CHAPTER ONE

CONCEPT OF TIME -
AN INTRODUCTION
The question of the nature of time has troubled the philosophical minds throughout the ages. No wonder Time, more than any other subject of philosophical concern has been a perennial source of puzzlement and perplexity. The concept of time, says Iqbal, has always drawn the attention of Muslim thinkers and mystics. This is because of two main reasons—firstly according to Quran, the alternation of day and night is one of the greatest signs of God, secondly the Prophet's (SAAW) identification of God with time— the well known tradition called the 'Miraj' of Prophet Muhammad (SAAW) in which he felt to be timeless, having a time of God of such a sort that neither angel nor prophet was his peer. Iqbal propounded a concept of time in a beautiful verse by saying:

\[
\begin{align*}
Zindagi \text{ az } dahr \backslash dahr \text{ az } zindagi \text{ ast} \\
La \text{ tassubu aldahr } \text{ farmaanay Nabi ast}
\end{align*}
\]

Some of the greatest Muslim Sufis believe in the mystic properties of time (Dahr) Muhyuddin Ibn-Al-Arabi (RA) entertains the view that time (Dahr) is one of the beautiful names of God. In the history of Muslim thought it seems to be the Ash'arite theory of time which is perhaps the
first attempt to understand this problem philosophically. It is worth to ponder upon the philosophical dimensions of Iqbal's concept of time, and the reasons which drove him to think in this regard. The material Universe for Iqbal is not a finished product, created once for all. It is a creation in progress and an act rather than a thing. The emergence of life and consciousness are the result of a process of evolution: a process that has no limit for the predetermined end. Life is essentially an incessant struggle, a state of tension between the ego and its environment. Iqbal unlike some western philosophers believes in the existence of external world, he makes allowance for the duality of subject and object as a necessary basis of all knowledge.

Iqbal insists that one apprehends reality intuitively without obliterating one's own self, which is the basis of all knowledge. The aim of individual self is not to merge into reality but to absorb it in his own finite being. Reflection on one's own consciousness, not only gives knowledge of self, but also a peep into the nature of reality or pure duration. Iqbal says:
Time is defined as a measured or measurable period, a continuum that lacks spatial dimensions. This broad definition lacks the simple explanation that humans are searching for. There are many scientists, philosophers, and thinkers who have tried to put time into understandable terms. The aspects of time that we can understand are only based on what we can perceive, observe, and calculate. Every day we look at our watches or clocks. We plan our day around different times of the day. Time tells us when to eat, when to sleep, and how long to do things for.

If time were based on these simple terms, then this mysterious enigma would not be in debate. There are the issues of Space and Time; what is the relationship of the two? Is time relative, or absolute? What makes time seem to go faster in some instances, and slower in others? Does the speed of time change or is it all in our heads?

We will discuss the meaning of time perceived and theorized by
two of the greatest minds of human kind.

Albert Einstein and Stephen Hawking have expanded the understanding of Time to another level. Let us first address the question, did time have a beginning? I don't think that anyone can explain the postulate that time has always been in existence. The problem with this is that we have no scientific evidence or theories which can support this argument. Certainly, we can't just accept this spiritual idea. There had to have been a beginning of time. The most acceptable explanation of the beginning of time is the relationship between space and time. When space and the universe began, the existence of time also began. This theory is well-known as the Big Bang Theory.

About fifteen billion years ago the universe was comprised of very hot compressed gas as a fireball. This is contrary to the idea of the universe beginning as a lump of matter somewhere in the void of Space. Matter was created as a result of the Big Bang. Space and time was also created. So, with these ideas time had a beginning. Looking at it in a different way in the early universe, the normal concept of time is
uncertain. Our accepted perceptions, and calculations of time can't be explained all the way back to the Big Bang. There is no way to define time in that era. This is another way that time has a beginning; as far back as we can calculate. Space-time began at the same time.

Quantum Physics even shows that Time is not an absolute. If you know where an electron is you can't know it's speed. If you know what the speed of an electron is then you can't know its position. This all leads up to Einstein's theory that time is relative. A lot of Einstein's theories of time relate to the speed of light. He says that time slows down, as you approach the speed of light.

In other instances Time may seem to go by very fast usually when we are doing enjoyable activities. Every year of your life you may have noticed the time going by faster. You may have at one time caught yourself saying, "Where has the time gone?" So maybe time is controlled by all of us on an individual basis. Time certainly is relative, and could be centered around an individual.

Black holes may be able to explain the question of where time is going. Black holes are collapsed stars with extreme amounts of gravity
which light cannot even escape. These black holes may disrupt the space-time continuum, changing the properties of the universe. Most black holes orbit around stars due to the fact that they once were a star, and this may cause some problems for the neighboring stars. If a black hole gets powerful enough it may actually pull a star into it and disrupt the orbit of many other stars. The black hole could then grow even stronger (from the star's mass) as to possibly absorb another. When a black hole absorbs a star, the star is first pulled into the Ergosphere, which sweeps all the matter into the Event Horizon, named for it's flat horizontal appearance and because this happens to be the place where mostly all the action within the black hole occurs. When the star is passed on into the Event Horizon the light that the star endures is bent within the current and, therefore cannot be seen in space. At this exact point in time, high amounts of radiation are given off, that with the proper equipment can be detected and seen as an image of a black hole. The point in explaining black holes is that it might explain about the shaping of the universe. Their existence can change the composition of the universe, which can in turn change space and time.
Time is not easily explained or understood by anyone. Einstein and
Hawking have expanded their minds by coming up with possible
theories for the unknown. We can only observe and postulate what we
don't know. We can theorize, and calculate all we want, but we think it
will always be an unknown.

Some philosophers have argued that the passage of time is a
feature of the world to be explained by noting how events change. An
event such as the death of Queen Anne can change from having the
property of being future, to having the property of being present, to
having the property of being past (to one of her contemporaries).
Agreeing that events can change their properties in this manner, J. M.
E. McTaggart argued that the concept of time itself is absurd because
it is contradictory for Queen Anne's death to be both present and past.
In a famous paper published in 1908, J.M.E. McTaggart argued that
there is in fact no such thing as time, and that the appearance of a
temporal order to the world is a mere appearance. Other philosophers
before and since (including, especially, F.H. Bradley) have argued for
the same conclusion. Many other philosophers believe events do not
change any of their 'essential' properties. An event's 'changing' from being future to being present to being past is not a real change in its essential properties, but only in its relationship to the observer. So, it is concluded by these philosophers that the notion of time's flow is a myth.

Various philosophers have argued that time could not have had a beginning, while others have argued that time must have had (or at least contingently did have) a beginning. There is a corresponding controversy over the question of whether time will have an end. These controversies concern one aspect of the topology, or structure, of time.

The issues concerning the topology of time include:

1. Whether time is branching or non-branching.
2. Whether time is open or closed.
3. Whether there can be two or more disconnected time streams.
4. Whether time has an intrinsic direction.
5. And whether time is dense or continuous or neither.

Moreover, a good deal of work in the philosophy of time has been produced by people worried about the concept, which can be
understood as the thesis that whatever will happen in the future is already unavoidable (where to say that an event is *unavoidable* is to say that no human is able to prevent it from occurring). Here is a typical argument for Fatalism:

1. There exist now propositions about everything that might happen in the future.
2. Every proposition is either true or else false.
3. If (1) and (2), then there exists now a set of true propositions that, taken together, correctly predict everything that will happen in the future.
4. If there exists now a set of true propositions that, taken together, correctly predict everything that will happen in the future, then whatever will happen in the future is already unavoidable.

The question of whether there could be time without change has been debated by philosophers since the days of Plato and Aristotle, and has traditionally been thought to be closely tied to the question of whether time exists independently of the events that occur in time.
Nevertheless, with all the faults, Aristotle’s ‘The Metaphysics’ was in one vital respect superior to that of Archimedes. The certainty and lucidity of Archimedes are largely due to the fact that they are gathered.

For, the thinking goes, if there could be a period of time without change, then it follows that time could exist without any events to fill it; but if, on the other hand, there could not be a period of time without change, then it must be that time exists only if there are some events to fill it.

Aristotle and others (including, especially, Leibniz) have argued that time does not exist independently of the events that occur in time. This view is typically called either "Reductionism with Respect to Time" or "Relationism with Respect to Time," since according to this view; all talk that appears to be about time and temporal relations can somehow be reduced to talk about events and relations among them.

The opposing view, normally referred to either as "Platonism with Respect to Time" or as "Absolutism with Respect to Time," has been defended by Plato, Newton, and others. On this view, time is
like an empty container into which events may be placed; but it is a container that exists independently of whether or not anything is placed in it.

Reductionism and Platonism with Respect to Time have spatial analogues, and the views about time have traditionally been taken to stand or fall with their spatial counterparts. Indeed, although there is some controversy over the degree to which time is similar to the dimensions of space, the Reductionism vs. Platonism dispute is almost universally thought to be one area in which the two dimensions are perfectly analogous.

Presentism is the view that only present objects exist. According to Presentism, if we were to take an accurate list of all the things that exist --i.e, a list of all the things that our most unrestricted quantifiers range over -- there would be not a single non-present object on the list. 'Nonpresentism' is an umbrelle term that covers several different, more specific versions of the view. One version of Non-presentism is Eternalism, which says that objects from both the past and the future exist just as much as present objects. According to
Eternalism, non-present objects like Socrates and future Martian outposts exist right now, even though they are not currently present. We may not be able to see them at the moment, on this view, and they may not be in the same space-time vicinity that we find ourselves in right now, but they should nevertheless be on the list of all existing things.

There have been three major theories of time's flow. The first, and most popular among physicists, is that the flow is an illusion, the product of a faulty metaphor. The second is that it is not an illusion but rather is subjective, being deeply ingrained due to the nature of our minds. The third is that it is objective, a feature of the mind-independent reality that has so far been missed by today's scientific laws.

Most physicists do not believe time flows from future into past. Instead they accept the idea that events merely exist in space-time. This idea is called the 'block universe' idea. The term was coined by William James. Advocates of the block universe commonly argue that the notion of time's now is simply a mistake or
else that it is a subjective feature of psychological time to be explained, say, by a person's having more memories and more information at later times. They argue that the only sense that can be made of the metaphor "Time flows" is that time exists.

Other physicists and philosophers, however, do not consider time's flow to be a myth and have not been satisfied with these analyses. What gives time its direction or 'arrow'? Actually, time is directional in two senses. In one sense, which is not the sense meant by the phrase the "arrow of time", time is directed from the future to the past. This is the sense in which any future event is temporally after any past event. Because this is implied by the very definition of the terms 'future' and past', to say "Time is directed from future to past" is to express a merely conventional truth of little interest to the philosophical community.

However, time is directed in a second sense, one that isn't merely a matter of the definition of the relevant terms. This is time’s arrow. It's about the particular ordering of events in time. It is what distinguishes events ordered by the happens-before relation from
those ordered by its converse, the happens-after relation. It is still an open question in philosophy and science as to what it is about events that gives them an arrow.

This arrow is evident in the fact that footprints in the sand are traces of the past, never traces of the future. Here we are reminded of the characterization of time by Aurobindo Ghosh, who calls it "sands of time" or Abul Malik Khayam calls it a "bird of time". This arrow is also evident in certain processes, such as the process of mixing cool cream into hot coffee. You soon get lukewarm, brown coffee, but you never notice the reverse—Lukewarm coffee unmixing into a cool part and a hot part. Such is the way this irreversible thermodynamic process goes. The arrow of an irreversible physical process is the way it normally goes, the way it normally unfolds through time—if not through all time, then through time in the present epoch of the universe's history. The amalgamation of the universe's irreversible processes [and of the temporally asymmetric features such as the footprints in the sand being traces of past events, not future events] produces the cosmic arrow of time, the master arrow. Usually this
arrow is what is meant when one speaks simply of "time's arrow."

The goals of a theory of time's arrow are to understand why this arrow exists, what it would be like for the arrow to reverse direction, and what the relationships are among the various more specific arrows of time—the various temporal asymmetric processes such as entropy increases [the thermodynamic arrow], causes preceding their effects [the causal arrow]; the universe's spatial expansion, our knowing the past more easily than the future, and so forth. If physical processes in time do have an arrow, and if the processes obey scientific laws, and if these laws are to be accounted for by the basic laws of physics (the laws governing the microscopic constituents of matter), then you might think that an inspection of these basic laws would readily reveal time's arrow. It won't. Except for the fact that it takes more than a trillion times longer for a kaon to decay into pions than for a kaon to be produced by motion reversal [which is essentially time reversal] from the pions, all the basic laws are time symmetric: This means that if a certain process is allowed by the equations, then that process reversed in time is also allowed. In
other words, the basic laws of science are insensitive to the distinction between past and future.

While disclosing the qualities of Iqbal Dr. Ali Shariati says:
"He is a great mystic, with a pure spirit, delivered from materialism and, at the same time, a man who respects and honors science, technological progress, and the advancement of human reason in our age."

Since Iqbal can be called as a Philosopher of Time, we will briefly elucidate his views on the subject. To start with, Iqbal says, the preference of the Qur'an is for 'deed, rather than idea'. The Lectures of Iqbal provide an exposition of the New Physics which emerged with Einstein earlier in the present century also of the constructions which philosophers following Einstein had begun, and which some Muslim philosophers in their time had already put on such basic ideas in philosophy as space, time, matter, man, mind and God.

Iqbal visited Europe and observed West as a philosopher. He got acquaintance with the European Schools of philosophy and made
them known to others. It is an admitted fact that he is a 20th-century philosopher, but he did not surrender to Western thinking with his original thinking and did not succumb to the deviant westernised notions about various subjects. He lived with a critical mind and the power of choice in the 20th century and in the Western civilization. He is devoted to and a disciple of Rumi to an extent that did not contradict and was not incompatible with the authentic dimensions of the Islamic spirit.

Iqbal in his unique fashion has attempted at a theory of Time, which encompasses the recent discoveries of science, psychological and philosophical notions coupled within religious and mystical dimensions of this most intriguing problem of all times. Iqbal assiduously maintains the distinction between time which is measured in terms of past, present and future and the non-serial time or duration in which past merges into present and future is constituted of open possibilities. Duration is change without succession, in which life, thought and purpose interpenetrate to form a unity of multiple experiences of a single ego. It is a creative moment the path of which
is to be determined ever anew. The ego, which is prior to time, with its
ever rising aspirations and hopes constantly creates new ideals with
the result that every moment in its life is a fresh moment. To exist in
duration is thus to be creative and free from the clutches of serial time.
Hence for Iqbal all the activities of life are due to the free creative
moment in time.

According to Iqbal, the experience of duration becomes possible
only on the realization of the inherent potentialities within the ego. In
other words, one can transcend space and time' only if one is able to
attain to true egohood. A revolution alone in one's ego-consciousness
can liberate one from the fetters of serial time and raise one to the
level of pure duration. He who is able to attain this happy stage surely
masters his destiny. Iqbal says:

Zindah az irfaan aslash zindah tar
Hastiye oo az sahar tabindah tar

[Gnosis of its root (of time) quickens the living with
new life Its being is more splendid than the dawn]

As a matter of fact I have selected this topic keeping in view its
interdisciplinary, multi-disciplinary and trans-disciplinary implications
and this is the subject, which has been treated by Iqbal as a matter of life and death for Muslims. This notion needs a penetrative and systematic probe in the context of science, religion and philosophy vis-à-vis the novel treatment meted out to it by Iqbal.

Hence, a comparative, conceptual and analytical study of the problem is most warranted in order to remove several misconceptions and also new developments in Astrophysics and other sciences also demand a fresh revisiting of this otherwise, most inter-actable problem of philosophy, science and religion. The chapterisation of my thesis would be as under:

**CHAPTER ONE:** Concept of Time- An introduction.

**CHAPTER TWO:** Time and Philosophy.

**CHAPTER THREE:** Time and Science

**CHAPTER FOUR:** Time and *Iqbal*

**CHAPTER FIVE:** Conclusion.

I REST STILL, I MOVE WONDROUS SIGHT FOR THINE EYES!
IN THE GLASS OF TODAY SEE TOMORROW ARISE,
SEE A THOUSAND FAIR WORLDS WHERE MY THOUGHT DEEP LIES
SEE A THOUSAND SWIFT STARS, A THOUSAND BLUE SKYS!
MAN'S GARMENT AM I, GOD I BEHOLD. (*Iqbal*)
[Translated by Dr. Reynold A. Nicholson, Cambridge]