

Unit 3: What Does it Mean to be a Human Being?

Neuroscience, Artificial Intelligence and the Soul.

Lesson 1 - Day 1: Islamic Concept of the Soul and Neuroscience Reductionism

Time Length: 45-50 min.

INSTRUCTIONAL OUTCOMES

Next Generation Science Standards (NGSS):

HS-LS1-2: Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

(This standard aligns with the exploration of the soul and its different stages of existence, including its connection to the body.)

HS-PS2-6: Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

(This standard relates to the discussion of neuroscience reductionism and the emphasis on the physical aspects of human existence, particularly the brain.)

NGSS HS-ESS2-7: Construct an argument supported by evidence for how forces responsible for plate motion cause changes to the Earth's surface.

Common Core Standards (CCSS):

ELA-LITERACY.RST.11-12.1: Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

ELA-LITERACY.RI.11-12.8: Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning.

(Although not directly related, this standard emphasizes the evaluation of reasoning, which is a key aspect of the lesson when discussing challenges to the Islamic concept of human nature.)

ELA-LITERACY.W.11-12.1.B: Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.

Content Learning Outcomes:

- Describe the Islamic concept of the soul and personal identity.
- Define consciousness and discuss how this experience cannot be reduced to physical processes.
- Discuss what neuroscience leaves out about consciousness.
- Expand conceptual vocabulary for relevant discussions at the junction of theology and bioscience.
- Demonstrate how the Islamic view of the world and the soul provides a comprehensive worldview that is lacking in scientism.



Materials:

- **Presentation Slides** (Slides 3-11)
- **Triple-Entry Vocabulary Journal** (Student Responsibility)
- **Science and Epistemology** (Supplemental Material)

Instruction/Teacher Facilitation:

- ❖ In this unit, we will be discussing what it actually means to be human. Also, how “human” is defined and characterized by different ideological groups, particularly in Islamic theology versus science, and the new realm of artificial intelligence.

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[There will be a lot of new vocabulary in this lesson for students to make note of, and they should be able to effectively define them in order to comprehend this nuanced discussion. Be sure to ask/remind students to add key terms in their triple-entry journals.]

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- ❖ So the first question that we need to address is “What does it mean to be human?” And along with that comes by default, the connected question of “What is the purpose of life?”
 - Looking at three main viewpoints, from the perspective of Islam, from the field of neuroscientists, and finally how being human would even fit in with artificial intelligence, let’s examine the concept of the soul (highlighting the potential conflict that exists between these fields and the Islamic concept of the soul).
 - Islam - What does it mean to be human? - To have a soul
 - What is the purpose of life? - To develop the soul
 - Neuroscientists - What does it mean to be human? - To have a brain (to have just a physical body)
 - What is the purpose of life? - ??? (We would not be able to derive a purpose of life from just a mere body deduction.)
 - Artificial Intelligence - What does it mean to be human? - To act like a human
 - What is the purpose of life? - ??? (No real purpose if AI is only here to mimic human behavior.)

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- ❖ In this lesson, we will focus on how Islam defines a human and how the purpose of a human being is then derived from that definition.
 - According to Islamic doctrine, you are still a human even after you die. And if you are still human after you die, then what does it mean for you to be human?
 - Think about what we believe in Islam about our life/soul. We technically survive death; our soul survives because it moves on. Our journey does not end after death/at death; we have an afterlife.
 - Personal identity is related to the soul
 - an identity that exists beyond this world and that carries through into the next life (not limited to the bodily identity).
 - Me/I - in order to talk about myself and my identity individually, there needs to be a “me” that exists (mental states).



- We still continue to exist as human beings in the afterlife. The difference would be that, in the afterlife, we are a soul without a body.

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- ❖ We know that our soul goes through various stages (4 general stages)
 1. **Life of Souls** - We were souls without bodies.
Revelatory Evidence: “Remember when your Lord took out from the loins of the children of Adam their offspring and said, ‘Am I not your Lord?’ and they said, ‘Yes indeed, we testify.’ ‘Now you have no right to say on Judgment Day, ‘We were not aware of this.’” (Surah Al-A’raf:172)
 2. **This Life** - Our souls were breathed into our bodies.
Revelatory Evidence: “... then an angel is sent to it and it breathes the soul into it and it is commanded to write down four things ...” (Bukhari)
 3. **In the Grave** - Our souls will separate from our bodies and our bodies will decay, as our soul moves on.
Revelatory Evidence: “Every soul shall experience death.” (Surah Ali-Imraan:185) - here it says that every soul shall “experience” death, and in many other translations, it says shall “taste” death, so this shows that death is not the end, but a step in a continued process.
 4. **The Afterlife** - Our souls will be reunited with our resurrected bodies.
Revelatory Evidence: “ ... then it will be blown in again and we will suddenly stand up, looking.” (Quran, 39:68)

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- ❖ Now that we have looked at the Islamic perspective and revelatory evidence for it, let’s look at **rational** evidence for the existence of the soul.
 - We know we have a soul through introspection. (Introspection means to look inside the self or within yourself. Which is in contrast to empirical, which means to look outside of one’s self.)
 - That means that we can look inside ourselves and see that the thing that experiences cognition, pain, pleasure, happiness, sadness, humility, arrogance, gratitude, and ingratitude, is something other than our bodies.
 - We’re not exactly sure *what* the soul is, but we know it’s there.
- ❖ Examining the revelatory and rational evidence, it seems clear that this would be an accepted view. Yet, that is not the case. There are challenges to the Islamic paradigm of a “human.”

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- ❖ Challenges to the Islamic Concept of Human Nature (Ontology):
 - Neuroscience of Consciousness - with which we will discuss the following points:
 - What is Consciousness?
 - Neural Correlates of Consciousness
 - Mary & Color Thought Experiment
 - Artificial Intelligence - with which we will discuss the following points:
 - What is Intelligence?
 - Artificial Generalized Intelligence



- Chinese Room Thought Experiment
 - The basic challenge or opposing premises are that:
 - We are nothing but our brains
 - Consciousness is an illusion
 - Human life has no purpose
- ❖ Before we go further, let's define "ontology"
 - Ontology is the study of existence; it deals with the nature of "being" or the nature of the world.

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- ❖ **Group Activity:** The question here then becomes, "What does the world consist of?" - Ask the students what they think the world is made of. [Is it only physical experiences or is it something more?]
 - Take an apple for example: How would I describe this apple to someone who has never seen or eaten an apple before?
 - Modern Science measures matter/physical qualities. Mathematics is the language of natural science.
 - I could measure its size, shape, mass, and volume. But an apple is not limited to those things.
 - What about its taste and smell? How would I describe that in quantitative terms?
 - It has to be experienced to be able to fully grasp or comprehend an apple.
 - The problem is that sensory qualities (known as qualia) can not be quantified.
 - The solution to this problem is that to describe the apple more completely, one has to move to the mind/soul to grasp it.
 - The problem here is that science can't explain the mind or soul.

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- ❖ Let's compare and contrast the Islamic ontological view versus the Neuroscientific ontological view, which is called Neuroscientific Reductionism (Scientism)
 - According to the Neuroscientific Reductionism:
 - The world consists of **only** physical objects and they **only** have measurable properties.
 - The only things that exist can be measured: Mass, Volume, Length, Shape, Velocity, etc.
 - Everything else **does not exist!**
 - The issue with this view is that it is an *incomplete* view of the world. There is a lot that must be ignored, or left unexplained:
 - ◆ Does not explain the varied human experiences of individuals (ex: pleasure, satisfaction etc)
 - Going back to the apple example, reductionists would say that your experience of enjoying that apple doesn't actually exist because it can not be mathematically measured.



- ◆ Removes meaning/purpose from the world (no higher purpose, no afterlife etc. - Deny the metaphysical)
- ◆ The question then arises, “Why are we even alive or exist in this world?”
- According to a Holistic or Islamic Worldview:
 - The world consists of Physical **and** Metaphysical things.
 - Physical objects have metaphysical properties:
 - ◆ Physical objects have a meaning and purpose.
 - A Human is a composite of Physical and Metaphysical properties:
 - ◆ The Soul, Mind & Consciousness, and Body.
- Going back to the question of “What is the world made of?” - the Neuroscientific reductionist view would answer this question as:
 - The world can be reduced to mere matter.
 - It can be explained by physics and expressed by mathematics (everything that exists can/should be mathematically measurable.)
 - This is the reason why there has been tremendous success of modern science; it is straightforward and gives you calculated results.
- BUT, when Neuroscience Reductionism is faced with the idea of consciousness or the human mind...
 - The reality is that there are certain things that science can explain and many other things that science *cannot* explain. See **Science and Epistemology** Supplemental Material for more details.
 - Not everything can be reduced to just the physical or the brain functions.
 - Science believes consciousness is an illusion only. Science can observe and measure the function of our brains and what is physically present. Since we can not measure the activities of the human mind, neuroscience says that consciousness, therefore, does not exist. Yet, we know, consciousness is an integral aspect of humanity.
- ❖ Ask students about their understanding (their feelings and thoughts) regarding this compare/contrast discussion.
 - **This can be done formally, through an exit ticket type written assignment, where students write out where they stand in this discussion, or their confusions (if any remain).**

Islamic Studies Connection:

- Extensive discussion on ensoulment can be enhanced here, where the full traveling of the soul is outlined, along with the various stages of the soul mentioned here.

Biology Connection:

- Chapter on the Nervous System in Biology Textbook.
- Study of neurons and nervous system, neurons communicating at the synapses, neurotransmitters.