

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

The Qur'an and Science – Part 4

The Seerah of the Prophet (pbuh) and Science

Perspectives of a NASA Scientist

Prof. Dr. Nazeer Ahmed.



Guidance from the Seerah of our Prophet Muhammed (pbuh)

- Prophet Muhammed (pbuh) considered solar eclipse to be a Sign.
- “By the star when it sets,
Your companion (Muhammad-peace be upon him) has neither gone astray nor has erred,
Nor does he speak of his own desire, It is only a Revelation revealed,
He has been taught (this Quran) by one mighty in power.

Quran 53:1-5

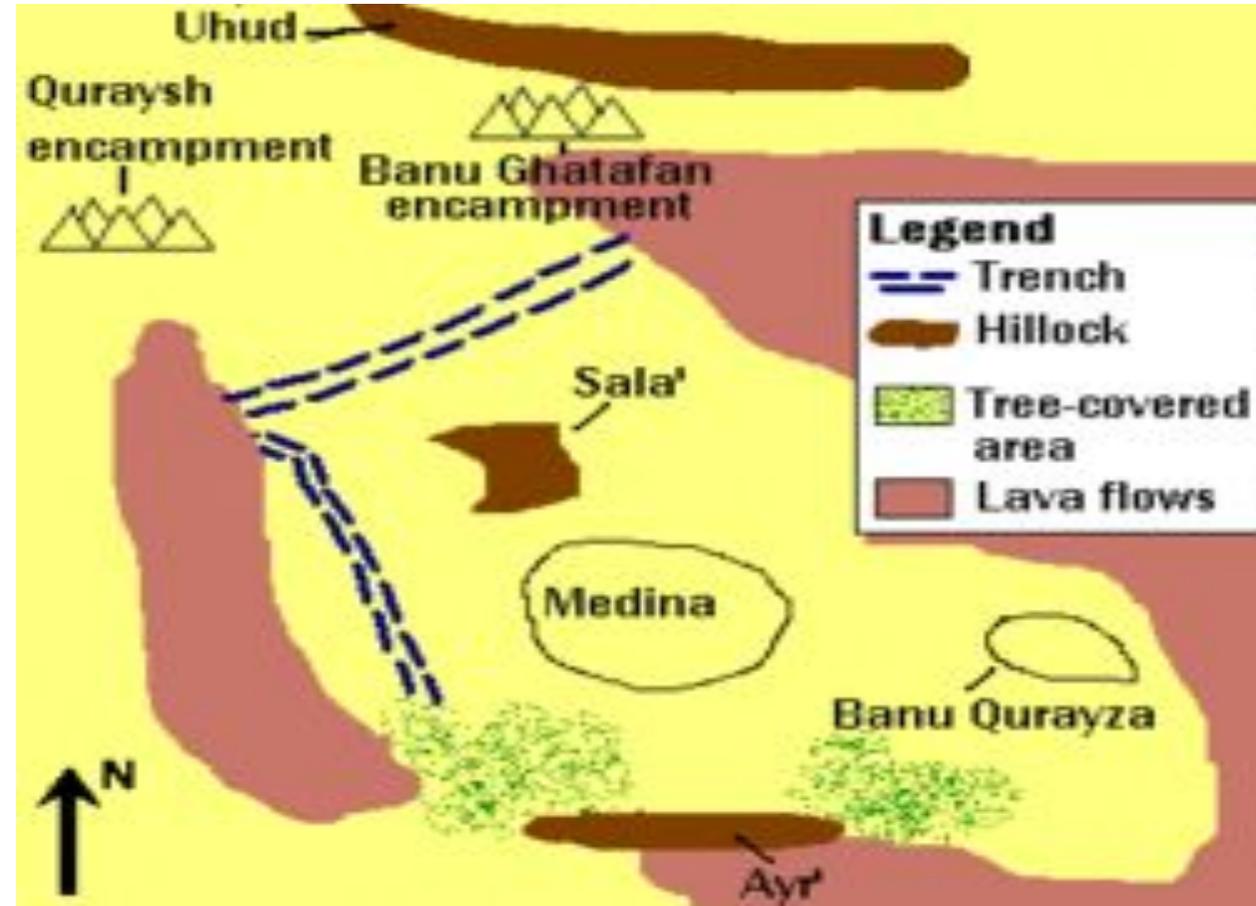


Prophet Muhammed (pbuh) and natural science

- There was a solar eclipse during the lifetime of Prophet Muhammed (peace be upon him). The Prophet told the companions it was a Sign from Allah, forbade them to look at the eclipsed sun, retired home and offered two *rakats* of prayer.
- The Prophet was corroborating the Qur'an when he said that the eclipse was a Sign. The Qur'an calls all natural phenomenon Signs that manifest the Truth. In other words, the Prophet the eclipse to be a celestial occurrence that should be studied and learn from.
- His advice to the companions was sound and scientific. Looking the sun during an eclipse can cause blindness.
- A prayer is offered to thank God for the opportunity to witness the phenomenon as a Sign towards the Truth.

Technology in the Prophetic Age

- Battle of the Trench (5 AH)
- The Prophet (sas) adopted Persian technology and dug a defensive trench around Madina to prevent an attack by the Meccans.



Technology in the Prophetic Age

- The Prophet said: “Acquire knowledge even if you need to travel to China to do so”. China was not a Muslim country. But it was known for its science and its technology such as porcelain, paper making etc.
- The Hadith of the Prophet confirms that scientific knowledge is not tied to any religion or nationality.
- At the Battle of the Trench, the Prophet (sas) accepted the suggestion from Salman Farsi (r) to dig a trench around Madina to thwart any attack by the Meccan from vulnerable directions. Trench technology was not known in Arabia. It was Persian. The Prophet (sas) did not hesitate to adopt Persian technology in defense. The message is clear: Learn science and technology no matter where it comes from.

Examples from the Lives of the Suhaba

- “The most complete gift of God is a life based on knowledge.”
A saying of Hazrath Ali (r)
- Hazrath Omar (r) introduced the windmills into Arabia, a technology imported from Persia

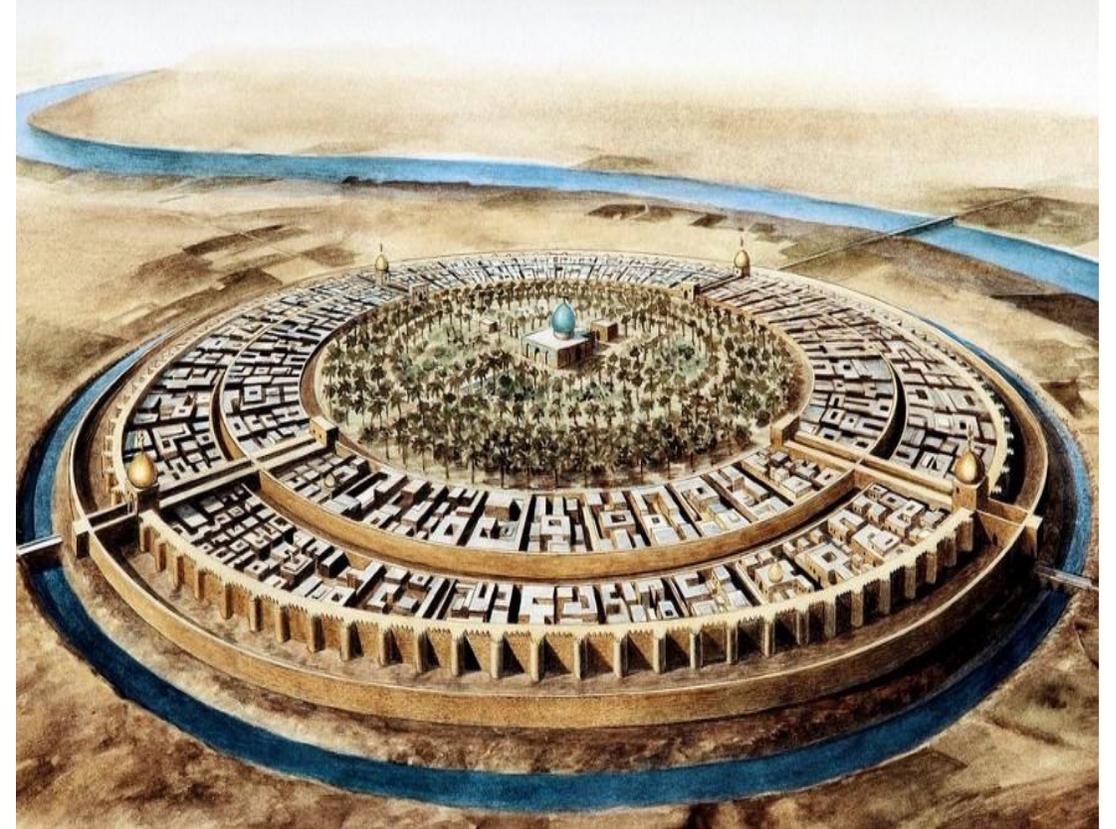


Science and technology in the age of the Suhaba

- The tradition of the Prophet to adopt science and technology continued during the age of the Suhaba.
- Omar (r) in particular, introduced far reaching administrative reforms in the Islamic domains.
- Wind mills were introduced into Arabia from Persia and were used to grind grain.
- Indeed, it was a dispute involving a repair on a windmill that indirectly led to the assassination of Omar (r). A Persian man Lulu was hired by one of the Suhaba to repair his windmill. A dispute arose about the wages and the two approach the Caliph Omar (r) for a resolution. Omar(r) ruled in favor of the Suhabi. A few days later, as a revenge, Lulu stabbed and assassinated the Caliph as he led the Fajr (morning) prayers.

Lessons from the Great Imams

- Imam Abu Haneefa – Architect of the city of Baghdad (762) built during the reign of Khalifa al Mansur
- Imam Ja'afar as Sadiq – Inventor of the science of chemistry – teacher of Jabir ibn Hayyan



How did the great Imams view science and technology?

- The great Imams, Abu Haneefa and Ja'afar as Sadiq were not only great jurists and founders of schools of fiqh, they were also great scientists, engineers and architects.
- It was Imam Abu Haneefa who laid out a plan for the city of Baghdad at the behest of Caliph al Mansur in the year 760. Abu Haneefa also introduced product standardization in construction materials.
- Imam Ja'afar as Sadiq had a halqa which was attended by some of the greatest minds of the age. He was a teacher of Jaabir ibn Hayyan, widely considered the father of chemistry.

Nations that reject science, slide into decay

- As for those who reject Our Signs,
We will seize them
in such slow measures
That they are not aware of it.
Qur'an, 7:182

وَالَّذِينَ كَذَّبُوا بِآيَاتِنَا
سَنَسْتَدْرِجُهُمْ مِنْ حَيْثُ لَا
(يَعْلَمُونَ) (الأعراف: 182).

Nations that reject science slide into decay

- Nations that read the “Signs”, study and learn from them and apply them, prosper.
- Nations that do not read the Signs slide into moral, intellectual and material decay.
- The word Sign is a comprehensive term that includes the Ayahs of the Qur’an as well as the manifestations of God’s attributes in nature.
- The Qur’an explains that there are Signs that are external (on the horizon, in nature and history) and there Signs that are internal, within the soul (Signs within the heart and the soul, the spiritual sciences).

Only a disbeliever can be blind to the Signs

And however many Signs in the
heavens and the earth
Pass by them, they disregard them.

Qur'an, 12:105

وَكَايِّنَ مِنْ آيَةٍ فِي السَّمَاوَاتِ وَالْأَرْضِ
يَمُرُّونَ عَلَيْهَا وَهُمْ عَنْهَا مُعْرِضُونَ
(يوسف: 105).

Only a disbeliever can be oblivious to the Signs that surround us

- A disbeliever is like a blind man who cannot see or like a deaf man who cannot hear.
- The Signs from Allah are everywhere in the heavens and the earth.
- From the largest galaxies in the heavens to the smallest atom, every creation draws attention to His glory.
- Every drop of water, every grain of food, every molecule of air that we breathe reminds us of His beneficence. How can the human be so oblivious?
- To read the Signs in nature is to be a scientist. To read the Signs in history is to be a historian. To read the signs within one's own Self is to be an A'rif.

Pay heed to Divine guidance before you are destroyed

Did We not provide guidance
To many a people before them
whom We destroyed?
They walk around amidst their
(destroyed) dwellings -
Indeed in them are Signs for a
people who reason.

Qur'an, 20:128

أَفَلَمْ يَهْدِ لَهُمْ كَمَا أَهْلَكْنَا قَبْلَهُمْ مِنَ الْقُرُونِ
يَمْشُونَ فِي مَسَاكِينِهِمْ إِنَّ فِي ذَلِكَ لآيَاتٍ
(الأُولَى النُّهَى طه: 128).

Pay heed to the Signs before you are destroyed

- Those who deny the Signs perish.
- Moses brought the Signs to the Pharaoh. He did not listen. Then Allah sent ten plagues on Egypt. Even then the Pharaoh was obstinate; he did not read the Signs and relent. Ultimately, he perished.
- To study science is to study the Signs in nature so that the human may apply that knowledge and discharge his responsibility as the “khalifa” on earth.
- To study history is to learn from civilizations bygone so that we can avoid the errors of the past and imbibe the virtues of the prophets.
- To study the Signs within is to be an A’rif, gain inner knowledge and become a Hakim (one who has integrated knowledge, understood the subtle interplay of Allah’s creation and cultivated wisdom)

Those who rejected Allah's Signs were destroyed

- And behold! We have revealed to you manifest Signs, And parables from those who have passed on before you, And a warning for those who have certainty of faith.

Qur'an, 24:34

وَلَقَدْ أَنْزَلْنَا إِلَيْكُمْ آيَاتٍ مُّبَيِّنَاتٍ وَمَثَلًا مِّنَ الَّذِينَ خَلَوْا مِن قَبْلِكُمْ وَمَوْعِظَةً لِّلْمُتَّقِينَ
(النور: 34).

Those who wrong themselves destroy themselves

- Do they not travel through the earth
And witness what was the end of those
before them?
They were greater than them in strength,
And they cultivated the land,
And settled it much more than they (the
disbelievers) have settled;
And their Messengers came to them with
clear Signs.
Then, it was not Allah who wronged them,
But it was they who were oppressive to
their own souls. Qur'an, 30:9

أَوَلَمْ يَسِيرُوا فِي الْأَرْضِ فَيَنْظُرُوا
كَيْفَ كَانَ عَاقِبَةُ الَّذِينَ مِنْ قَبْلِهِمْ كَانُوا
أَشَدَّ مِنْهُمْ قُوَّةً وَأَتَارُوا الْأَرْضَ
وَعَمَرُواهَا أَكْثَرَ مِمَّا عَمَرُوهَا
وَجَاءَتْهُمْ رُسُلُهُمْ بِالْبَيِّنَاتِ فَمَا كَانَ اللَّهُ
لِيُظْلِمَهُمْ وَلَكِنْ كَانُوا أَنْفُسَهُمْ يَظْلِمُونَ
(الروم: 9)

Allah makes it easy to us to learn

Do they not see how Allah
originates creation,

Then repeats it,

Indeed, that is easy for Allah

Qur'an, 29:19

أَوَلَمْ يَرَوْا كَيْفَ يُبْدِئُ اللَّهُ الْخَلْقَ ثُمَّ يُعِيدُهُ
(إِنَّ ذَلِكَ عَلَى اللَّهِ يَسِيرٌ) (العنكبوت: 19).

Allah makes it easy for us to learn

- Allah creates and repeats His creation so that the human can understand it.
- The dynamic balance in a repetitive creation makes it possible to write equations and capture the behavior of a class of objects through a single mathematical representation.
- Repetition makes it possible to us to experiment, replicate, test and confirm a phenomenon.
- Summarily, repetition makes science possible

Learn from different languages, cultures and races

- And among His Signs (are)
In the creation of the heavens
and the earth,
And the differences in language
and color -
Indeed, in that are Signs for
those who are knowledgeable.

Qur'an, 30:22

وَمِنْ آيَاتِهِ خَلْقُ السَّمَاوَاتِ وَالْأَرْضِ
وَاجْتِلَافُ أَلْسِنَتِكُمْ وَالْوَالِدَاتِ
الَّذِينَ يَرْضَعْنَ أَبْنَاءَهُنَّ
فِي أُمَّهَاتِهِنَّ مَا تَشَاءُنَّ
فِي الْوَالِدَاتِ وَالْوَالِدِينَ
مِمَّا تَشَاءُونَ
(الآياتِ لِلْعَالَمِينَ (الروم: 22).

The beauty of languages, cultures and races

- Summarily, I need you to know myself. Without you, I do not know who I am.
- If every person looked the same, recognition would be impossible.
- Every human being, regardless of languages, creed, race, color, culture and origin is uniquely beautiful. From the creation of Adam till the Judgment Day there will never be another individual exactly like you or me. That is how unique each of us is.
- Each language has its own beauty. Every race is unique and handsome. Differences in language and color are His Signs so that we learn from them

Study Human Culture

•O humankind!

We did indeed create you from a male
and a female,

And made you into groups and tribes (of
lineage),

So that you recognize each other.

Indeed, the most honorable before Allah
is the most Allah-conscious among you.

Indeed Allah is He, the Knower, the
Aware. Qur'an, 49:13

يَا أَيُّهَا النَّاسُ إِنَّا خَلَقْنَاكُمْ مِنْ ذَكَرٍ
وَأُنثَىٰ وَجَعَلْنَاكُمْ شُعُوبًا وَقَبَائِلَ
لِتَعَارَفُوا إِنَّ أَكْرَمَكُمْ عِنْدَ اللَّهِ أَتْقَاكُمْ
إِنَّ اللَّهَ عَلِيمٌ خَبِيرٌ (الحجرات:
13).

The panorama of human culture

- Culture is the way we relate to each other.
- There is a vast panorama of cultures from urban to forest dwellers
- Allah made us different so that we recognize one another and learn from one another.
- A social scientist studies various cultures, languages and races of humankind so that he can learn something about himself and his own culture.
- Empirical science confirms that all human beings are descendant from a single person with shared, common attributes.

Listen to the call while you are alive

- Therefore, of a certainty, you cannot make the dead hear, Nor make the deaf listen to the call, When they turn their backs and walk away.
Qur'an, 27:80

إِنَّكَ لَا تُسْمِعُ الْمَوْتَى وَلَا تُسْمِعُ الصُّمَّ
(الدُّعَاءَ إِذَا وَلَّوْا مُدْبِرِينَ) (النمل: 80)

Life is a God-given opportunity to learn and to be “a witness”

- In the eons of time and the vast expanse of space, the appearance of an individual person on the canvas of history is such an improbable event that it defies the imagination.
- That could only be if the birth of each individual has a purpose.
- That purpose is to be a witness to the Truth, namely, al Haqq.
- In other words, life is a unique opportunity for each human to know, serve and worship the Creator, most sublime.
- To be a witness is to see His Signs on the horizon (in nature and science) and within (the Soul). That is science.

Learn from Rain, the Life Giving Source

Lo! Allah brings down the rain
from the heavens,
And gives life with it to an earth
that is dead.

Indeed, in that are Signs for a
people who hear. Quran,
16:65

وَاللَّهُ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَحْيَا بِهِ
الْأَرْضَ بَعْدَ مَوْتِهَا إِنَّ فِي ذَلِكَ لَآيَةً لِقَوْمٍ
(يَسْمَعُونَ) (النحل: 65)

Learn from Rain

- Is water so rare in the cosmos that only the earth has it?
- How did water first appear on earth?
- How did water support the origin of life on earth?
- How is rain formed?
- Can rain formation be controlled?
- Can rain be directed to specific locations?
- How does water impact vegetation, animals, humans and civilizations?

Learn from Thunder and Lightning

And among His Signs
He shows you lightning,
(In it there is) fear and hope,
And He brings down rain from the
heavens,
Then He bestows life to the earth after
it is dead -
Indeed, in that are Signs for a people
who reason. Qur'an, 30:24

وَمِنْ آيَاتِهِ يُرِيكُمْ الْبَرْقَ خَوْفًا
وَطَمَعًا وَيُنزِلُ مِنَ السَّمَاءِ مَاءً
فَيُحْيِي بِهِ الْأَرْضَ بَعْدَ مَوْتِهَا إِنَّ
فِي ذَلِكَ لَآيَاتٍ لِقَوْمٍ يَعْقِلُونَ
(الرّوم: 24).

Learn from Thunder and Lightning

- What causes thunder and lightning?
- What causes electrical charges to build up in the clouds?
- The motion of charges, electrons and ions in electromagnetic fields
- Can we harness the power of lightning for power?
- Protection during thunderstorms
- The beauty, magnificence, power and awe of lightning and thunder
- What do thunder and lightning teach us about ourselves

Learn from Earthquakes

And We erected the mountains on earth,
So that it does not shake with them;
And We made therein paths wide and easy,
So that they receive guidance.

Qur'an, 21:31

وَجَعَلْنَا فِي الْأَرْضِ رَوَاسِي أَنْ
تَمِيدَ بِهِمْ وَجَعَلْنَا فِيهَا فِجَاجًا سُبُلًا
(الْعَلَّهُمْ يَهْتَدُونَ (الأنبياء: 31).

Learn from Earthquakes

- What causes earthquakes? What causes tsunamis?
- What can we learn from earthquakes from the history of the earth?
- Can earthquakes be predicted?
- Can earthquakes be prevented?
- The power, awe and wonder of earthquakes. Wave motion in solids and liquids.
- What do earthquakes teach us about ourselves?
- How can we construct our dwellings to protect ourselves during earthquakes?

Learn from the Bee

•And your Rabb inspired the bee
That you build your hives
on mountain sides and in trees
And from protective ledges. Qur'an, 16:68

•Then, feed on all the fruits,
And follow humbly the processes taught by
your Rabb.

(Then) from its belly comes out a fluid,
Of colors varied.

In it there is cure for humankind.

Indeed, in that are Signs for a people who
reflect!
Qur'an, 16:69

وَأَوْحَىٰ رَبُّكَ إِلَى النَّحْلِ أَنْ اتَّخِذِي مِنَ
الْجِبَالِ بُيُوتًا وَمِنَ الشَّجَرِ وَمِمَّا يَعْرِشُونَ
(النحل: 68).

ثُمَّ كُلِي مِن كُلِّ الثَّمَرَاتِ فَاسْلُكِي سُبُلَ
رَبِّكَ ذُلًّا يَخْرُجُ مِنْ بُطُونِهَا شَرَابٌ
مُّخْتَلِفٌ أَلْوَانُهُ فِيهِ شِفَاءٌ لِلنَّاسِ إِنَّ فِي ذَلِكَ
(آيَةً لِّقَوْمٍ يَتَفَكَّرُونَ) (النحل: 69).

Learn from the Bee

- How do the bees work together?
- What is the organizational structure?
- How do they communicate?
- What are the processes they engage in to make honey?
- How do they build such efficient honeycomb structures?
- What gives honey its healing properties?
- How does honey last for such a long time that we can find honey jars in the tombs of Pharaohs buried four thousand years ago?
- How does the bee fit in the eco system?

Travel through the earth and open your hearts to knowledge

Do they not travel through the
earth

So that their hearts are the wiser
from it?

Or, their ears hear?

Lo! It is not the eyes that go blind,
But it is the hearts that are within
the bosom that lose their sight.

Qur'an, 22:46

أَفَلَمْ يَسِيرُوا فِي الْأَرْضِ فَتَكُونَ لَهُمْ
قُلُوبٌ يَعْقِلُونَ بِهَا أَوْ آذَانٌ يَسْمَعُونَ بِهَا
فَإِنَّهَا لَا تَعْمَى الْأَبْصَارُ وَلَكِنْ تَعْمَى
الْقُلُوبُ الَّتِي فِي الصُّدُورِ (الحج:
46).

Travel and learn from other civilizations

- The injunction is clear: travel and acquire knowledge wherever that knowledge resides.
- At the time of the Prophet and the Companions, China led the world in science and technology. The Prophet encouraged the Companions to travel to China and learn the arts and sciences of that far away land.
- In modern times, science and technology is more concentrated in the Western country and increasingly, once again, in China. The injunction is to travel to those countries and learn.
- Allah does not discriminate in His dispensation of knowledge. It is the human who shields himself from knowledge. Every country and every culture has something to teach and something to learn.

Summary

- The Shariah as the command of Allah, embraces science, history and spirituality.
- The Qur'an commands us to develop a scientific culture based on faith, curiosity, enquiry and confirmation.
- The pursuit of science is confirmed by the Qur'an, the Seerah of the Prophet and the example of the Suhaba.



Summary

- A continuous search for the laws of nature (the Shariah of nature) and their applications in the world of man confirms and reinforces faith.
- A scientific culture is required for the moral well being of humankind. Indeed, it is required for the very survival of Islamic civilization

