February 12, 2022

Exploring AI, Faith, and the Future through a Faculty Research Group

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CCCU 2022 International Forum

Dallas, TX

February 12, 2022

SEATTLE PACIFIC UNIVERSITY

NATIONALLY RANKED

SPU is ranked among the best universities in the nation by *U.S. News & World Report*

G20 Interfaith Working Group for Research and Innovation on Science, Technology, and Infrastructure (December 2021)

"Religious communities must **develop a sense of responsibility** for the role that AI plays in the world and for their own role in the development of AI. Respecting their specificities, they should also further **engage in public debate**, giving policymakers access to shared ethical injunctions, an inter-religious understanding of cultural differences, and help **identifying vulnerable social groups** in need of protection and uplift. …

“… Religious groups can position themselves to contribute to global policy through:

- **Training religious leaders** (e.g. in seminaries) with curricula that include technological literacy;
- **Developing their own narratives** about AI technologies and how these fit into their religious worldviews while respecting global differences in religion and culture;
- Learning how and where decisions about AI are made, so as to **act proactively** rather than reacting to sensationalist press;
- **Promoting the active engagement** of their members in AI research and innovation;
- Publishing **informed positions** on technological concerns;
- Helping to **create healthy norms** for using AI and related technologies.

Overview

- **Background, organization, and assessment of the FRG – Dr. Michael Paulus**
- **Impact on theological integration – Dr. Carlos Arias**
- **Impact on scholarly trajectory – Dr. Phillip Baker**
- **Opportunities for further research related to AI and faith – Dr. Michael Langford**
- **Discussion**

Formation

- AI and Faith founding members (late 2018)
- Initial conversations (early 2019)
- Planning, proposal, and funding (mid 2019)

AI and Faith → FRG Members

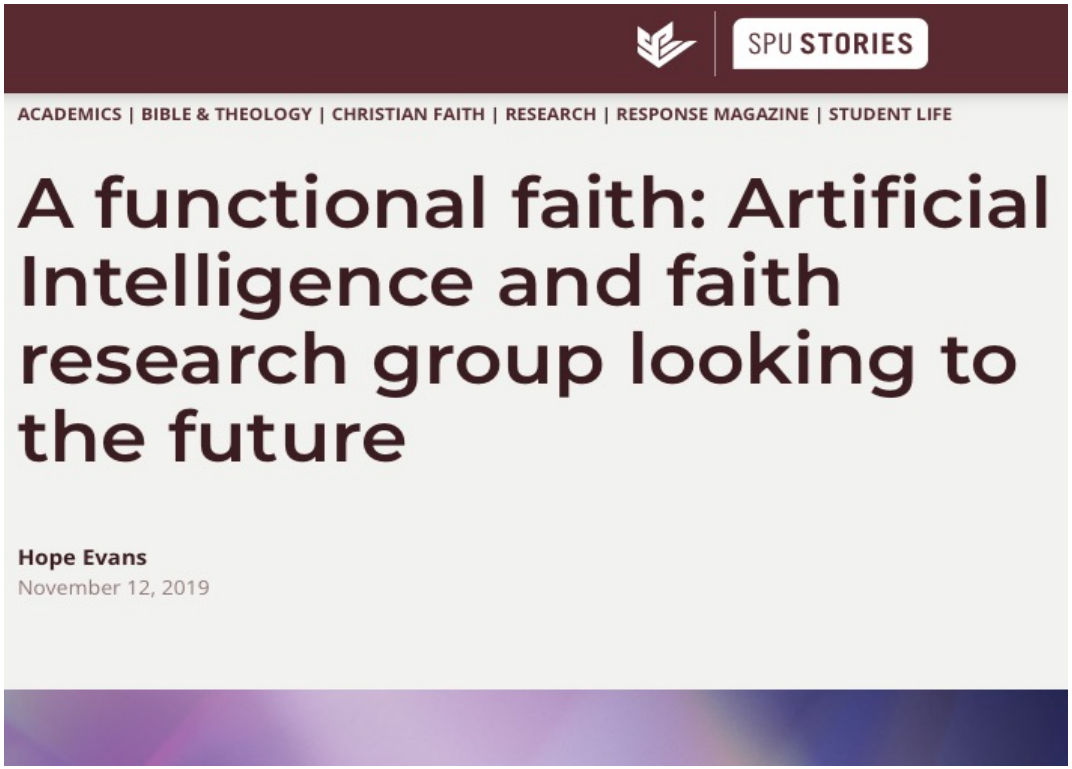
- **Carlos Arias (Computer Science)**
- **Bruce Baker (Business)**
- **Michael Paulus (Information Studies)**
- **Rebekah Rice (Philosophy)**
- Phil Baker (Psychology)
- Mike Langford (Theology)
- David Wicks (Education)

FRG Goals

1. **Increase each FRG member's knowledge about AI**
2. **Stimulate interdisciplinary and theological reflections about AI**
3. **Cultivate community, collaboration, and scholarship related to AI at SPU**
4. **Create a collection of essays on AI, faith, and the future**

Plan

- Summer 2019: Reading
- Fall 2019-Spring 2020: Monthly lunch seminars
- Spring 2020: Symposium
- Summer 2020: Work on book chapters


SPU STORIES

ACADEMICS | BIBLE & THEOLOGY | CHRISTIAN FAITH | RESEARCH | RESPONSE MAGAZINE | STUDENT LIFE

A functional faith: Artificial Intelligence and faith research group looking to the future

Hope Evans
November 12, 2019

Pandemic Adjustments

- **Summer 2019: Introductory meeting (primer on AI); movie discussion *(Do You Trust This Computer*?); reading for seminars**
- **Fall 2019-Spring 2020: 5 of 9 monthly lunch seminars in person**
- **Plans for spring 2020 symposium suspended; held a virtual group workshop**
- **Summer/fall 2020: began working on book chapters; delivered ms. spring 2021**

Assessment

- **Methods**
  - Introductory and concluding surveys and interviews
  - Participant observations
  - Participants' review of assessment report
- **Overall**
  - FRG members enjoyed learning experience
  - FRG contributed to members' development as Christian scholars
  - Goals were clear, content was relevant, and environment was conducive for learning

FRG Goals

1. **Modest increase of members' technical understanding of AI, but each able to pursue a related research topic**
2. **Stimulated dynamic interdisciplinary discussions and some theological reflections**
   - Influenced the scholarly trajectory of a few members
   - All interested in ongoing working in this area
3. **Created a dynamic community for teaching and research collaborations**

AI, Faith, and the Future
(Pickwick Publications, April 2022)

Major Takeaways

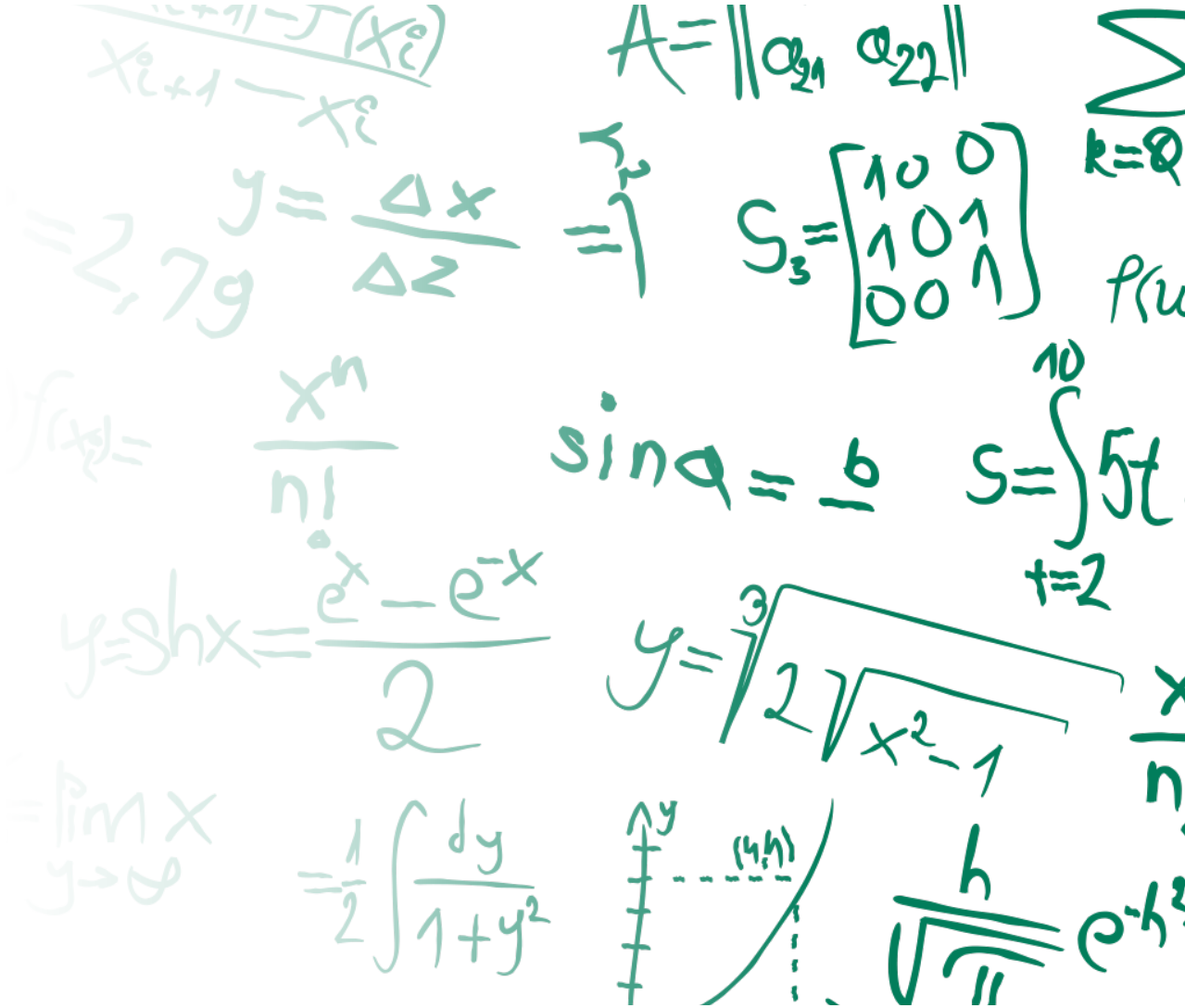
- **A successful model for faculty development and scholarly collaboration**
- **FRG model could be replicated to explore any new subject area**
- **Funding critical for commitment**
- **Tackling a new topic *and* theological reflection at the same time is challenging – important to establish a fucus (e.g., eschatology) and basic shared knowledge (e.g., different views of)**

Impact on Theological Integration

Dr. Carlos Arias

A Complete Scientific Perspective of AI

- Is it all math, coding and computers?
- Is there more to it?

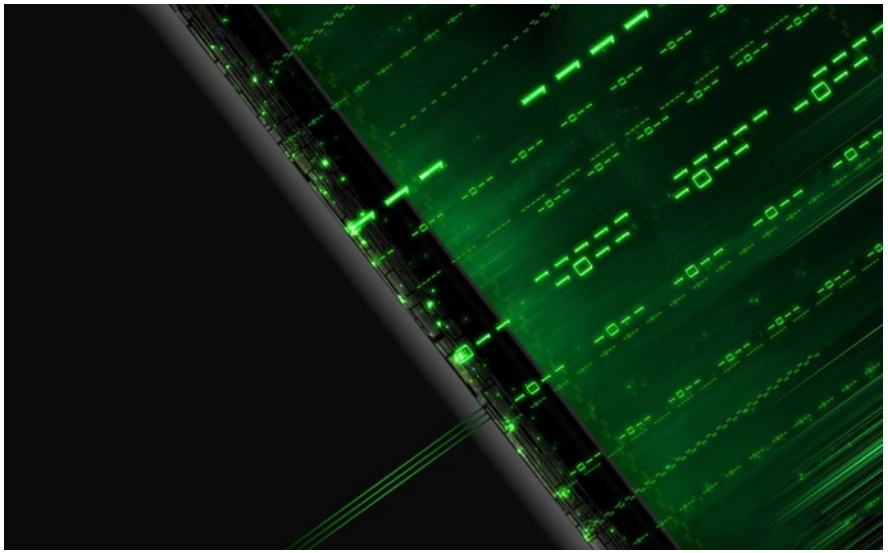


Art from pngtree.com

As a Christian…

- Faith goes beyond mass on the weekend… how far?
- Can it pervade scholarship?

Where is the connection?



Artificial Intelligence Faculty Research Group

- Connected some dots between faith and my discipline
- Open the door to a perspective from the lens of faith
  - Application Developer point of view
  - User point of view
- Allowed additional connections that can be discussed and explored with students

Theology Integration Fellows

- It requires a Capstone course where we will need to present a project on how to integrate faith in our disciplines.
- My case: Computer Science (education).

Graduate Certificate in Theological Integration		
		Credits
Choose six of the following nine courses:		
THEO 6010 Interpreting and Teaching Christian Scripture (3 cr.)	3	18
THEO 6020 Global Christian Heritage: AD 100 - 1453 (3 cr.)	3	
THEO 6030 Doctrine of God and Environmental Stewardship (3 cr.)	3	
THEO 6040 Introduction to the Old Testament (3 cr.)	3	
THEO 6050 Global Christian Heritage: 1454-1900 (3 cr.)	3	
THEO 6060 Doctrine of Christ and Holistic Discipleship (3 cr.)	3	
THEO 6070 Introduction to the New Testament (3 cr.)	3	
THEO 6080 Global Christian Heritage: 1900 present (3 cr.)	3	
THEO 6090 Doctrine of the Holy Spirit and the Global Church (3 cr.)	3	
Choose three (3 credit) THEO 6000+ level electives (can be 3 core courses)		
	3	9
	3	
	3	
THEO 6XXX: Capstone: Theology and the Disciplines	3	3
Total credits		30

An example…

In the classroom we have a discussion about the ubiquity of artificial intelligence in our lives. A series of questions are explored:

- Is this good? Is this bad? How to discern?
- Is it beneficial for society?
- Does it make us grow as people?
- Does this bring us closer to God? How could it?

The discussion starts with a secular perspective, and suddenly we find ourselves looking for better grounding, looking for a stone to build our house upon.

We get to explore concepts as “wisdom of the world and wisdom from above” and building upon the corner stone.

Observable Changes

AI FRG

- Study outside of Computer Science
- Theological perspective

SPU TIF

- More in depth Theology
- Interaction with fellow students

Computer Science

- Class discussions around faith perspectives
- Scholarship ideas around CS and Faith

Impact on Scholarly Trajectory

Dr. Phillip Baker

What does it mean to be human?

We are what we experience

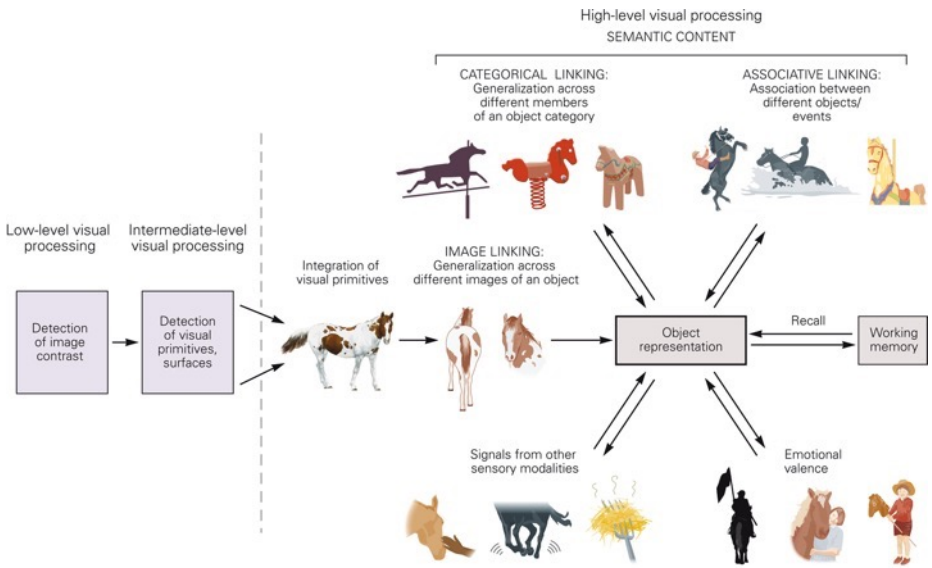
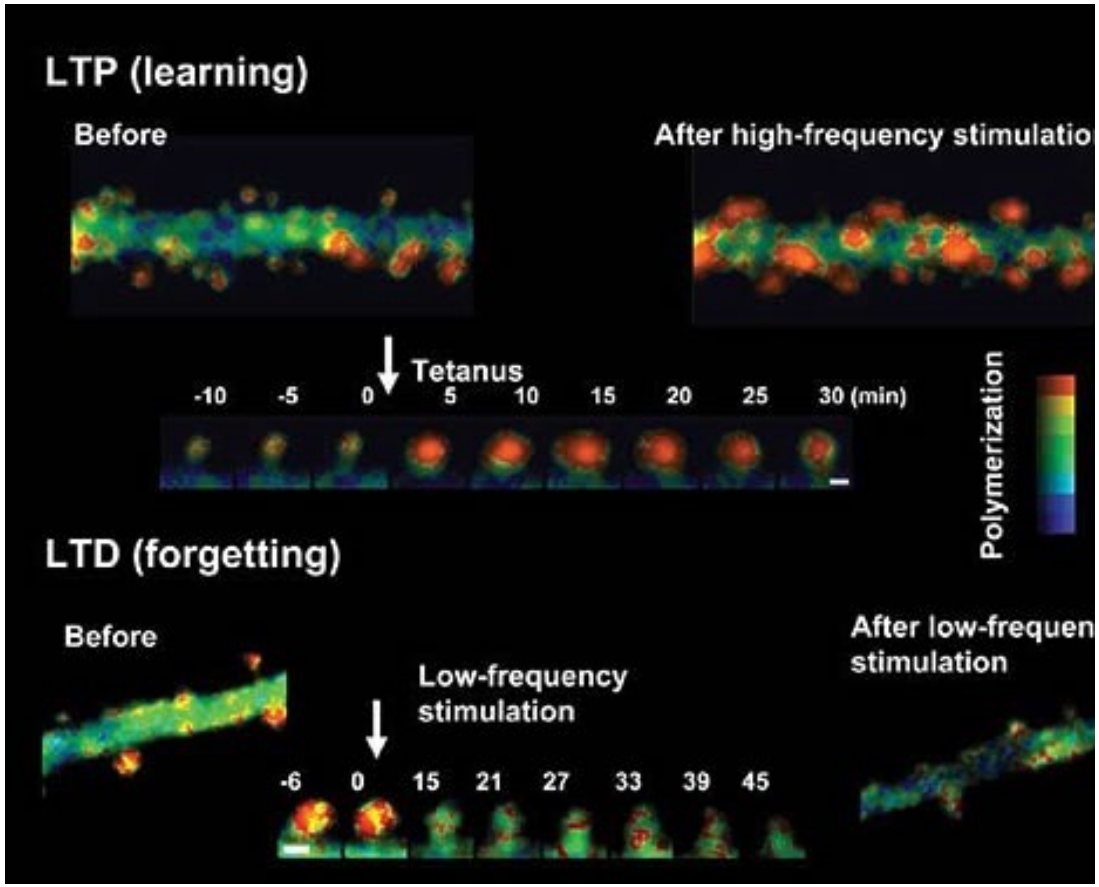


Figure 28–1 The neuronal representation of entire objects is central to high-level visual processing. Object representation involves integration of visual features extracted at earlier stages in the visual pathways. Ideally the resulting representation is a generalization of the numerous retinal images generated by the same object and of different members of an object category. The representation also incorporates information from other sensory modalities, attaches emotional valence, and associates the object with the memory of other objects or events. Object representations can be stored in working memory and recalled in association with other memories.

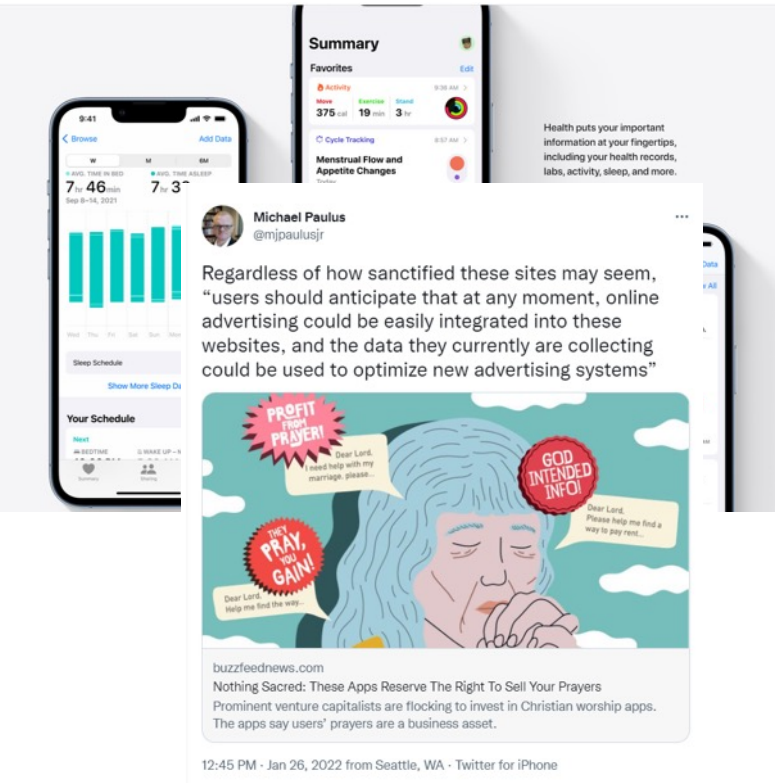
Taken from Principles of Neural Science, 5th edition

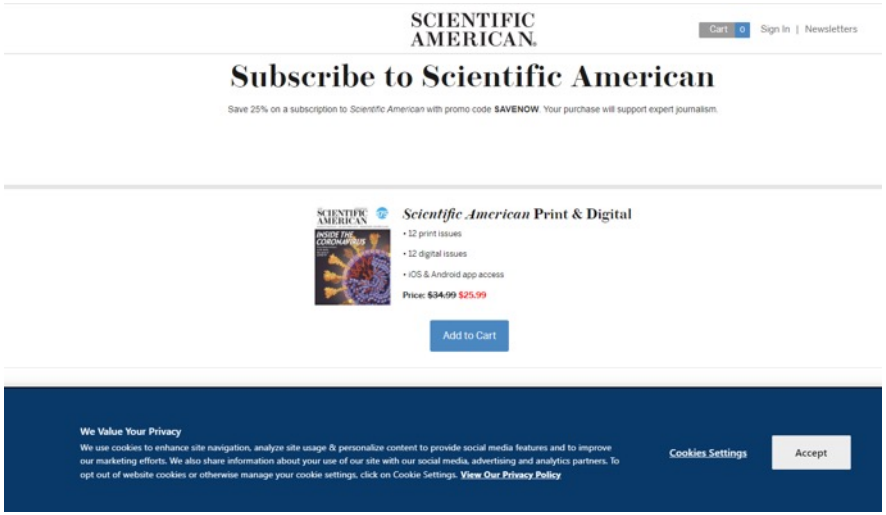
Our experiences alter how we engage in the world

Okamoto et al. 2004



We are more willing than we think to cede our data/engagement





What have we done to being human?

Battling unsupervised reinforcement?

Engagement as reinforcement

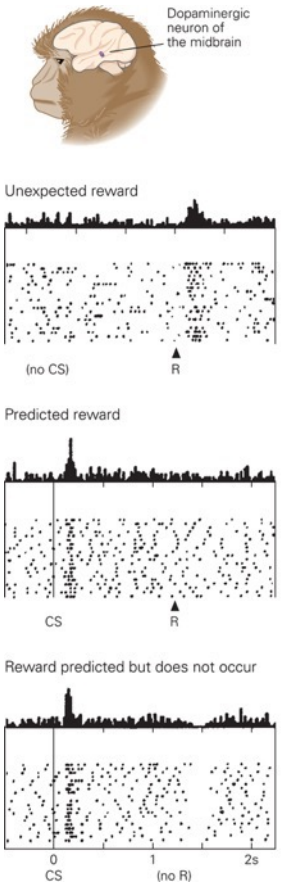


Figure 49–7 Dopaminergic neurons report an error in reward prediction. Graphs show firing rates recorded from midbrain dopaminergic neurons in awake, active monkeys. **Top:** A drop of sweet liquid is delivered without warning to a monkey. The unexpected reward (**R**) elicits a response in the neurons. The reward can thus be construed as a positive error in reward prediction. **Middle:** The monkey has been trained that a conditioned stimulus (**CS**) predicts a reward. In this record the reward occurs according to the prediction and does not elicit a response in the neurons because there is no error in the prediction of reward. The neurons are activated by the first appearance of a predicting stimulus but not by the reward. **Bottom:** A conditioned stimulus predicts a reward that fails to occur. The dopaminergic neurons show a decrease in firing at the time the reward would have occurred. (Reproduced, with permission, from Schultz et al. 1997.)

Taken from Principles of Neural Science, 5th edition

You are what you spend time with

- What does this do to civics?
- Grow Amish communities?
- Radically different ways of organizing communities?
- Online accountability?
- Education on learning and decision-making at conscious and unconscious levels?

Opportunities for Further Research

Dr. Michael Langford

Definition of Terms

- **What precisely do we mean by intelligence?**
- **What is the difference between “human” and “person”?**

AI and Faith

- **The role of AI in human faith**
- **The role of AI in the work of God**
- **The role of humanity in the work of AI**
- **The status of the faith of AI**

AI in Human Faith

- **What is the role of AI in human faith?**
- **Source of information**
- **Source of revelation**
- **Source of worship**

Human Faith in AI

- **To what extent do we put our trust in AI?**
- **Capabilities?**
- **What is the status of AI within creation?**
- **Extent of limitedness and sin**

Church and AI

- **What is the role of the church in the development and use of AI?**
- **Personal use**
- **Corporate use**
- **Cultural use**

Faith of AI

- **Can AI be the subject of faith?**
- **Extent of God's covenant faithfulness**
- **Nature of AI as "creation"**
- **What are the boundaries of personhood, rights, agency…**

Thank you!

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