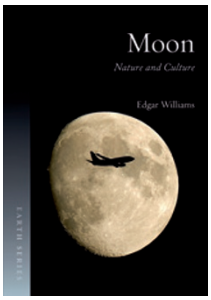
Moonlit society



Moon: Nature and Culture

by Edgar Williams

REAKTION BOOKS:
1 AUGUST 2014.
224PP. £14.95.

The Moon has been our constant companion in space and time. Its origin is intimately linked to the Earth, and its ancient surface preserves an archive of Solar System processes from throughout the last 4.5 billion years. After the Sun, the Moon is the brightest object in the night sky, and has mystified and intrigued people through the centuries. In *Moon: Nature and Culture,* Edgar Williams bravely tackles a wide-ranging perspective of the Moon that meanders across the sciences, religion and the arts. The book offers information and anecdotes about our nearest planetary body — from understanding its nature and form, to its influence on our culture, and our desire to explore and potentially exploit its surface.

Williams, who is a researcher of human physiology, presents an enjoyable narrative that is well illustrated by images captured by spacecraft, drawn by astronomers, artists and designers, and depicted in science fiction movies. The book sets the scene with science, beginning with a summary of the latest theories of the Moon's origin and geological evolution that draws on results of space missions and interpretations of rocks returned by the Apollo astronauts and the Soviet Luna robotic missions. These are active and evolving fields of research, but the subject matter is kept topical by highlighting recent discoveries, such as observations of water bound up in lunar soils, crustal thickness estimates from NASA's GRAIL mission, and recent theoretical models of the Moon's origin from a giant impact into a proto-Earth. However, the overview of lunar science is rather lacking the information and depth that readers would get from reading an authoritative textbook on the subject of lunar geology, and indeed there are a few factual inaccuracies and speculations that detract a little from aspects of this introductory material.

The book rapidly progresses beyond the world of lunar science, delving into a wide range of historical perspectives about when and how men turned their telescopes to map the Moon's face. These early cartographic efforts have been well rewarded, as many early astronomers have given their names to the many impact craters that mark its surface. Long before telescopes, humankind tracked the Moon across the night sky. Williams discusses the Moon's orbit around the Sun and Earth, and the role of the Moon and its phases in timekeeping and religious calendars. The Moon's influence is still witnessed in modern-day religions. For example, the timing of Ramadan in the Islamic world and Passover in Judaism are fixed to lunar calendars, and Easter in the Christian faith occurs on the first Sunday after the full moon following the March equinox. Williams illustrates the subjectivity of cultural perception of the Moon by pointing out that it has been worshipped as both masculine and feminine deities. It is interesting to consider that although the Moon is so often thought of as a female object — for example, Diana or Artemis in Greco-Roman mythology, and Chang'e, the Chinese Moon goddess — only 74 of 1,559 named lunar craters are named after women.

> The book makes a strong case that the Moon has touched every part of our culture and psyche in some way.

The book makes a strong case that the Moon has touched every part of our culture and psyche in some way. Williams discusses how imagery of the Moon has been integrated into key aspects of folklore, literature, music and art — including depictions in prehistoric cave drawings, statues of lunar goddesses, symbolism in Tudor-era paintings, and music album covers. The Moon has its own dedicated concertos and classical music movements, and features in songs of every possible genre. From Shakespeare to Arthur C. Clarke, the Moon forms a backdrop for drama and adventure.

Williams also considers the oft-held perception throughout history that the Moon negatively affects people's health and wellbeing. Many cultures have attributed melancholy or madness to the full Moon, a link that exists to this day in language, such as the affliction of lunacy, or to be 'moonstruck'. Williams cites modern scientific studies that have found no direct relationship between the lunar cycle and a person's mental or physical state. But although a link to madness may have been an exaggeration, a link between human physiology and the Moon may not entirely be a myth: our body clocks are sensitive to light, which the Moon provides to varying degrees as it waxes and wanes across a lunar month. Williams suggests that as technology and synthetic lights now control our sleep patterns, "modern times have broken our primeval link with the moon, our most ancient of partners."

Our world has advanced rapidly since societies first looked up at the Moon and wondered why it was there, and worshipped its silvery form. However, our enquiring minds and desire to understand our place in the universe still drive us to explore beyond our own sphere. Williams concludes by summarizing the history of lunar exploration by man and machine, emerging from the destructive power of Nazi war V2 bombs to the Cold War rivalry of the US and Soviet Union. This space race of one-upmanship cumulated in landing the twelve Apollo astronauts on the lunar surface between 1969 and 1972, and, despite the geopolitically motivated exploration driver, we are still reaping the scientific benefits of these endeavours.

Although humankind has yet to fulfil the goal of returning to the Moon's surface, Williams describes how the past two decades have seen a renaissance in robotic missions from established space agencies and emerging space nations, with Europe, India, Japan and China all now sending successful missions to the Moon. The words chosen by President Nixon after the final Apollo 17 mission — "we are conscious not of what we leave behind, but what lies before us" — are as relevant now as they were in 1972. With the themes of this book in mind, it is with much hope that we will soon see humankind return to the Moon to expand our cultural, societal and scientific horizons. ❐

REVIEWED BY KATHERINE JOY

Katherine Joy is at the School of Earth, Atmospheric and Environmental Sciences, The University of Manchester, Oxford Road, Manchester M13 9PL, UK.
e-mail: katherine.joy@manchester.ac.uk