In Islam, there is no conflict between faith in God and modern scientific knowledge. Indeed, for many centuries during the Middle Ages, Muslims led the world in scientific inquiry and exploration. The Quran itself, revealed around 14 centuries ago, is filled with facts and imagery that are supported by modern scientific findings. Three of those will be mentioned here. Of them, the development of language and mitochondrial Eve (genetics) are relatively new areas of scientific research.

The Quran instructs Muslims to "contemplate the wonders of creation" (Quran 3:191)

One of the items for contemplation is the statement:

"Truly, I am going to create man from clay..." (Quran 38:71)

Indeed, many elements present in the earth are also contained in the human body. The most critical component to land-based life is the top soil; that thin layer of dark, organically rich soil in which plants spread out their roots. It is in this thin, vital layer of soil that microorganisms convert raw resources, the minerals that constitute the basic clay of this topsoil, and make them available to the myriad forms of life around and above them.

Minerals are inorganic elements that originate in the earth which the body cannot make. They play important roles in various bodily functions and are necessary to sustain life and maintain optimal health, and thus are essential nutrients. These minerals cannot be man made; they cannot be produced in a laboratory nor can they be manufactured in a factory

With cells consisting of 65-90% water by weight, water, or H2O, makes up most of the human body. Therefore most of a human body's mass is oxygen. Carbon, the basic unit for organic molecules, comes in second. 99% of the mass of the human body is made up of just six elements: oxygen, carbon, hydrogen, nitrogen, calcium, and phosphorus.

The human body contains trace amounts of almost every mineral on earth; including sulphur, potassium, zinc, copper, iron, aluminium, molybdenum, chromium, platinum, boron, silicon, selenium, molybdenum, fluorine, chlorine, iodine, manganese, cobalt, lithium, strontium, aluminium, lead, vanadium, arsenic, bromine and more. Without these minerals, vitamins may have little or no effect. Minerals are catalysts, triggers for
thousands of essential enzyme reactions in the body. Trace elements play a key role in the functioning of a healthy human being. It is known that insufficient iodine will induce a disease of the thyroid gland and a deficiency of cobalt will leave us without vitamin $B_{12}$, and thus unable to manufacture red blood cells.

Another verse to contemplate is:

"He taught Adam all the names of everything." (Quran 2:31)

Adam was taught the names of everything; the powers of reasoning and free will were given to him. He learned how to categorise things and understand their usefulness. Thus, God taught Adam language skills. He taught Adam how to think - to apply knowledge to solve problems, make plans and decisions and to achieve goals. We, the children of Adam, have inherited these skills in order that we can exist in the world and worship God in the best manner.

Linguists estimate that more than 3000 separate languages exist in the world today, all distinct, so that speakers of one cannot understand those of another, yet these languages are all so fundamentally similar that it is possible to speak of a 'human language' in the singular.[4]

Language is a special form of communication that involves learning complex rules to make and combine symbols (words or gestures) into an endless number of meaningful sentences. Language exists because of two simple principles, - words and grammar.

A word is an arbitrary pairing between a sound or symbol and a meaning. For example, in English the word cat does not look or sound or feel like a cat, but it refers to a certain animal because all of us memorised this pairing as children. Grammar refers to a set of rules for combing words into phrases and sentences. It may seem surprising, but speakers of all 3000 separate languages learned the same four rules of language.[5]

The first language rule is phonology - how we make meaningful sounds. Phonemes are basic sounds. We combine phonemes to form words by learning the second rule: morphology. Morphology is the system we use to group phonemes into meaningful combinations of sounds and words. A morpheme is the smallest, meaningful combination of sounds in a language. After learning to combine morphemes to produce words, we learn to combine words into meaningful sentences. The third language rule governs syntax or grammar. This set of rules specifies how we combine words to form meaningful phrases and sentences. The fourth language rule governs semantics - the specific meaning of words or phrases as they appear in various sentences or contexts.

All children, regardless of where in the world they are, go through the same four language stages because of innate language factors. These factors facilitate how we make speech sounds and acquire language skills. The renowned linguist Noam Chomsky says that all languages share a common universal grammar, and that children inherit a mental programme to learn this universal grammar.[6]

A third verse to ponder is about progeniture:
"O Mankind! Be dutiful to your Lord, Who created you from a single person (Adam) and from Him (Adam) He created his wife (Eve), and from them both He created many men and women." (Quran 4:1)

The realisation that all mtDNA lineages (Africa, Asia, Europe and the Americas) can be traced back to a single origin is popularly called the "mitochondrial Eve" theory. According to top scientists[7] and cutting-edge research, everyone on the planet today can trace a specific part of his or her genetic heritage back to one woman through a unique part of our genetic makeup, the mitochondrial DNA (mtDNA). The mtDNA of "mitochondrial Eve" has been passed down through the centuries from mother to daughter (men are carriers, but don't pass it on) and exists within all people living today. [8] It is popularly known as the Eve theory because, as can be deduced from the above, it is passed down through the X chromosome. Scientists are also studying DNA from the Y chromosome (perhaps to be dubbed the "Adam theory"), which is passed only from father to son and is not recombined with the mother's genes.

These are but three of the many wonders of creation God suggests we contemplate through his verses in the Quran. The entire universe, which was created by God, follows and obeys His laws. Therefore Muslims are encouraged to seek knowledge, explore the universe, and find the "Signs of God" in His creation.

Endnotes:

[1] (http://www.faqs.org/nutrition/Met-Obe/Minerals.html)


[7] Douglas C Wallace Professor of Biological Sciences and Molecular Medicine. At the University of California.
