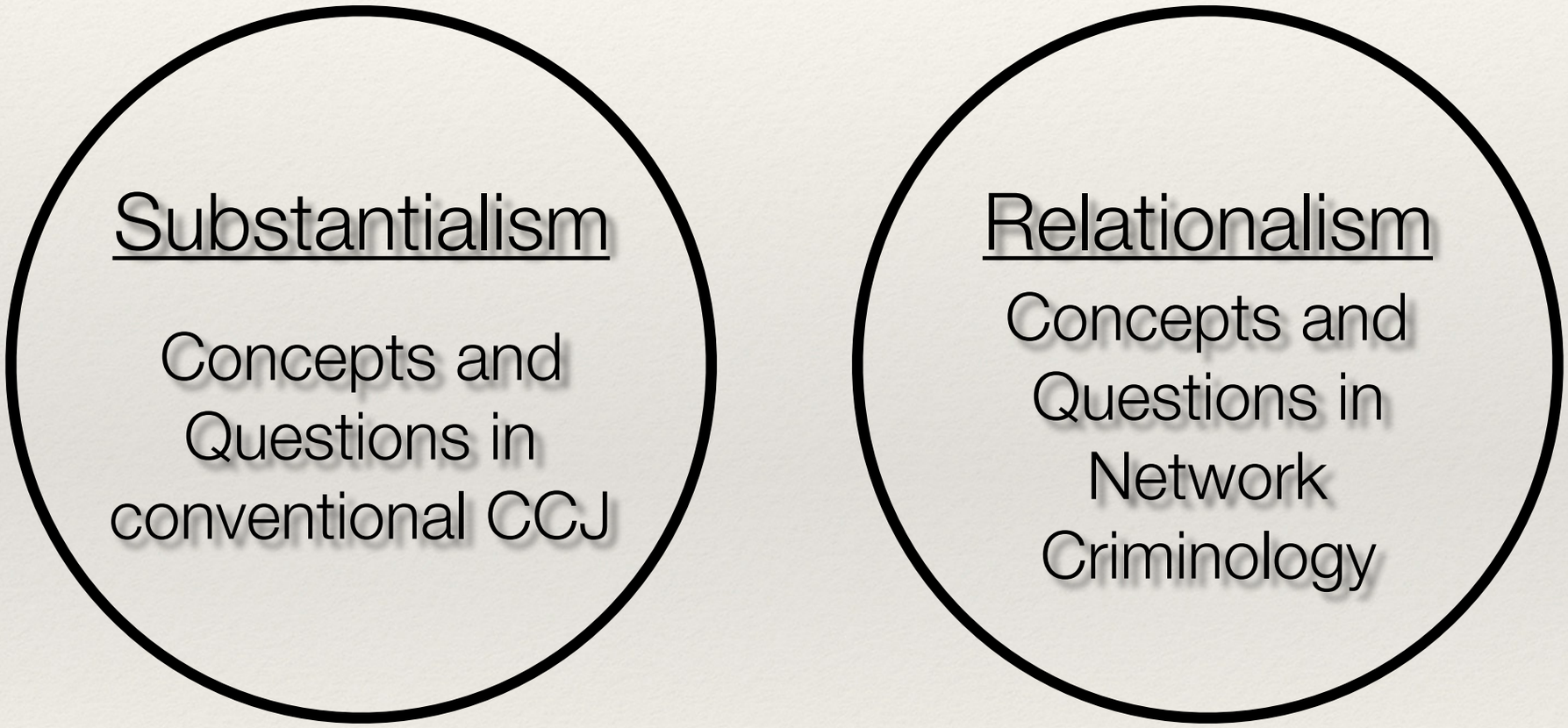
Why "network" criminology?

- Three advantages:
  - Adopts a relational framework where the "relation" is the unit of analysis.
  - Conceptualization via relational mechanisms.
  - Operationalization through mathematics (graphs).

Limitations

- **What else?**
- A main goal of this course is to try and identity other problem areas for that a relational perspective can address.

Paradigms: Disjoint and Overlap



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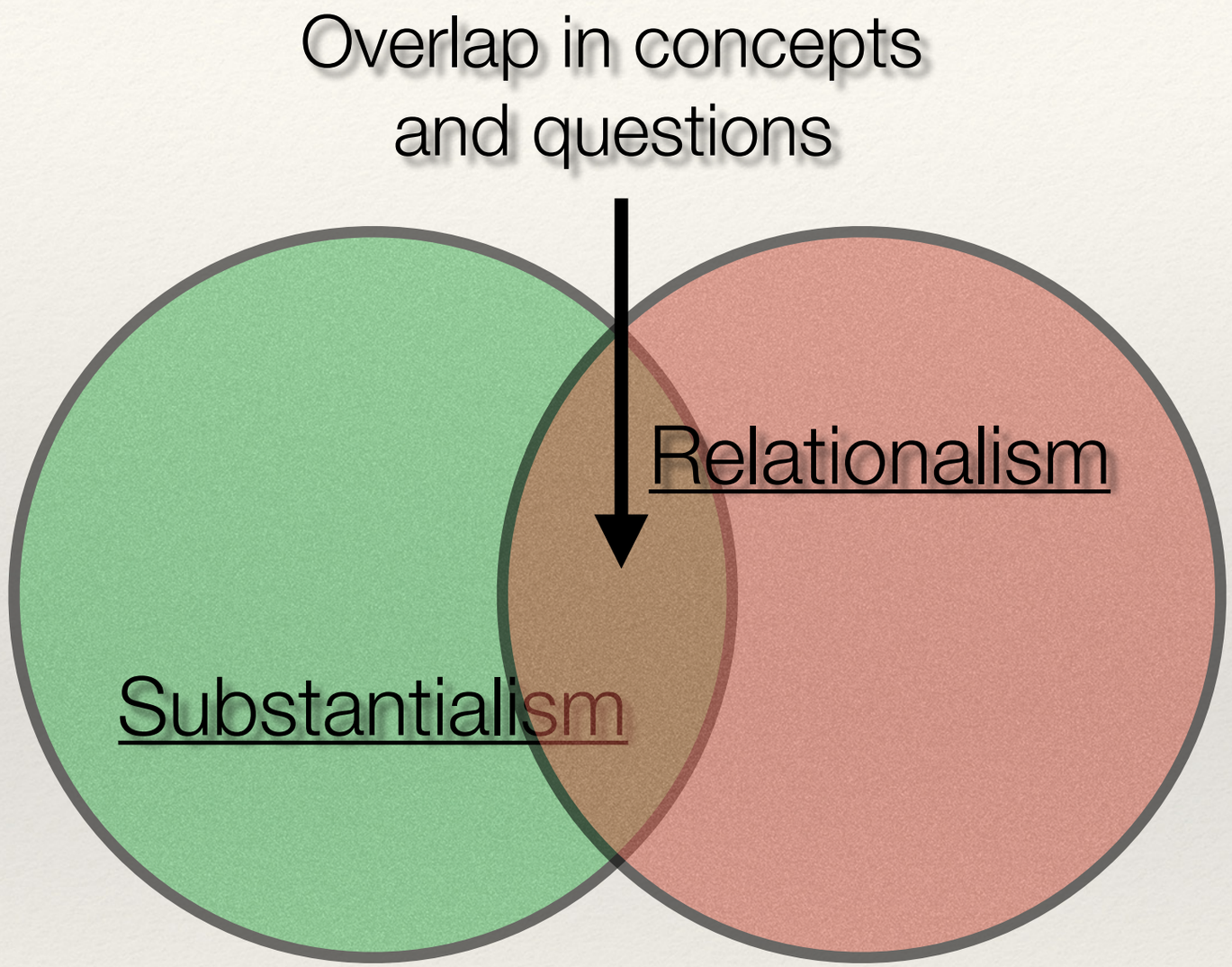
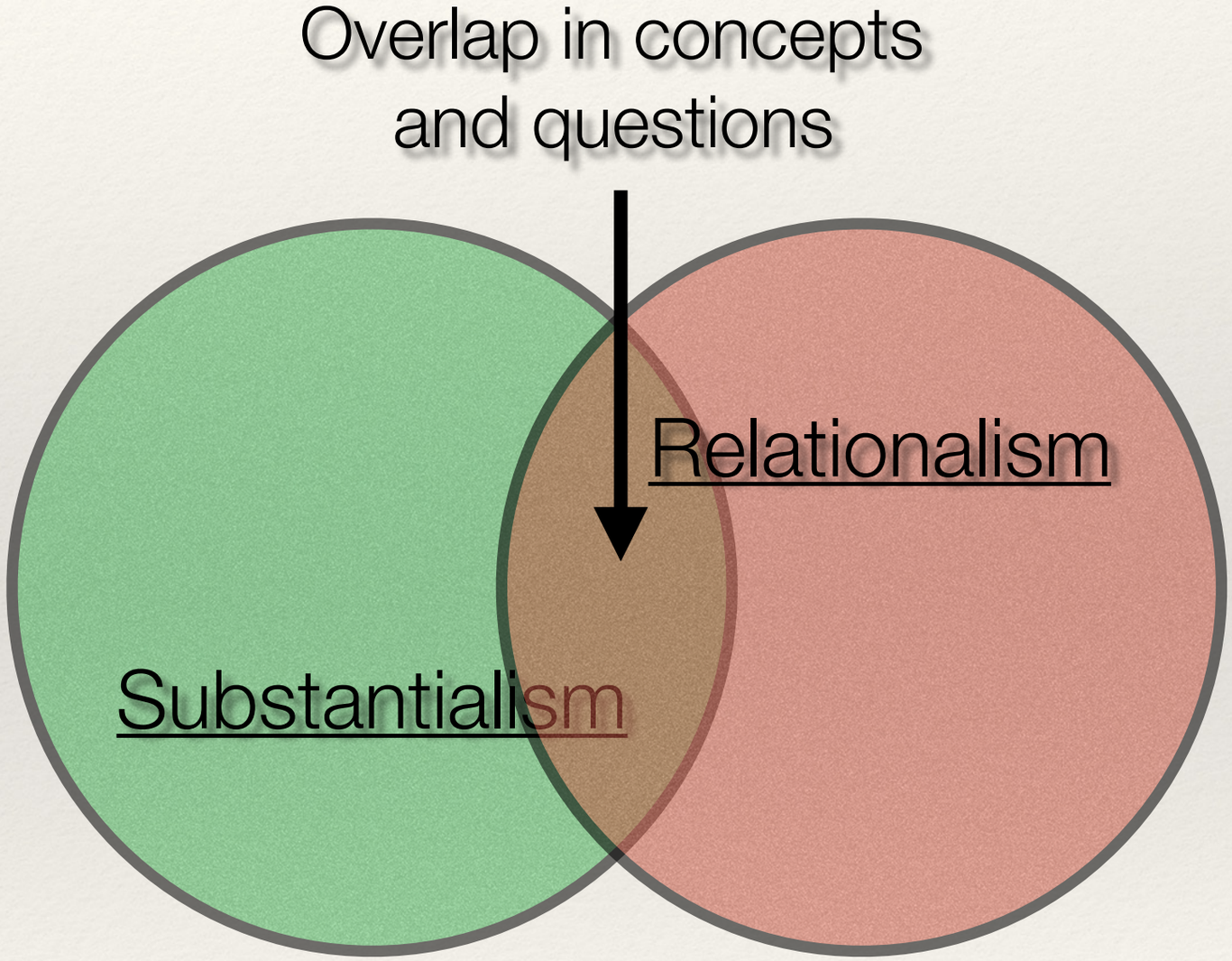


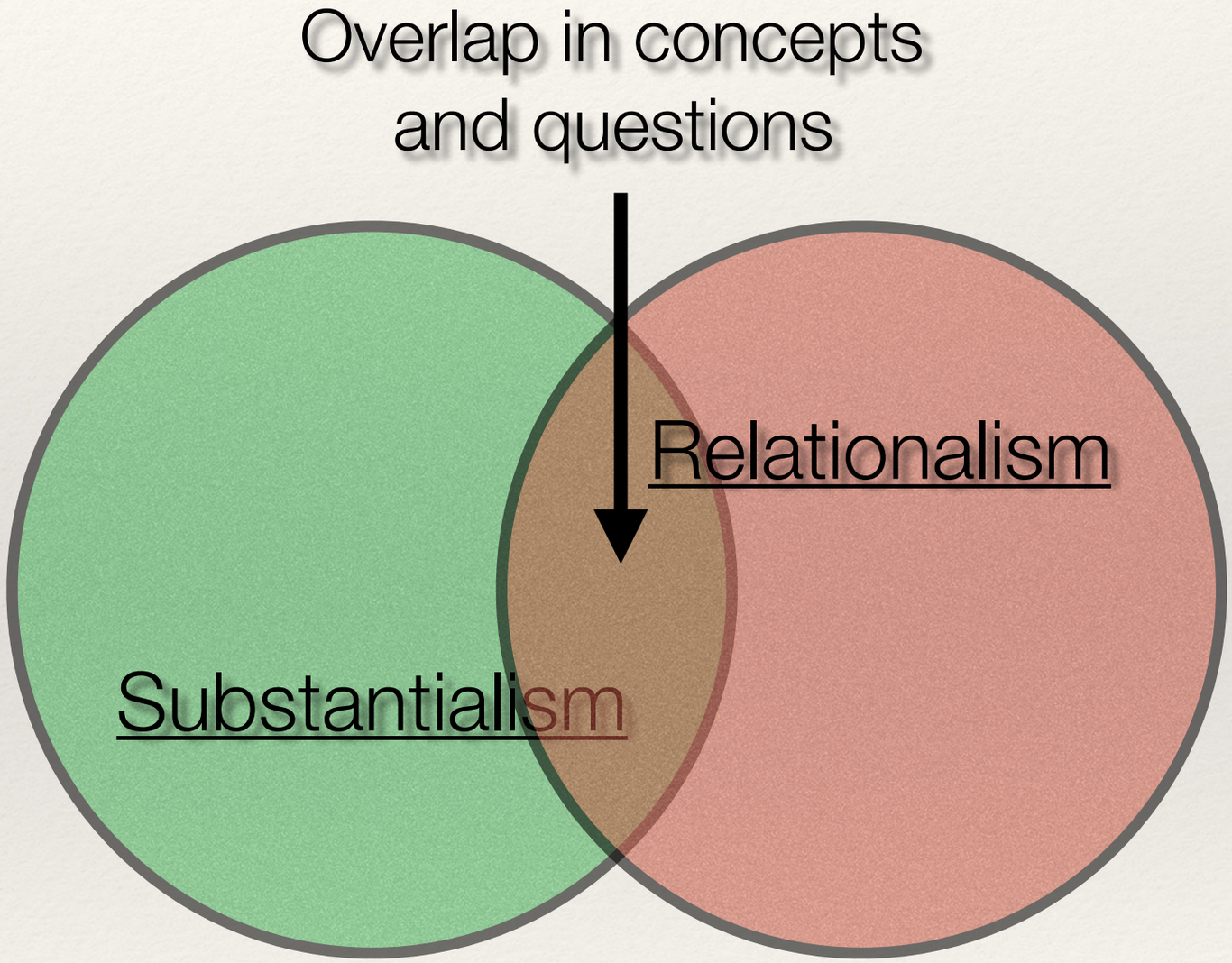
Paradigms: Disjoint and Overlap

- **"New Tool for an Old Problem"**
  - The same question, asked differently.
  - Existing questions from a network perspective.
  - Different concepts, conceptualizations, and / or operationalizations.



Paradigms: Disjoint and Overlap

- Example:
  - Peer Delinquency



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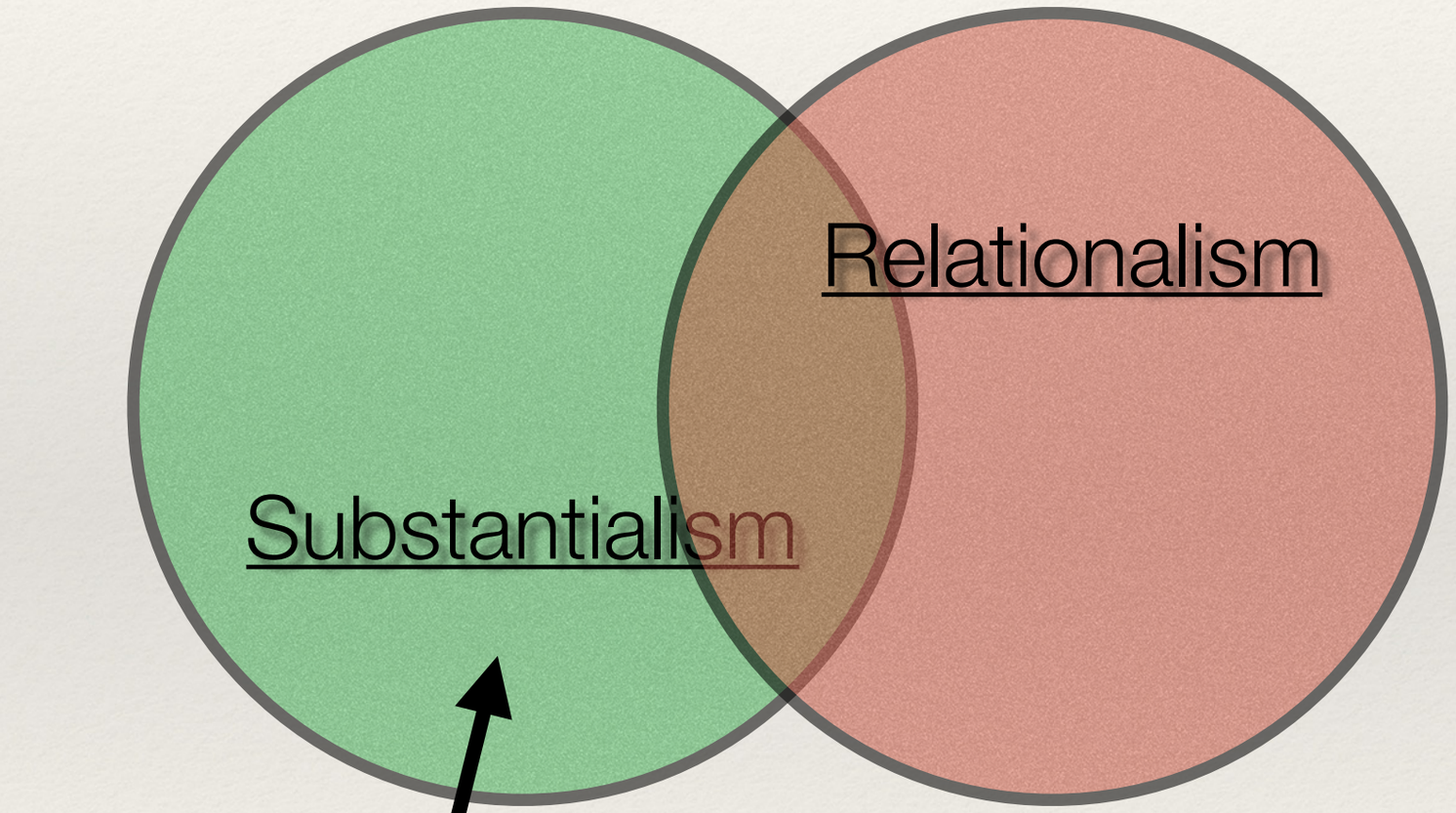

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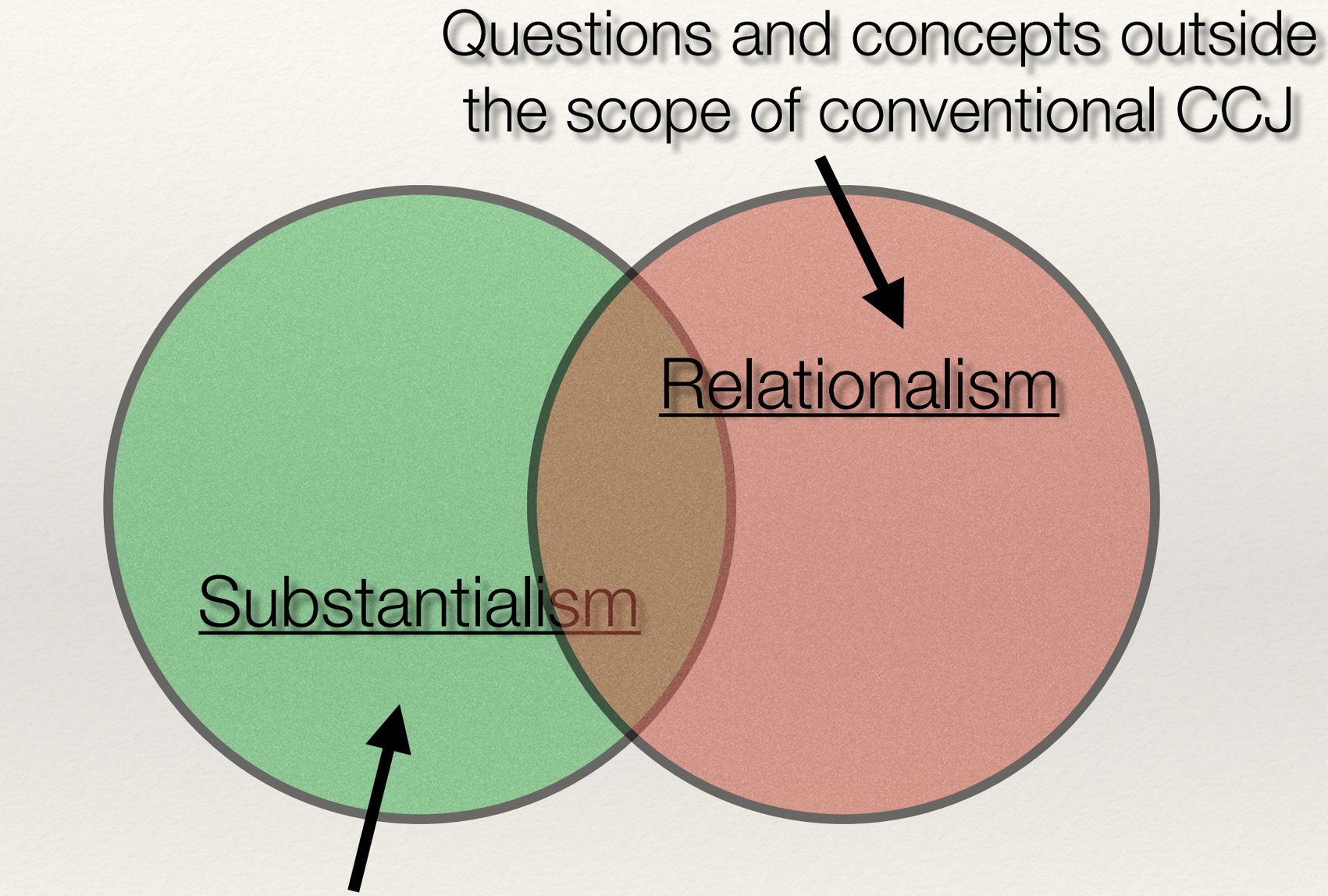
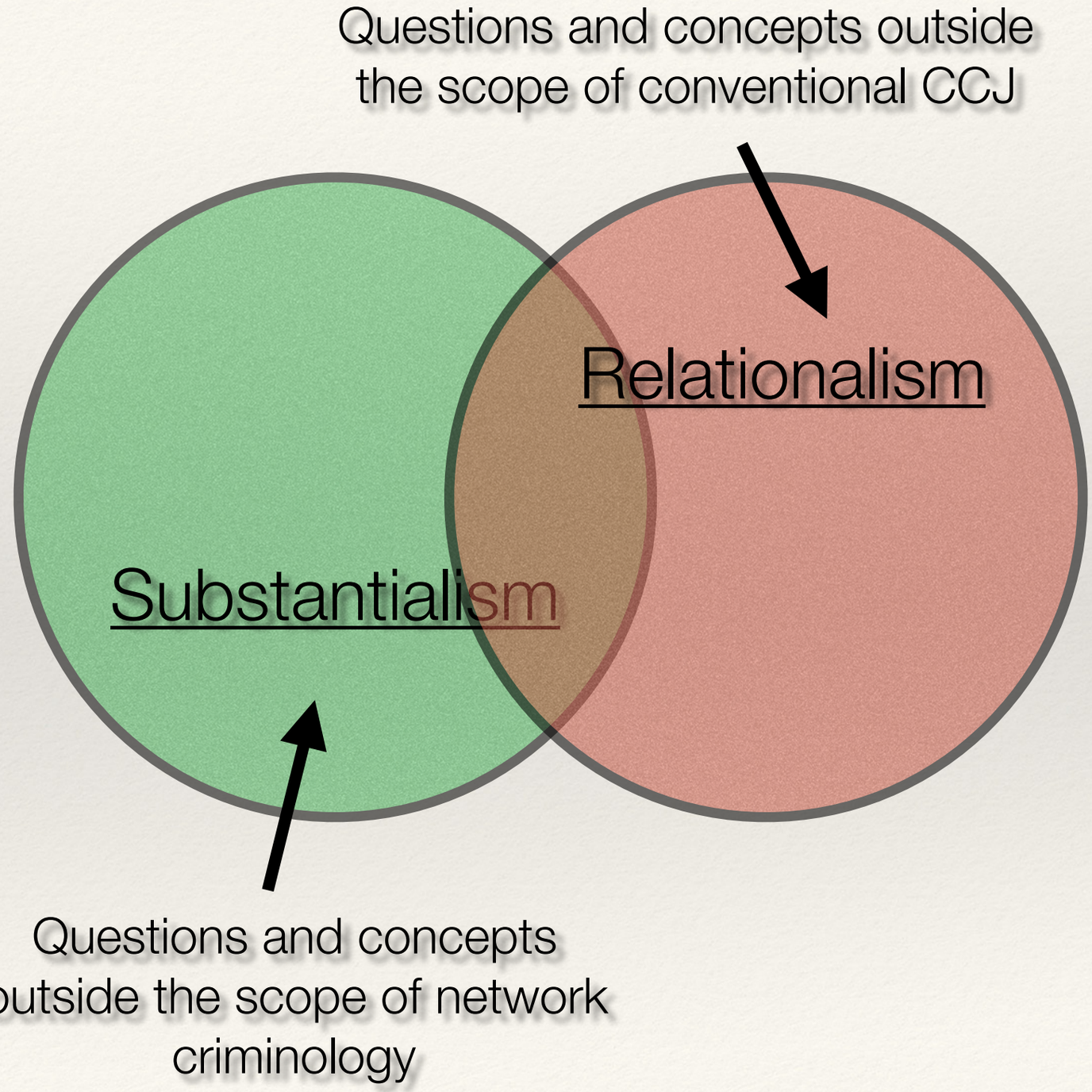


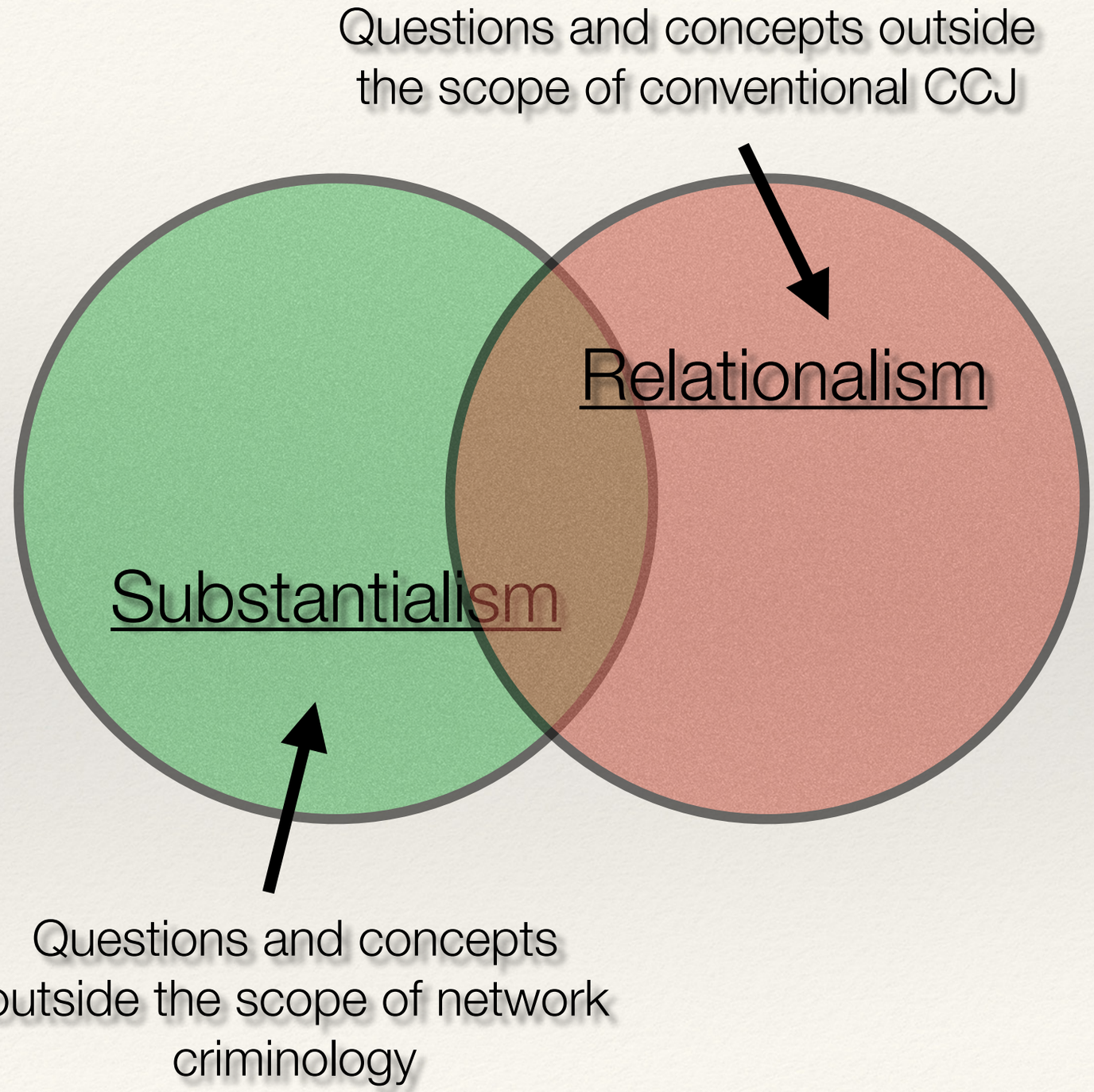
Paradigms: Disjoint and Overlap

- **"Different Questions tell us Different Things"**
  - Questions that fall outside the scope of an alternative paradigm.
- Incompatible concepts, conceptualizations, and/or operationalizations.



Paradigms: Disjoint and Overlap

- Example: Conceptualizing units as independent is *incompatible* with a relational approach.



Paradigms: Disjoint and Overlap

- **Questions we want to ask this semester:**
  - How big is the overlap?
  - Are there areas that do not appear to overlap, but could overlap with additional work? (left to right)

- **Consider this an opportunity:**
  - Papachristos' (2014: 347) "network turn"
    - "opportunity to evaluate our core theoretical principles and consider newer ways to better understand and measure them."

Organizing Knowledge

- **General Classification of ideas**
- Network Theories (networks as “cause”)
- Theories of Networks (networks as “effect”)

Network Theories and Theories of Networks*

NETWORK THEORIES ("networks as *cause*")	THEORIES OF NETWORKS ("networks as *effects*")

Network Theories

- **Dimensions**
  - Explanatory model (metaphor)
    - *Flow*: "stuff" flows through ties like pipes.
    - *Coordination*: ties are like bonds in that they coordinate action or "prisms" in that the reveal differences in roles.
  - Explanatory goal
    - *Social Capital/Performance*: what are the benefits of a position? How does it concur advantage?
    - *Homogeneity*: why are nodes similar?

Network Theories and Theories of Networks*

	NETWORK THEORIES ("networks as *cause*")		THEORIES OF NETWORKS ("networks as *effects*")
	Explanatory Goal		*Explanatory Goal*
Explanatory Model	Social Capital/ Performance ("why are the benefits?")	Homogeneity ("why are nodes similar?")	Network Structure ("why is the network this way?")
Network Flow (ties as pipes)			
Network Coordination (ties as bonds or "prisms")			

*Adapted From Borgatti and Halgin (2011) and adams (2020).

Mechanisms in Network Theory

- Model: *Flow*
- Goal: *Social Capital/Performance*
  - **Capitalization**
    - Acquisition of resources through ties.
      - Example: why do so people stay out of prison when they return to the community?
        - Social support upon reentry.

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Network Coordination (ties as bonds or "prisms")			

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Mechanisms in Network Theory

- Model: *Flow*
- Goal: *Homogeneity*
- **Contagion**
  - Similarity is induced through an "infection" process.
    - Example: Why are people victims of gun violence?
      - Crime epidemics, where gun violence is transmitted through risky behavioral settings.

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Mechanisms in Network Theory

- Model: *Coordination*
- Goal: *Social Capital/Performance*
- **Cooperation**
  - Ties facilitate coordination to solve some problem.
    - Example: why can some groups enforce norms?
      - Closure strengthens identity and distributes sanctioning costs.

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Mechanisms in Network Theory

- Model: *Coordination*
- Goal: *Homogeneity*
  - **Convergence**
    - Nodes respond to or adapt to their environment. Homogeneity is a consequence of structural similarity.
      - Example: Who is most likely to engage in relational violence?
        - Adolescents in the middle of the hierarchy (not the top or bottom) tend to engage in relational violence to maintain position and move through the hierarchy.

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Theories of Networks

- **Usually adopt one of the metaphors**
  - But, could be a whole host of different mechanisms…

- **"Why is the network this way?"**
  - Why does someone have more social support?
  - Why are people clustered in risky behavioral settings?
  - Why do some groups have network closure?
  - Why are adolescent relationships hierarchical?

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Exercise

- For each of the cells in the matrix, let's fill in some examples…

Wrapping Up and a Warning

- A *misguided* "network turn" (Papachristos 2014)
- Proper scope
- Not just something "shiny"

Questions?