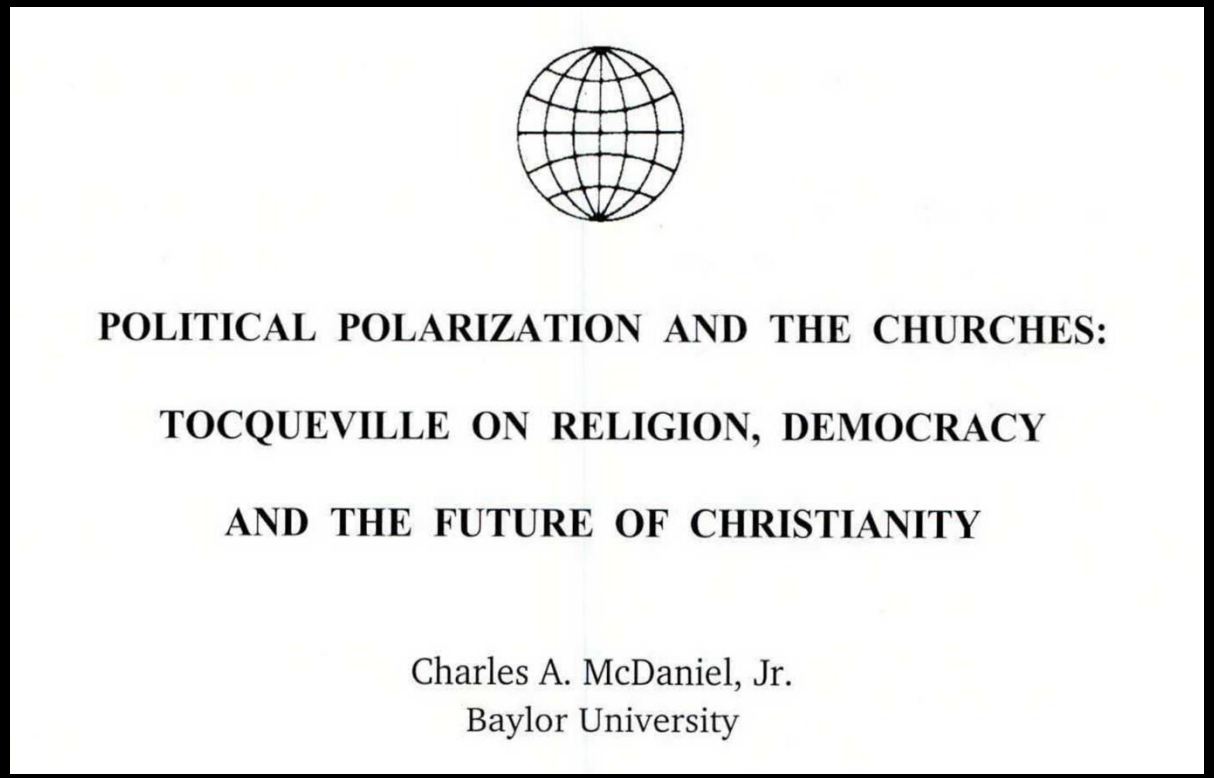
COGNITIVE MODELING OF CHRISTIAN COMMUNITIES

DEVELOPING INTELLIGENT AGENTS TO ADDRESS THE POLARIZATION EFFECTS IN CHURCHES

Eric Araújo
Computer Science Department

THE KINGDOM, THE POWER, AND THE GLORY
AMERICAN EVANGELICALS IN AN AGE OF EXTREMISM
TIM ALBERTA
New York Times Bestselling Author of American Carnage
IN DEFENSE OF CHRISTIAN PATRIOTISM
DANIEL DARLING



POLITICAL POLARIZATION AND THE CHURCHES:

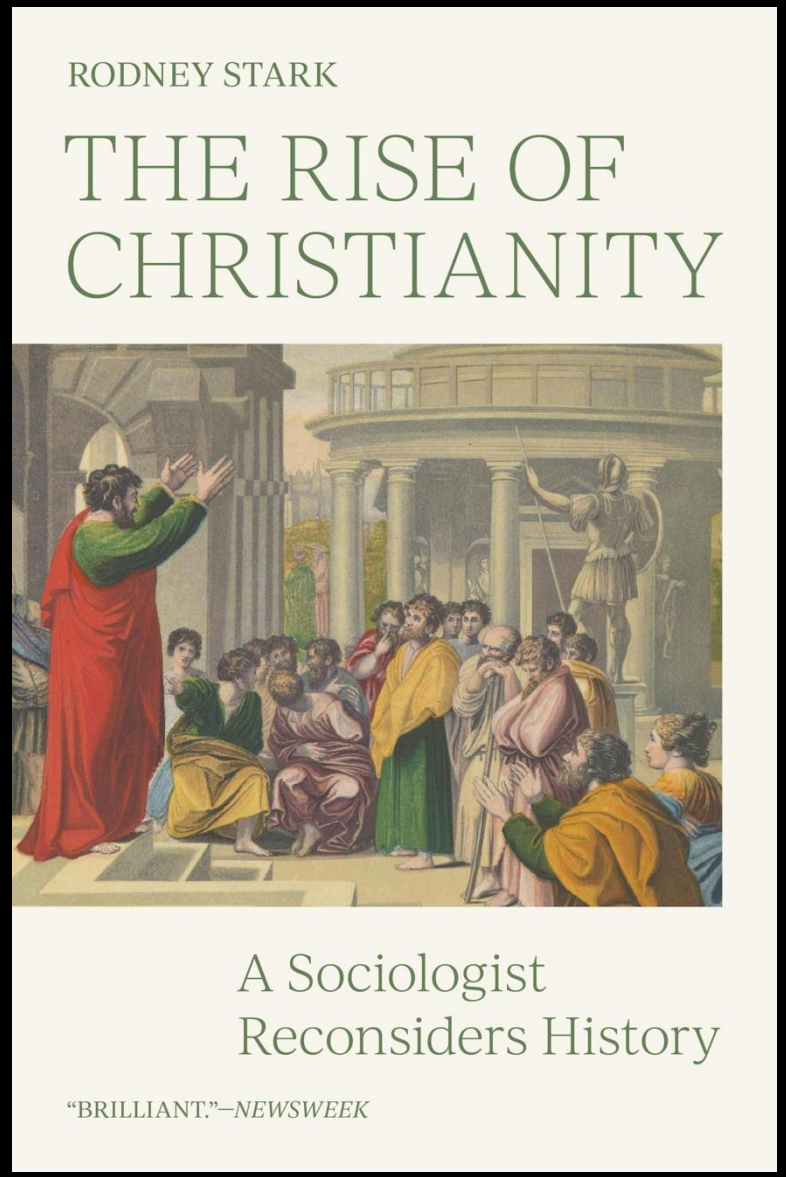
TOCQUEVILLE ON RELIGION, DEMOCRACY

AND THE FUTURE OF CHRISTIANITY

Charles A. McDaniel, Jr.
Baylor University

"The less religion and its ministers are mixed up with government... the more influential religious ideas will become."

McDaniel, C. A. (2018). POLITICAL POLARIZATION AND THE CHURCHES: TOCQUEVILLE ON RELIGION, DEMOCRACY AND THE FUTURE OF CHRISTIANITY. Journal of interdisciplinary studies, 30.



… All questions concerning the rise of Christianity are one: How was it done? How did a tiny and obscure messianic movement from the edge of the Roman Empire dislodge classical paganism and become the dominant faith of Western civilization?

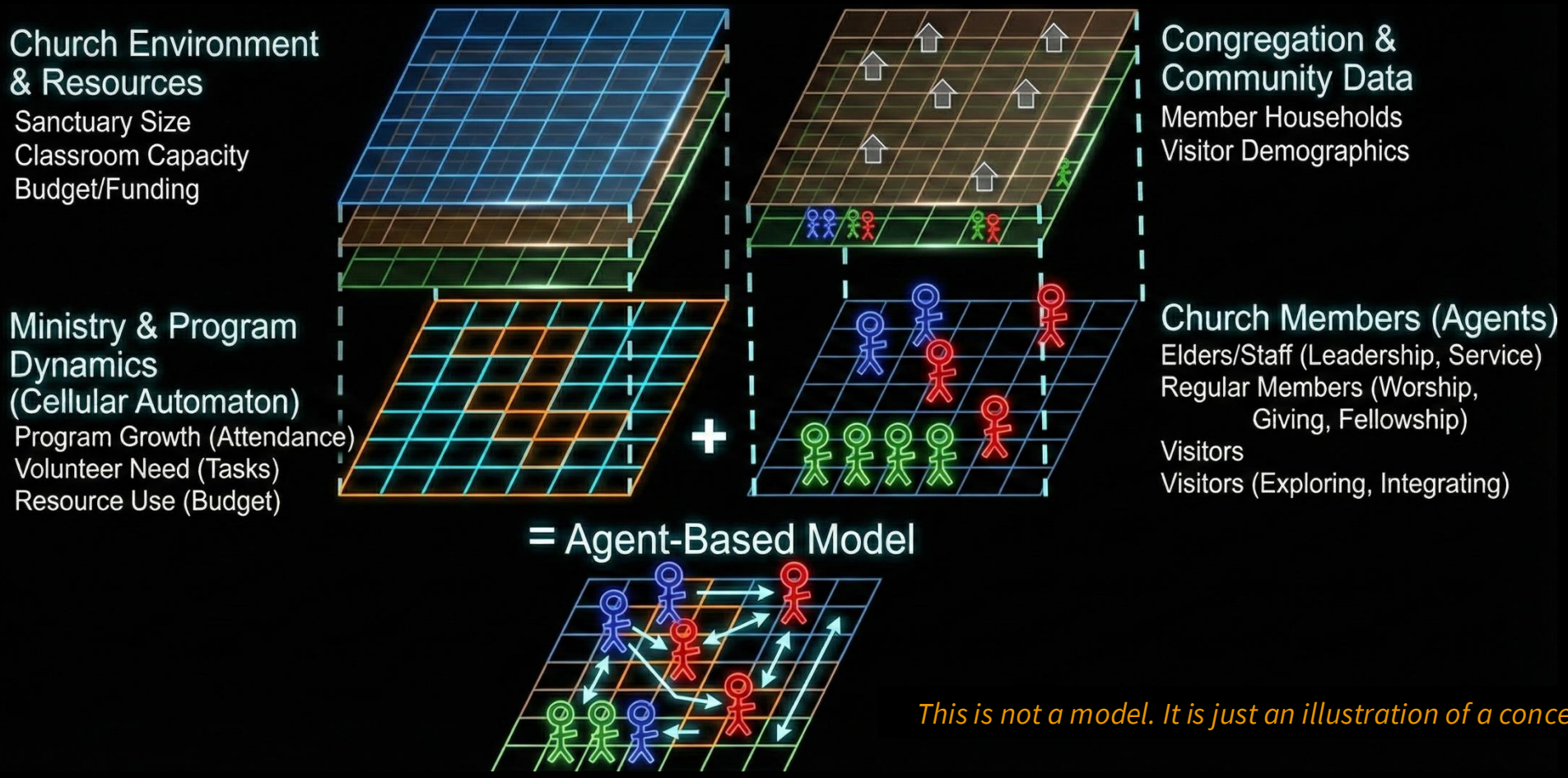
Stark, R. (1996). The rise of Christianity: A sociologist reconsiders history. Princeton University Press.

Intelligent Agents

- In artificial intelligence, an intelligent agent is an entity that perceives its environment, takes actions autonomously to achieve goals, and may improve its performance through machine learning or by acquiring knowledge.
- A specialized subset of intelligent agents, agentic AI (also known as an AI agent or simply agent), expands this concept by proactively pursuing goals, making decisions, and taking actions over extended periods.

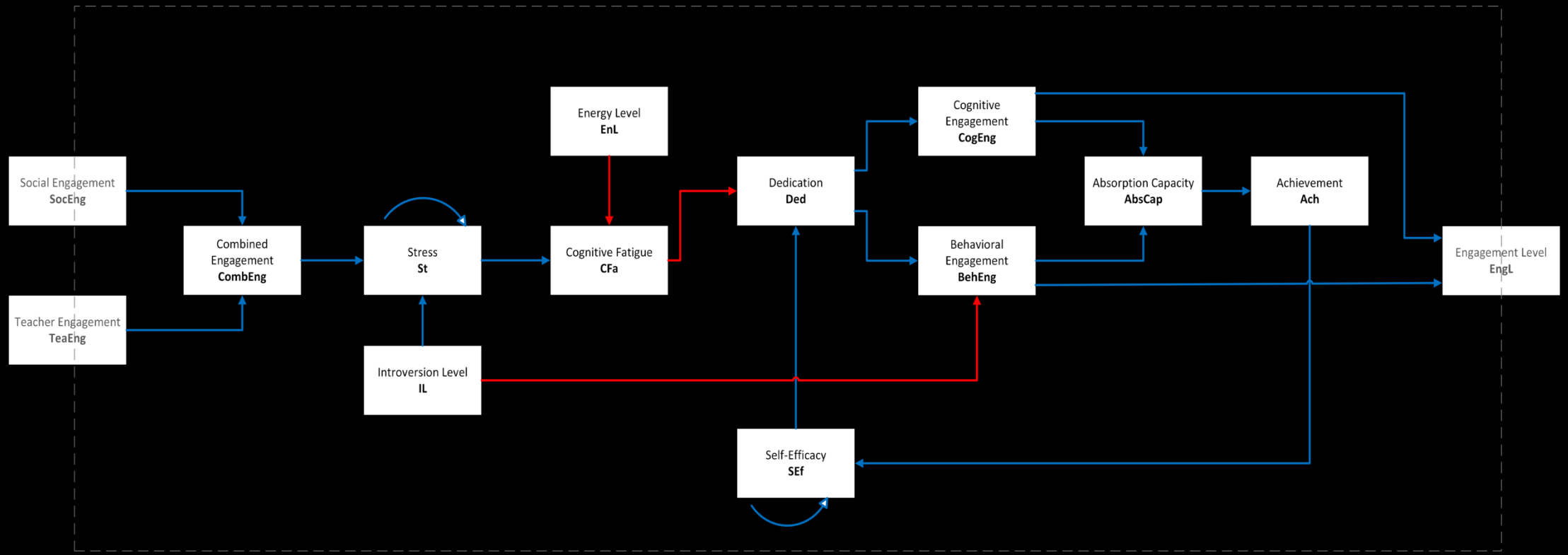
Source: Wikipedia

Agent-based Modeling



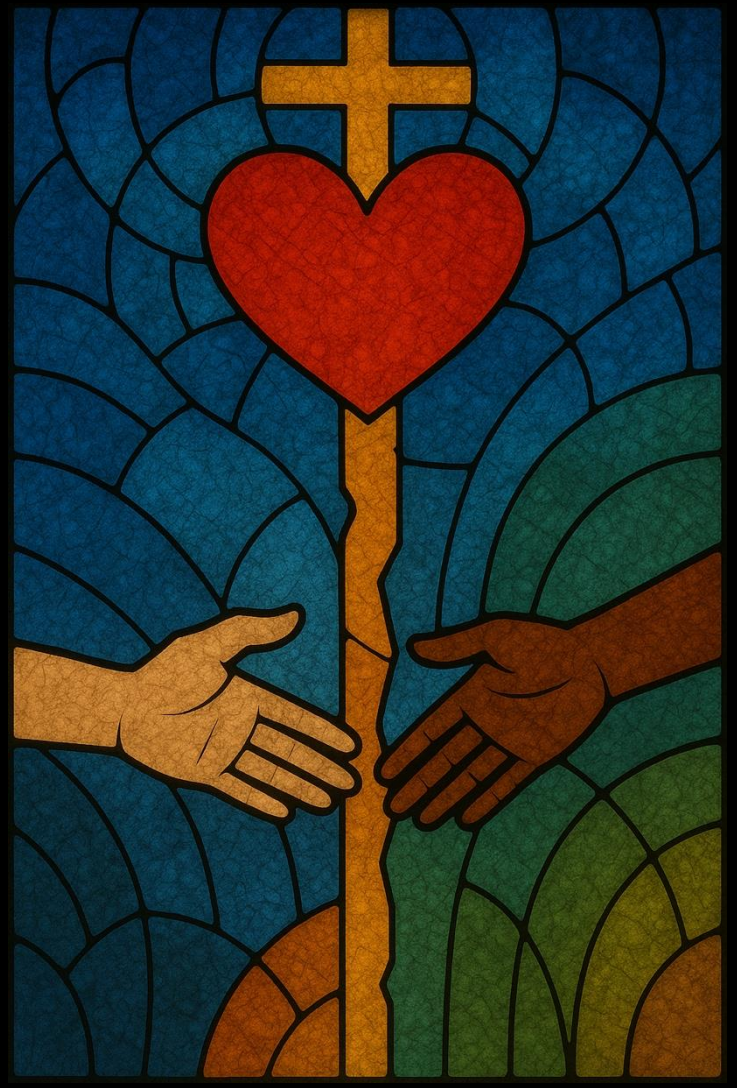
This is not a model. It is just an illustration of a concept.

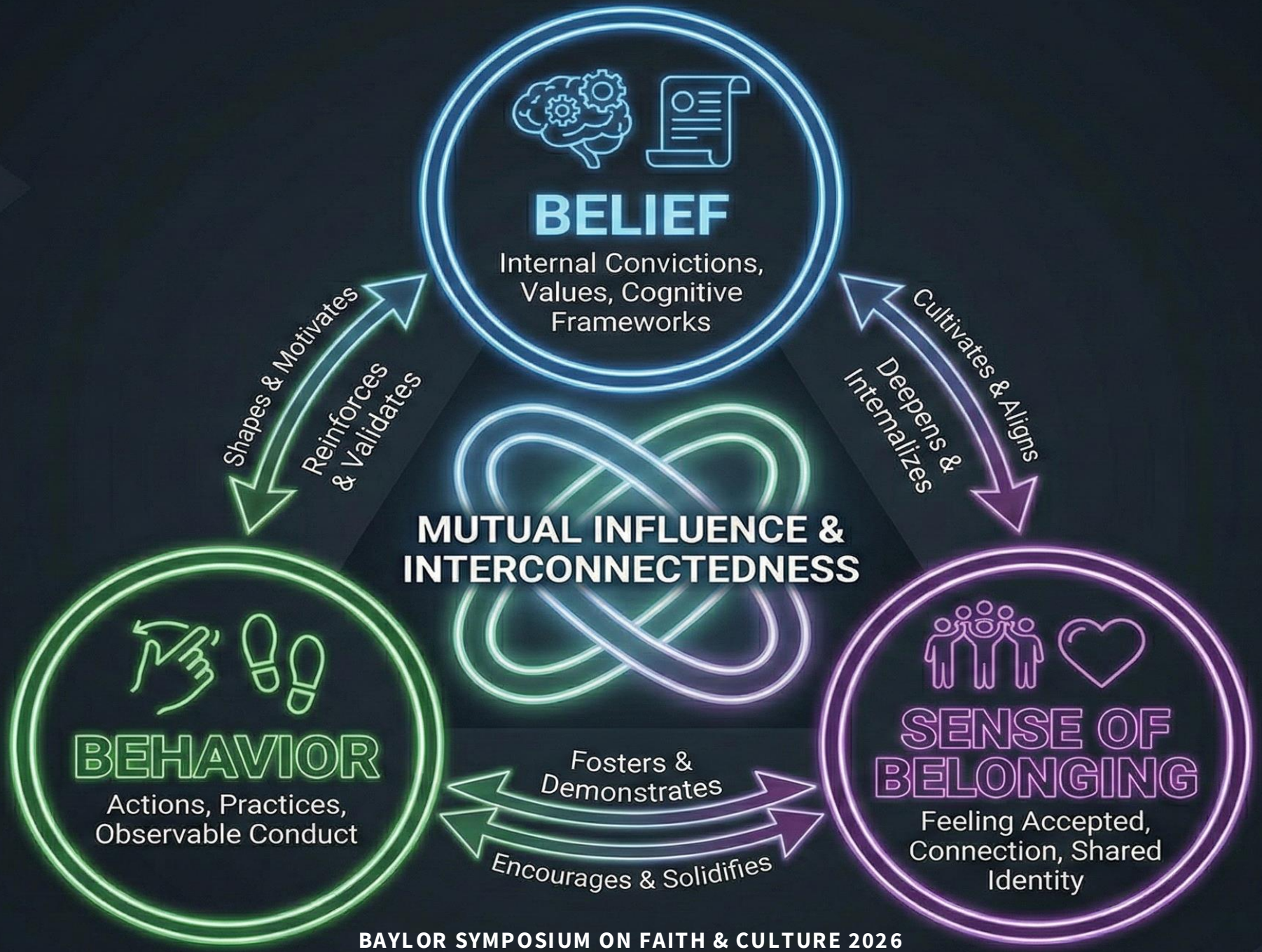
A Model for Introversion in Classroom (2025)



A New Approach

- Community-oriented
- Data-oriented
- Balance between doctrine, charity, and orthodoxy




BELIEF
Internal Convictions, Values, Cognitive Frameworks
Shapes & Motivates
Reinforces & Validates
Cultivates & Aligns
Deepens & Internalizes
MUTUAL INFLUENCE & INTERCONNECTEDNESS
BEHAVIOR
Actions, Practices, Observable Conduct
Fosters & Demonstrates
Encourages & Solidifies
SENSE OF BELONGING
Feeling Accepted, Connection, Shared Identity

Sense of Belonging

- Do I see myself as part of this community?
- Do I feel useful to others in this community?
- Do people see my value as part of this community?
- Do I share the same values and beliefs with others in this community?

Political Polarization

The damage caused by Political Polarization

- Do I feel obliged to share the same political agenda with the community to belong?
- Do I find myself in inner conflict when I talk to others or listen to the sermon?
- Do I sense repulsion and avoidance when I voice my own political ideas in this group?

Sociological Concepts

- Homophily
  - birds of a feather flock together
- Social Contagion
  - a spark in one becomes a flame in many

Mathematical Framework

- Sense of belonging is calculated as:
  - The strength of my connections with the members of my community
  - How close I am to the beliefs and behaviors of others within my community
- The connection strength is based on the distance between beliefs, behaviors, and political opinions, that is, the homophily factor.
- Factors as resilience and openness may play a role in the model.
- This is a temporal model, so there is a fine-tuning challenge to address how the sense of belonging changes over time.

Demo

Calvin UNIVERSITY

CONFERENCE IN GRAND RAPIDS, MI

OCTOBER 8-10, 2026

WISDOM IN THE AGE OF AI