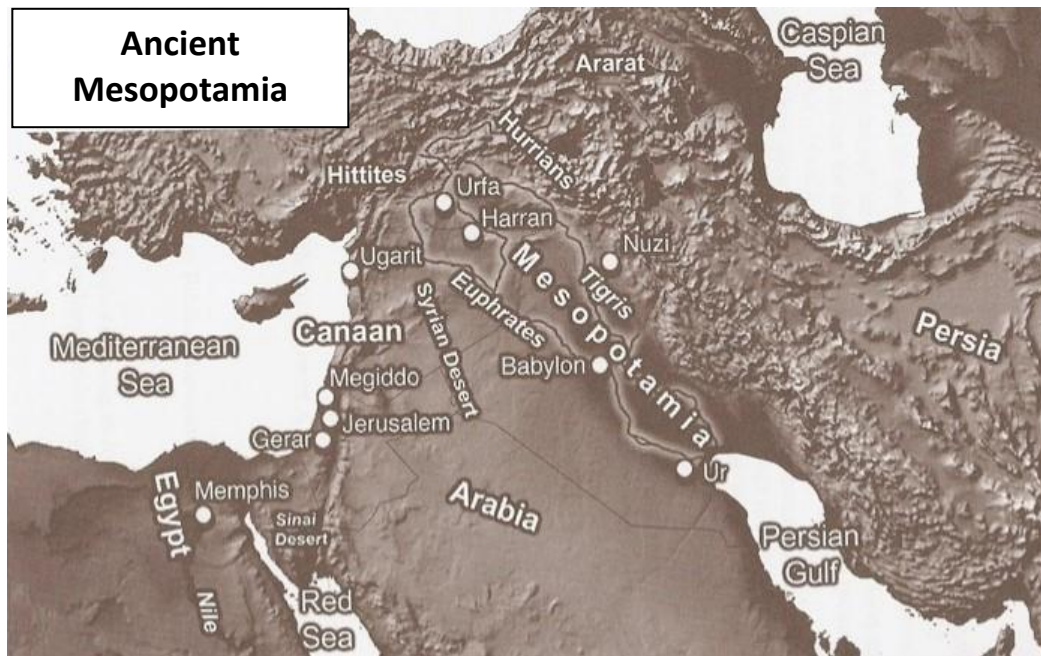


Entropy, Work, and the Meaning of Life

It's a tragedy that the Biblical description of creation in Genesis 1 has been the focus of the debate between proponents of evolution and those who want to defend the Bible. The argument has created a great divide between science and faith, with faith damaged most, particularly among good people who want to engage honestly with the realities and discoveries of the modern world. The tragedy is magnified by the fact that both sides have misunderstood what Genesis 1 means, and by doing so have missed its message, a message that has never been more important and relevant for the world than it is today.

1. Genesis 1 in the Culture and Religion of Ancient Mesopotamia, the Cradle of Civilization

The insights that we gain from Genesis 1-2:4 about God and the meaning of our lives depend on understanding the meaning of this story in the context of Ancient Mesopotamian culture and religion.



Dates: Ancient Mesopotamian civilization and culture continued from about 10,000 BC through 330 BC.

Settlements and towns developed throughout Mesopotamia starting from about 10,000 BC. Between 5000 and 2500 BC, before the Israelites/Hebrews developed as a people from among those living in Mesopotamia, an ordered and innovative civilization was thriving throughout the region and most of their inventions that have impacted the world since then were already common in everyday life:

- 4000 - common religion, temples and practices
- 3500 - major cities develop
- 3300 - invention of writing
- 3200 - invention of wheeled vehicles

- 3000 - invention of math, calendar, geometry, algebra, astronomy, counting and accounting
- 2200 - Abraham and family living in Mesopotamia, Hebrews in non-Biblical historical records
- 1792 - Hammurabi first written law code
- 1600 - Jacob's family (Joseph and brothers and families) go to Egypt and remain for 400 years
- 1200 - Moses and the Exodus, Israelites move back into southern Mesopotamia (Levant, Canaan)
- 597-538 - Babylonian Captivity, Israel in Babylon
- 330 - Greek General Alexander the Great captures Mesopotamia ending the rule of the Mesopotamian leaders and introducing Greek/Hellenistic culture

Ancient Mesopotamia Invented Our World

Writing and libraries (over 250,000 "documents" found)	Medicine and pharmacology	Metallurgy, plaster, concrete, bricks, and glass
The sexagesimal system of counting, accounting, record-keeping & taxes	Maps and road networks	The sail, the wheel, the first spoked wheels, chariots and wagons
Math (add, subtract, multiply, divide); very advanced understanding of mathematics	Farming and irrigation	Art, mass-produced ceramics and architecture, developed plans for buildings
Geometry: used <i>pi</i> (circumference & area of a circle), used Pythagorean theorem before Pythagoras "discovered" it	Invention of plow, grafting, horticulture, breeding and domestication of animals	Time. The calendar (12 lunar months, 24-hour days, 60-second minutes, 60-minute hours, 7-day week, days named after planets, sun and moon.
Algebra (linear equations)	Cities, Kings, and Government: bicameral Congress	Astronomy and the zodiac, identified major planets, tracked stars
Business and commerce	Law and Law Codes, Judicial System	Religion and Temples
Shipping, ports, warehouses	Housing, neighborhoods, and gigantic buildings (ziggurats)	Beer (made in temples): the gods liked beer.
International trade and negotiations	Tools, tableware and weapons	The Family Household Unit
First schools and common curriculum	First author, poetry, and love songs	Signatures (seals) and envelopes

Writing



We know about ancient Mesopotamia because they developed a system of writing (Cuneiform) to describe their culture **and** because they wrote on clay tablets rather than papyrus, which have survived to this day. Cuneiform script could be used to express words in all the major languages spoken throughout Mesopotamia. A common curriculum for training scribes to write cuneiform was used and has been discovered across the Mesopotamian region. **Over 250,000 documents have been discovered that were written before the Hebrew language was developed.** The Hebrew language developed from one of the languages that came from this area: Akkadian (spoken in northern Mesopotamian from 3000 to 1000 BC). The oldest parts of the Old Testament use Akkadian words (e.g., "The Song of Deborah" Judges 5).

Counting, Mathematics, and Numeric Symbolism in Mesopotamian Literature

The Sexagesimal System. Today we use the decimal system, base 10. Our important numbers are multiples of 10 (1, 10, 100, 1000, 10,000, 100,000, 1,000,000), the numbers after these numbers start over with the number 1 (11, 101, 1001, etc.). The Ancient Mesopotamians used base 60 (the sexagesimal system (60, 600, 3600)). While this might seem strange to us, we still use this system for telling time (e.g., 60 seconds, 60 minutes) and for geometry (360 degrees in a circle), all of which were invented by the ancient Mesopotamians.

The Symbolic Use of the Number 7 in Mesopotamian literature. In Mesopotamian culture the number “7” gained symbolic significance, to mean “perfection” or “completion” (We say “It’s a 10! They said, “It’s a 7!”). This occurred because of the unique place of 7 in the sexagesimal system of numbers. The number 60 can be divided by 1(60), 2(30), 3(20), 4(15), 5(12), and 6(10), but not 7. Consequently, the number 7 gained stature as a “mystical number,” the first of the numbers that cannot be divided into 60. Furthermore, when the Mesopotamians developed the calendar and the concept of the “week,” six days were not enough. To have enough days in a week to have a 28-day lunar month, the week needed 7 days. Thus, the 7th day was thought to “complete” or to be the “perfect ending of the week”.

Throughout Mesopotamia, the idea of “7 days” symbolically came to represent the perfect completion of any great event, no matter how long it took to complete.

The Seven-Day Literary Framework. Particularly, the Mesopotamians used a seven-day literary framework to describe and celebrate the completion of the building of their temples. Plans for these temples have been discovered. Archeologists estimate that to build a Temple according to plan, it would have taken 1500 workers, working 10 hours a day, for at least 5 years. Nevertheless, when Mesopotamians celebrated the opening of a new Temple, they wrote that it took “a perfect” seven days to complete it (that is, a “perfect” amount of time), using a literary framework like Genesis 1 (On the First and Second Days . . . ; on the Third and Fourth Days . . . , etc.). We have many documents that describe the construction of temples using this formula—**all building projects took 7 days to complete (no matter how long they took to build)**.

One example is the building of a temple to Baal in the ancient city of Ugarit in what is now northern Syria: **“Of cedars, Baal’s house was build, of bricks his palace was erected. Behold a first day and a second day, the fire eats into the house. Behold a third and a fourth day, the flame into the palace. A fifth and a sixth day, the fire eats into the house. Behold on the seventh day, the fire departs from the house, the flame from the palace and Baal rejoices, “My house I have built of silver, my palace I have made of gold.”**

Mesopotamian Religion: Gods and Temples

The impact of the unpredictability of life. No matter how much the Mesopotamians tried to control the unpredictability of nature through laws, work, community and by valuing order, they were regularly subjected to nature’s vagaries, which, on the one hand, provided the sun, rain and fertile soils to raise crops and support their herds of animals, and, on the other hand, could take it all away through floods, drought and famine. Wild animals like lions were present in vast numbers throughout the region and regularly attacked and killed travelers. Childbirth often took the lives of babies and mothers. Despite their best efforts, their experience of life was constantly interrupted by these harsh realities? Mesopotamian religion developed to explain the good and the bad, and to control or influence it.

Gods and Temples

The first evidence of religion in the Mesopotamian region appears around 10,000 BC. Ruins of a temple have been discovered in what is now southeast Turkey (then NW Mesopotamia). Early Mesopotamians believed that the moods of the gods were responsible for the unpredictability of life, both its joys and its sorrows. The following summary describes the main tenets of Mesopotamian religion as it developed and flourished between 5000-2000 BC:

- There were over 1000 gods—enough gods to account for all the things that could go wrong.
- Each god was a part of nature, and responsible for oversight of it (sun, moon, stars, planets, oceans, rivers, the northern sky, etc.).
- Like humans, the gods had the capacity for both good or evil.
- Humans could influence whether the gods were good or evil by “making them happy, meeting their needs.” Religion was superstitious: “Our actions control the actions of the gods. If I am good to the god, the god will love me and protect me from harm” and vice versa. In their flood story, a god decided to eradicate humans because they were “noisy” and kept him from sleeping. They reasoned that if the gods had what makes people happy, the gods would be happy, and consequently hold back the forces of chaos and destruction that plagued human life. Are we superstitious???
- They built “homes” for the gods (temples). There they brought food for the gods to eat, decorated their temples with the finest art and textiles, but were not allowed to encounter the god there.
- Their gods resided in the “heavens” but “the spirit” of a god was considered to be “present” in a room at the back of his house-temple, separated from the people, there represented by an idol, in which the god’s spirit resided. Only the priest or priestess was allowed to enter the room, talk with the god and provide food and beer, praise the god and intercede on behalf of the people. Beer was brewed in the temple—the gods liked beer!
- Worship and prayers to these gods did not occur in the Temple, rather, at home. Each home had mini-statues of their most important gods. In Genesis, Jacob’s wife Rachel, fleeing from her father Laban, steals his gods and hides them in the saddlebag of her camel (Genesis 31:19)—a biblical joke!
- Archeological evidence shows 30+ temples in most cities, many more in larger cities.

2. The Heroes of Genesis Lived in this Mesopotamian World

- Abraham’s family comes from NE Mesopotamia (Harran or Urfa), migrates to Canaan from Ur.
- Abraham and Sarah, seek a wife for their son Isaac, not from among the Canaanites, but from their home town in NE Mesopotamia. Similarly Isaac’s wife Rebecca sends her son Jacob back to her home town to find a wife. There he finds two wives: Leah and Rachel. When he escapes Rachel steals some of her father’s gods and hides them under her saddle!
- The Garden of Eden is in the land between the two rivers (Tigris and Euphrates, Genesis 2:14).
- Tower of Babel story takes place in the Tigris-Euphrates basin (Genesis 11:2).
- The longevity of the Hebrews’ ten patriarchs (who lived up to 969 years), who lived before the flood (Genesis 5), can be explained in the light of the list of ages of the ten Mesopotamian kings that reigned before the Babylonian flood (who lived up to 36,000 years; total 241000). The lists are parallel, except all the Hebrew patriarchs’ ages are reduced to keep their ages below 1000, an affirmation of monotheism, as the number 1000 signified divinity for the early Israelites.
- The Genesis flood story (Genesis 8) and the Mesopotamian flood story are parallel stories.

1. The numeric value of the word “created” (second word from right) is 203 or (7 x 29).
 2. The numeric value of the three words “God,” “heavens,” and “earth” adds up to **777** or (7 x 111).
 3. The numeric values of the first, middle, and last letters added together is 133 or (7 x 19).
 4. The numeric value of the first and last letters of all seven words in the verse is 1,393 or (7 x 199).
 5. The numeric value of the first and last letters of the first word and the last word is 497 or (7 x 71).
 6. The numeric value of the first and last letters of the 5 words in the middle of the verse is 896 or (7 x 128).
 7. The participle “et” occurs twice and the article “the” occurs twice. The numeric value of these words together is 406 or (7 x 58).
 8. The last letters of the first and last words have a numeric value of 490 or (7 x 70).
- **The number 7 in the rest of the Creation Story (1:2-2:4): Verse 2** has 14 words; in the story, the word “light” appears 7 times; “water” appears 7 times, “living beasts” appears 7 times, “it was good” appears 7 times (the 7th time, “It was very good”). The 7th paragraph deals with the 7th day. It has 35 words (5X7) and each of the three middle sentences of the paragraph, has 7 words, with the word “seven” at the middle of each sentence. The **total numbers of letters in Genesis 1:1-2:3 is 1813** (7X259). The phrase “**And God said**” occurs 7 times and the numeric value of the phrase “And God said” totals 347 = 7 x 7 x 7. The Hebrew **alphabet has 22** letters. All the letters are used in the story except the 15th letter samekh (S), which has the numeric value of the sexagesimal 60, resulting in 21 letters of the alphabet used to write the whole story (7x3)

This is just a sample—we could spend a class on the occurrences of the mathematical constant *pi* (3.14 . . .). For example, in Genesis 1:1, the sum of first letters in each word (22) divided by the number of words (7) = *pi* (3.14): 22/7 was the way the Mesopotamians calculated pi. The numerical value of all the letters of the first verse is 2701. The numerical value of the word TORAH is 611. If you add the total value of the 611 numbers after the decimal point in *pi*, they add up to 2701 = the numerical value of the all the letters in Genesis 1:1. What are we to make of this? As the ancient Rabbis said “It’s just a hint!”

The statistical probability of finding all these mathematical occurrences of the number 7 in one single sentence by chance is 1 in 232.63 trillion (akin to the national debt!). This is no coincidence. Hard to do:

Genesis 1 adapts and builds on the Mesopotamian 7-Day literary framework for Temple building

“And the earth was **without form (tohu)** and **void (vohu)**” (1:2)

Unformed (Tohu) God <u>Forms</u> (Structures) the World	Unfilled (Vohu) God <u>Fills</u> (Animates) the World
1. Forming the light amid the darkness	4. Filling the light with the sun and the darkness with the moon and stars
2. Forming the watery earth and the sky	5. Filling the waters with fish and the sky with birds
3. Forming the land and creating vegetation	6. Filling the land with animals and humans and filling them with the vegetation formed on Day 3

On Day Seven: God Rests

4. Genesis 1 in Israelite Religion and in Ours

- **Genesis 1 as Inspired Theological Innovation (what is said here that was never said)**
 1. **The Creation story has nothing to do with the questions of science:** “How did the universe come into existence?” “How long did it take for life to evolve on earth? To focus on these questions is to miss the point and distract us from its important message. Rather Genesis 1:1-2:3, focuses on these questions: “Who created the universe and why?” “What is the meaning of human life?” “What is true religion—the true relationship between God and us?” “How should we as human beings confront the disruptions, disorders, and chaos of life we regularly experience?”
 2. **Our God Is the One Universal God** (there are not 1000 god’s). Our God, the Creator, exists outside the universe and is not a part of it. This universal God brought into existence everything that is out of nothing. Only religions based on this early Hebrew story assert this (Judaism, Christianity, Islam). Before this and to this day the gods of all other religions are a part of the universe, they are what our God has created (sun, moon, planets, ocean, mountains, etc.). Our God’s Temple is not the building down the street, but is the whole universe, over which God exercises authority.
 3. **Our God is Omnipotent**, demonstrated by God’s creation of the world in “7 days.” compared to the “7 days” it took to build the temples of their gods in their neighborhoods.
 4. **Our God is Good**. This Universal God is beneficent, a purely good God. Against the view that the gods are both good or evil, everything that our God does is “good” or “very good”: the sevens embedded in the text indicate that God’s work in creation was perfect.
 5. **Our God is a God of Order**. God works to bring order out of chaos, by forming and filling (structuring and animating life). Creation evolves from creating light out of the darkness to the complexity of human beings in God’s image, the culmination of God’s creative work.
 6. **Our God’s Image and Spirit Are in Us**. The Spirit of God is not present in the idol carved out of stone, located in the back room of the temple around the corner, to which you personally have no access. Our God is not separated from you, rather you yourself are the image of God, God is in you (expressed again in the story of Pentecost in Acts). In this sense, for the first time God is portable, not out of reach in the back room, but intimately with you wherever you are.
 7. **Our Purpose is Derived from Our Identity**. Humans, not idols, are the vessels of God’s Spirit and God’s influence. Created in the image of God, our purpose is not to please the gods and so to control them, but to partner with God, by working with and like God to structure and animate order, to bring order out of chaos, light out of darkness, good out of evil, life out of death.
 8. **True Religion is Not Superstition**. We serve God, not exclusively in the Temple with the goal of making God happy, but in the world, in partnership with God, through our own work of forming and filling, structuring and animating life. Therefore, our faith joins with our work in ways that create the abundant life that God promises to us in all contexts of life (intrapersonal, interpersonal, societal). We are called to serve God by being and living as God would be and live in all the situations of our lives.
- **Genesis 1 and Israelite Evangelism and Ours**
 1. **All People Belong to the Same Family**. From the earliest writings of the Israelites until the Exile, the Jewish people recognized that if God created all that is, including all humanity, all people belong to the same family (God’s family)(Basis for Democracy). Therefore, God is the God of all nations, not just Israel. If God is God for all people, the Hebrews therefore existed as a people to be a blessing to all nations. This is important for us to understand as Christians because we

sometimes think that we are the exclusive recipients of God's love, forgiveness and grace. This is not true. God loves the world, the life offered by Jesus Christ is offered to all people and we as Christians are called by God to tell them and to convince them of that, so that they may experience what is already theirs, if they would only accept it, rest in it, by faith.

We see this expressed in God's covenants with Abraham and others (Genesis 12:2-3; 17:3-8; 18:18; 22:18; 28:13-15; 35:11-13) in the welcoming of outsiders (wives and servants) into their community (Ruth a Moabitess was the grandmother of David), and in the writings of the prophets Zephaniah (3:9), Amos (1:2-2:16), Isaiah (2:2-4; 56:3-7; 66:18-21), Ezekiel (Ezekiel 47:21-23) and Jeremiah (12:14-17), who hold Israel's neighbors to the same standard of obedience to God's Law as they do to Israel itself.

2. **Genesis 1 as Protection against Assimilation.** Genesis 1 at the start of the Torah provides a strong argument against Jewish assimilation into the religious beliefs of their neighbors. "Our God is clearly superior to foreign gods and your personal identity and purpose are much greater under our way of thinking about God." What we learn here is also a guard for Christians, reminding and preventing us from getting lured into the practices, beliefs, technologies and fads of our world that suck the life out of us and render us irrelevant. Is your worth, your value as a person dependent on the number of followers you have on social media? No!!! You are loved by the God in whom you live, and move, and have your being (Acts 17:28). This is what gives you your value and identity. You are indispensable.

5. Genesis 1 for Us: Entropy, Work, and the Meaning of Life

The hardest thing to believe about the creation story is not that God created the world in seven days, but that, being in the image of God, empowered by God, we have been given the mission, authority, and the power to create an abundant life for ourselves, our families, our society and our world. As God has creatively acted to bring order out of chaos, so also, we, who are in God's image, are called to partner with God to bring order out of chaos in every aspect of our lives (within ourselves, our marriage, family, sphere of relationships, business, church, community, government, nature) and thereby promote abundant life.

Entropy and the Meaning of Life. Interestingly, as critical as science has treated Genesis 1, it is science that confirms the importance of how Genesis defines who we are and our purpose in life. *The Second Law of Thermodynamics* states that energy always dissipates, things inevitably tend toward chaos and disorder. On a cold day, if you heat your house to 72 degrees and turn off the heater, no matter how well your house is insulated, eventually the heat will escape and the house will grow cold. What is true in physics, is true in every system of life (our own bodies, marriage, family, buildings, roads, community, government, environment), inevitably things break down and move toward chaos and disorder. We call this fact **entropy**.

According to the law of entropy, the term given to the things we do to manage, control or reverse the dissipation of energy, is "**work**." According to Genesis 2:5 the reason that God created men and women was "**to work**." We see Adam and Eve working alongside God before sin comes into the world, naming animals (structuring life) and taking care of them and farming the land—like God, structuring and animating life.

With God, we stand before and above the chaos (entropy), that is, before every challenge of life, not as victims, but as creators, servant leaders, who, inspired by God's Spirit, **work** to devise and execute plans and processes that lead to abundant life (basis of Protestant ethic and moral capitalism).

Before every challenge of life, as those created in God's image, enjoying God's love, there are only two questions to answer: (1) What precisely is the challenge I'm facing? (2) Filled with God's presence and power, what precisely can I learn and do to solve it, manage it, and make things better?

Genesis 1 and Christian Identity. We are the image of God, never victims! This is our identity and our identity gives meaning to our lives. In this world of identity politics, where people want to "identify" based on race, gender, sexuality, wealth, or the number of social media followers, the Christian's answer to the identity politics is unique:

"I am a Christian, created in the image of God, given access to God through Jesus Christ. I am empowered by the presence of God's Spirit in my life. I am a part of a global family, whom God loves. The love of God extends equally to "male and female, Jew and Gentile, slave and free person." Therefore as a Christian, I aim to live with respect and affection in all my human encounters. I am empowered by God's Spirit, to do God's work in the world. With God as my partner, I am the human face and hands of God, speaking and acting in love, motivated and inspired to create order where forces of evil create disorder and chaos, and to animate abundant life, by bearing witness to my faith, in word and deed, so that all who come across my path may thrive, as they become children of God and followers of Jesus Christ."

Alexander Papaderos: The Meaning of Life

At the end of a week-long conference on philosophy on the island of Crete, a student jokingly asked the eminent philosopher Dr. Alexander Papaderos a question: "Dr. Papaderos, what is the meaning of life?" Everyone laughed, except Dr. Papaderos, who said, "I will answer your question." Taking his wallet out of his hip pocket, he fished out a very small round mirror, about the size of a quarter. And what he said went like this:

"When I was a small child, during the war, we were very poor and we lived in a remote village. One day, on the road, I found the broken pieces of a mirror. A German motorcycle had been wrecked in that place. I tried to find all the pieces and put them together, but it was not possible, so I kept only the largest piece. This one, and by scratching it on a stone I made it round. I began to play with it as a toy and became fascinated by the fact that I could reflect light into dark places where the sun would never shine—in deep holes and crevices and dark closets. It became a game for me to get light into the most inaccessible places I could find.

I kept the little mirror, and as I went about my growing up, I would take it out in idle moments and continue the challenge of the game. As I became a man, I grew to understand that this was not just a child's game but a metaphor for what I might do with my life. I came to understand that I am not the light or the source of light. But light-truth, understanding, knowledge, goodness, kindness, love—is there, and it will only shine in many dark places if I reflect it. (Took mirror to window, reflected light on to faces of those attending)

I am a fragment of a mirror whose whole design and shape I do not know. Nevertheless, with what I have I can reflect light into the dark places of this world—into the dark places in the hearts of men and women—and

change some things in some people. Perhaps others may see and do likewise. This is what I am about. This is the meaning of my life."

In the image of God, light, truth, understanding, knowledge, goodness, kindness and love, will only shine in many dark places, if you reflect it. Created in the image of God, this is the meaning of your life.