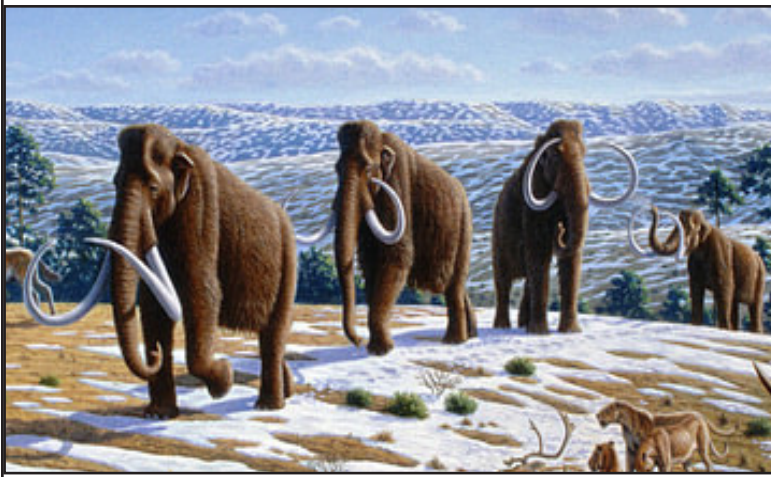


# Understanding Global Issues Through Iranian Archaeology



LONDON (Dispatches) -- New evidence that global challenges such as social inequality were at play in some of the world's earliest civilizations in ancient Iran could help us understand why they continue to plague modern society.

Archaeologists undertaking a major research project into the early human communities in Iran have published their findings in a new book, The Archaeology of Iran from the Palaeolithic to the Achaemenid Empire.

In the most comprehensive study of all of Iran's archaeology and early history ever published, the authors from the University of Reading and University of Tehran in Iran reveal new findings and interpretations, including how Iran's archaeology can help us make sense of modern issues such as resilience, migration and how humans interact with, and impact upon, the environment including climate.

The richly illustrated book, in full color and freely available through Open Access, is co-authored by Professor Roger Matthews, University of Reading, and Professor Hassan Fazeli Nashli, University of Tehran, with Dr Amy Richardson (University of Reading) as Illustrations Editor.

One example of an issue of contemporary concern is social inequality - with differences in the types and quantities of grave goods and sizes of houses, as well as records of slaves working for the elite - revealed by Iran's archaeology, demonstrating that this problem originated thousands of years ago.

Roger Matthews said: "Cultures and behaviors in ancient Iran paved the way for modern life. Our research has confirmed that concepts and practices such as agriculture and living in towns and cities, as well as societal problems like class divides, first

emerged thousands of years ago in this region of western Asia.

"Studying ancient Iran greatly enhances our appreciation not only of modern-day Iran but the entire world, yet this region's history is almost entirely overlooked in schools in favor of Roman or Egyptian history.

"We hope this book provides a reminder of Iran's historic significance and of the unknown and forgotten links between us and our predecessors there."

The book, published in June 2022, explores important periods through Iran's prehistory and history, from the earliest Lower Palaeolithic period around 500,000 years ago, when pre-humans began to inhabit the land, through to Neolithic humans who lived in the Zagros mountains and beyond, and later Bronze Age and Iron Age societies.

The latter of these included the first 'world empire' - the Achaemenid Persian empire. The book ends at the collapse of the Achaemenid empire at around 330 BC.

Among topics covered are the early development of farming villages, the early use of writing and bureaucracy in urban civilizations, and the rise and fall of some of the great empires of the ancient world.

Professor Matthews and fellow Reading archaeologist Dr Wendy Matthews were awarded £2.2 million by the European Research Council in 2018 for a related but separate research of early agricultural communities in the Zagros mountains of Iran and Iraq.

With colleagues Amy Richardson and Kamal Rasheed Raheem, they published a major volume on this work in 2020, The Early Neolithic of the Eastern Fertile Crescent.

Further research based on their findings is due to be published in the coming months.

# Scholar: Translation of Holy Qur'an Not Enough

TEHRAN -- Referring to the translation of the Holy Qur'an for understating the divine text is necessary but not enough, says a prominent professor of Arabic language.

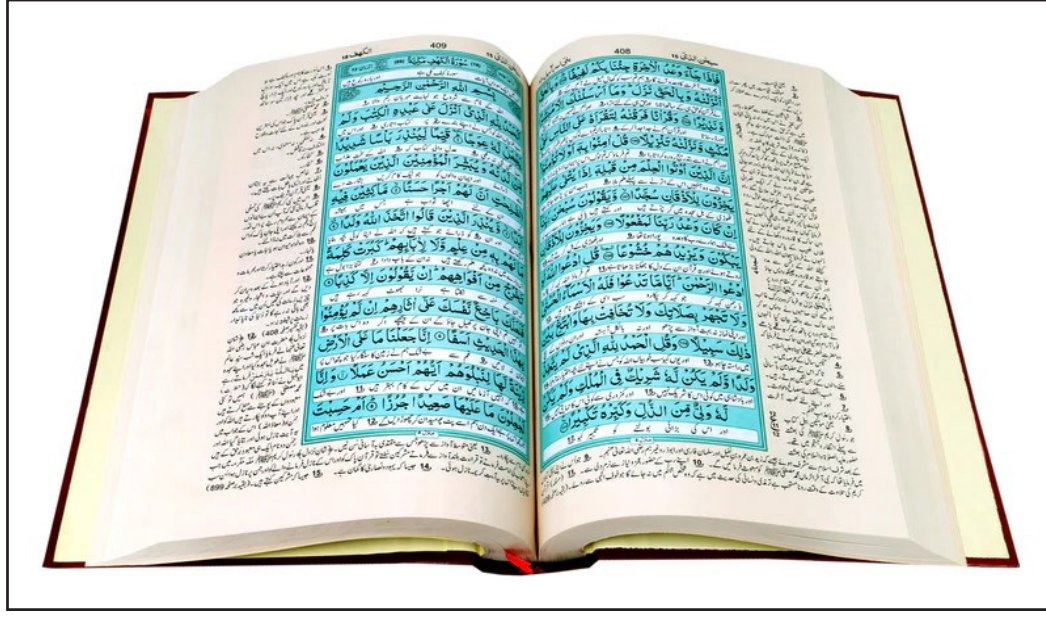
"Translation alone is not sufficient to understand the Qur'an. Translation is necessary but not enough," Professor Mihammad Ali Azarshab, a professor of Arabic Language and Literature at the University of Tehran, told IQNA.

"One must fully understand the Arabic language" to grasp the meaning of Qur'anic verses, he stressed.

"Translation is good; a person can use it to better understand the Qur'an, but without understanding Arabic, two problems arise," he said, adding, "First, they cannot fully grasp the language of the Qur'an and second, they do not connect with the Islamic world."

He pointed to the longstanding relation between Persian and Arabic languages since Iranians' embracing of Islam.

Citing an example, he referred to the Buyid dynasty (934-1062 CE) in Iran which was an independent state from the Abbasid Caliphate.



"However, they did not want to separate themselves from the cultural sphere of the Islamic world and moved towards the Arabic language," said the professor, adding, "They promoted Arabic to such an extent that their ministers were prominent figures in Arabic

literature, such as Ibn al-Amin and Sahib ibn Abbad."

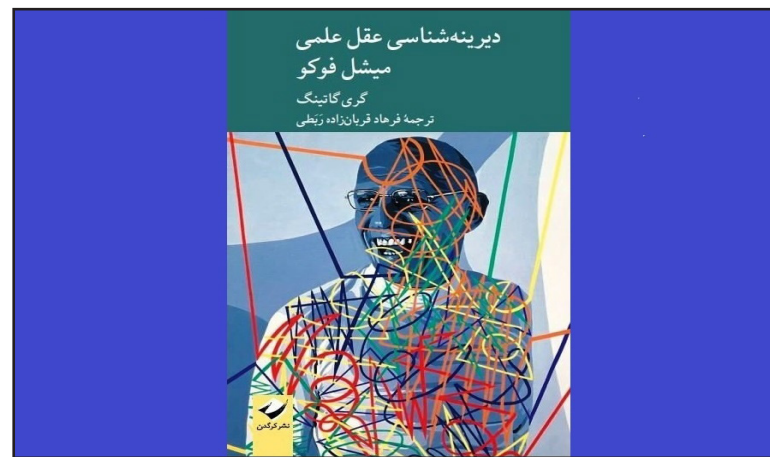
At the same time, the Persian language also reached its peak during this period, and top Persian scholars were present during the Buyid era, he noted.

# Critique on Foucault's Book Published in Persian

TEHRAN -- Michel Foucault's *Archaeology of Scientific Reason: Science and the History of Reason (1989)*, a critical interpretation of the French philosopher's work, has been published in Persian.

The book has been translated into Persian by Farhad Ghorbanzadeh Rabati. Tehran-based Karkagadan Publishing has released it in 424 pages.

Through comprehensive and detailed analyses of such important texts as *The History of Madness in the Age of Reason*, *The Birth of the Clinic*, *The Order of Things*, and *The Archaeology of Knowledge*, the author provides a lucid exposition of Foucault's "archaeological" approach to the history of thought, a method for uncovering the "uncon-



scious" structures that set boundaries on the thinking of a given epoch.

The book casts Foucault in a new light, relating his work to Gaston

Bachelard's philosophy of science and Georges Canguilhem's history of science.

This perspective yields a new and

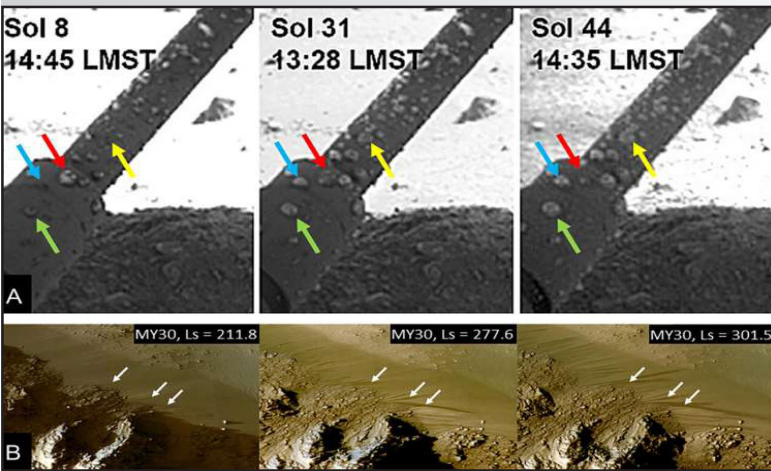
valuable understanding of Foucault as a historian and philosopher of science, balancing and complementing the more common view of him as primarily a social critic and theorist.

Gary Gutting is a distinguished academic philosopher and a major contributor to public discussions of philosophical questions.

He has taught for many years at the University of Notre Dame, where he holds the John A. O'Brien Chair in Philosophy.

He is the author of seven academic books and editor of five others, and has published over forty articles. His main areas of research are philosophy of science, philosophy of religion, and twentieth-century French philosophy.

# Study: Unlikely to Find Water on Mars Any Soon



Two of the most-discussed observations of potential liquid water activity on the surface of Mars.

FAYETTEVILLE (University of Arkansas) -- More than a hundred years ago, astronomer Percival Lowell made the case for the existence of canals on Mars designed to redistribute water from the Martian ice caps to its lower, drier latitudes. This necessarily meant the existence of Martians to build the canals.

While Lowell was proven wrong by better telescopes, the question of whether there's liquid water on Mars continues to tantalize researchers. Liquid water is a critical precondition for a habitable planet. Yet the combination of low temperature, atmospheric pressure and water vapor pressure on Mars means any liquid water found there would likely freeze, boil or evaporate immediately, making its presence unlikely.

Still, researchers continue to make the case for the presence of liquid water on Mars.

Of particular interest has been the discovery of the "recurring slope lineae," or RSLs, which are dark linear features found on steep slopes in specific regions

of Mars. RSLs display seasonal changes, appearing in warmer seasons and fading in colder seasons, in a way that is consistent with the behavior of liquid water. Distinct striped and polygonal features in Martian permafrost have also been pointed to as possible evidence of thermal cycles. A further case has also been made for an assortment of potential liquid brines.

But a new paper published in the Proceedings of the National Academy of Sciences throws cold water on the notion that we are likely to find liquid water on Mars in RSLs, permafrost or brines anytime soon.

The paper, "The Elusive Nature of Martian Liquid Brines," was co-authored by Vincent Chevrier, an associate research professor at the University of Arkansas's Center for Space and Planetary Sciences, and Rachel Slank, a postdoctoral fellow at The Lunar and Planetary Institute in Houston, Texas. Slank earned her Ph.D. at the U of A while working with Chevrier, who has spent the last 20 years study-

ing Mars for signs of liquid water. In short, he's as invested as anyone in there being liquid water on Mars, but he thinks the evidence just isn't there yet.

The goal of the paper is to educate the public on the current state of knowledge regarding the existence of liquid water on Mars.

"I wanted to write this paper for a very long time," Chevrier said, "because I think there is a lot of confusion, a lot of misunderstanding, and a lot of erroneous interpretations of what the research papers are saying about the state of liquid water on Mars."

The authors suggest that a closer look at RSLs indicates their behavior is consistent with sand and dust flows with no water needed to create them. Available data from Martian orbiters cannot confirm that liquid water plays any role in RSL development.

Other researchers think that brines—which are solutions with a high concentration of salts, such as Earth's oceans—may hold the key to finding liquid water on Mars. Brines can freeze at much lower temperatures, and there is an abundance of salts on Mars. Of those salts, perchlorates would seem to be the most promising, since they have extremely low eutectic temperatures (which is when the melting point of a mixture is lower than any single ingredient).

For instance, a calcium perchlorate brine solidifies at -75 degrees Celsius, while Mars has an average surface temperature of -50 C at the equator, theoretically suggesting there could be a zone where calcium perchlorate brine could stay liquid, particularly in the subsurface.

The authors then examine all of the arguments for and against brines poten-

tially forming stable liquids. Ultimately, they concluded that the various limiting factors, including the relatively low amounts of the most promising salts, water vapor pressure and ice location "strongly limit the abundances of brines on the surface or shallow subsurface." Even if brines did form, they would "remain highly un-habitable by terrestrial standards."

In the last section of the paper, the

authors state, "Despite these drawbacks and limitations, there is always the possibility that Martian life adapted to those brines and some terrestrial organisms could survive in them, which is a consideration for planetary protection because life on Mars might exist today in that case. Hence, detecting brines in situ remains a major objective of the exploration of the red planet."

Moving forward, the authors sug-

gest the next hurdles will be improving the instruments needed to detect small amounts of brines, doing a better job of identifying the best places to look for them, and being able to conduct more laboratory measurements under Martian conditions.

"Despite our best efforts to prove otherwise," Chevrier concludes, "Mars still remains a cold, dry and utterly uninhabitable desert."

# Picture of the Day



Cotton, also known as white gold, is one of the strategic products of Iran's North Khorasan, where its cultivation has flourished due to the high quality of its fiber and color.

Photo by IRNA