

Speaking of Faith and the Brain

Transcript of the Ingersoll Foundation Podcast by Executive Director Daniel Hansen

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Hello. My name is Dan Hansen, founder and executive director of *The Ingersoll Foundation for the Study of the Effects of Faith on Cognition*. Thank you for taking a few minutes to listen to this introductory podcast, *Speaking of Faith and the Brain*.

I'd like to tell you a little bit about the reasons The Ingersoll Foundation has taken up the challenge of asking about the possible effects of faith on the human mind and cognition: the way those who embrace faith perceive reality and the world around them.

First, let me make it clear that *our questions are not about religion per se*. But faith just happens to be central to most, if not all religions. If it happened to be something as widespread and central to some other worldview as it is to religion, our questions about it would remain the same.

But what is faith, and why do so many people find the need to make it a central part of their lives?

If the ideas and beliefs people accept through faith were things that they could see and feel and touch in the natural world, or things that they had learned about either on the basis of reason or some form of scientific observation or deduction from other things they observed in their world, *there would be no need for faith*. Reason, and those observations or deductions alone would provide sufficient grounds to accept them as true.

It is only when someone tells us that something is true on some other basis, a basis that is not grounded in reason, objective observation or deduction that we are told we must accept them as a matter of faith, suspending or suppressing the requirement for evidence that we would apply to anything else in our lives.

But what is it that allows us to suspend or suppress that requirement for evidence when it comes to matters of faith? Why don't we simply reject any claims that something is true without supporting evidence? Why do we cling to faith as a virtue?

For most of those who accept the validity of faith, that acceptance probably begins in early childhood when they have their first exposure to the ideas and beliefs that they learn to accept through faith. They may hear no specific references to faith at that age, *and faith becomes something they learn implicitly rather than explicitly*. They are simply told stories and hear adults tell them that certain things are true because those adults are very influential and seem believable, because those adults usually believe those things deeply themselves as the result of their own upbringing, and because those children are not yet old enough to understand

that they need some kind of reasonable evidence to ask what makes sense and what does not.

It is important to use clear language in describing how adults pass these ideas and beliefs down to children, and how children come to accept them. We must be careful not to let semantics cause misunderstanding of the nature or intent of the process.

Throughout this talk, I will refer to the process of encouraging children to embrace faith and faith-based ideas and beliefs simply as *instruction in faith*, meaning both the process and the ideas and beliefs the process conveys.

Some people are inclined to use the term “indoctrination” to refer to the process of encouraging children to accept these things. But “indoctrination” is a highly charged and emotion laden term. For many, it implies a political or ideological agenda to impart ideas and beliefs to children motivated by considerations other than the well-being and moral guidance of those children. Others employ the term “brainwashing,” which implies a similar process, but which is far more emotionally charged and implies even more nefarious motives. *It is one I will not employ.*

I will avoid those terms, not only because they are so emotionally charged, but also because those harsher terms do not reflect, in the vast majority cases, the motives of adult leaders for encouraging children to accept faith-based ideas and beliefs.

Their motives very often include a sincere desire to raise children in a moral environment which embraces the same ideas and beliefs, regardless of their factual grounding, which those adults themselves deeply embrace. The neurological means by which the brain retains these ideas and beliefs, regardless of the words we choose for the practice causing that retention, may be the similar or the same, but we must be careful not to allow the emotional charge of our language to interfere with understanding and reasonable consideration of the nature and implications of faith.

Another label I will avoid is “religious education,” which implies a factual basis to the content of that education. I am referring to the institutionalized instruction of children in the tenets and validity of faith, whether in a Christian, Jewish, Islamic or other context, whether it occurs in Sunday Schools, faith formation classes, Bible study classes, religious instruction integrated into regular curricula of Christian religious schools, Jewish yeshivas, Islamic madrasas or their equivalents in other religions.

But a core characteristic of faith is that the things it conveys have no objective evidence to support them. If such evidence were available and objectively verifiable, they would be characteristics of the natural world, and there would be no need to bring them into the realm of faith.

Let me also be clear that *I am not talking about instruction in common morality and decency that are often incorporated into religious instruction and regarded as having their origins in religious scriptures of dubious origins and historicity, but that were, rather, codes of conduct which we acquired either as part of*

the much earlier evolution of the human race and without which we would have become an extinct species eons ago, or which we found, socially, made our lives more tolerable, cooperative and even more pleasant. We have no need for either faith or religion to hold such values and develop such codes.

How did human beings find any moral basis for their lives before the fictitious but brutal figure Moses descended Mount Sinai with his commandments from God (*and there were well over 600 of them, many quite peculiar*), not just the 10 most believe there were? Why did our earlier lack of these commandments not result in our extinction well before then?

Surely widespread human brutality existed before Moses supposedly received God's commandments – but then such brutality persisted long thereafter and does to this day. *So, common morality and decency has no place in a discussion of faith.*

But what about the other ideas and beliefs that instruction in faith *does* instill, and why does The Ingersoll Foundation regard conducting scientific studies addressing questions about the hypothetical neurological and mental health effects of instruction in and the embrace of faith so important?

Our questions are not about the ideas and beliefs embraced through faith themselves, but rather the process of teaching children to embrace faith, to regard it as a valid means of perceiving reality and to make it a part of the foundations of their lives.

Those ideas and beliefs, whether they are that an actual omniscient, omnipotent supreme deity actually exists, that he loves us and demands our love, worship and fear, that he listens to our supplications and sometimes responds to them, that we possess souls, that an afterlife exists, that miracles occur, that our holy books present accurate accounts of historical events, that we must engage in certain ritualistic practices to purify ourselves and make ourselves worthy of the deity's acceptance – that all of these things are true – are just a few of these ideas and beliefs, *but they have no objective evidence, no archaeological or anthropological findings, no contemporary corroborating historical accounts to support them.*

Yet these and many other ideas and beliefs find themselves firmly established as absolute truths in the minds of children through instruction in faith, and they are almost invariably carried forward just as robustly as those children enter adulthood.

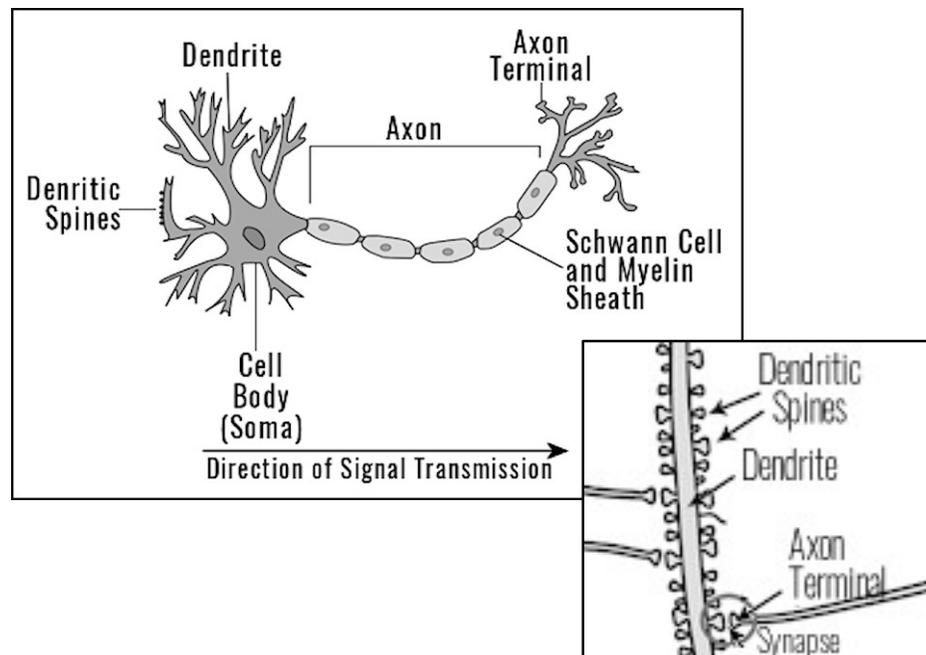
But without instruction in faith, it is exceedingly difficult to imagine that these ideas and beliefs would ever enter our consciousness. *Without instruction in faith, we would, for the most part, apply generally rational and reasonable criteria for differentiating truth from falsehood and attempts to persuade us to fall for palpably false claims of fact.*

Instruction in faith, however, teaches us that we should perceive part of our reality in a different way that does not require objective evidence, and it is the acceptance of that separate means of perceiving reality that is the basis of the questions the Ingersoll Foundation proposes for scientific investigation.

But what could such scientific studies tell us?

To answer that question, we need to understand how our brains process and store information, of all types, that we take in through our senses. We need to understand how retention of that information can be reinforced. And we need to understand *neuroplasticity*, a key factor that differentiates retention and reinforcement of information in the brains of children from the ways they occur in adults. And, finally, we need to understand how the delivery of instruction in faith may promote the retention and reinforcement of the ideas and beliefs it presents and ask what effects those things may have on the human brain and cognition.

When we receive information through our senses, our brain cells, or neurons, retain that information by forming connections called *synapses* between one type of connection points, called *axon terminals*, on one end of one cell, and another type of connection points, called *dendritic spines*, on another neuron.



But it is not just synaptic connections that are responsible for retaining information. The neurons forming these connections also support retention of information by forming complex pathways between them.

The collection of faith-based beliefs humans form is just one type of information that our brains retain. But after the brain initially stores a piece of information, it does not remain frozen in place. It can readily be strengthened and extended by various types of reinforcement. Consider, say, the reinforcement of information in the mind of child enrolled in Sunday School at the age of five or six, and attending, week after week, hearing the same

messages proclaiming the truth of those things that only instruction in faith asserts are real. Consider church services afterwards, with their songs and ritual. Consider the saying of grace around the family dinner table.

Consider the effects of these things as a consistent part of a child's environment over a period of years. Each such event has the potential to result in the formation of additional synapses and extension of the neural pathways reinforcing those faith-based beliefs, to the point where they are so robustly embedded that child's brain that they are highly resistant to challenge.

Earlier I mentioned another important property that the human brain possesses, *neuroplasticity*, which simply refers to the extent of the brain's capacity to form new synaptic connection and modify itself in other ways based on its environment.

While the brains of both adults and children exhibit neuroplasticity, it is far more extensive in the brains of children. Once children enter adolescence, the extent of their brains' neuroplasticity drops precipitously.

A key implication of this fact is that the much higher neuroplasticity of children's brains, while it allows them to absorb all kinds of new information in their environment including the basic academic principles they learn in school, *it also leaves them more vulnerable to acceptance and reinforcement of things not based on objective evidence, that they acquire through instruction in faith.*

The Ingersoll Foundation considers it important to ask about the way human beings, and particularly children, come to accept certain ideal and beliefs through instruction in faith, *because faith requires the suspension or suppression of one's critical faculties in order to accept them as true, and because that that suspension or suppression may have adverse neurological, cognitive or mental health consequences* that remain to be discovered, including some that may persist into adulthood.

*Because billions of children globally receive instruction in faith every day, we consider the questioning of its potential effects to be extremely important. If the questions we propose for study happen to reveal that the effects of embracing faith have negative consequences, **the sheer numbers of people, of innocent children, exposed to these consequences will be an issue that will demand the most serious attention.*** But only unbiased scientific studies can address these questions, and supporting such studies is at the core of the mission of The Ingersoll Foundation.

I hope you found my description of the nature of faith and its possible implications informative.

Thank you for listening!

Dan Hansen