

#ENVIRONMENT FRIENDLY

Plant Power Day

Delicious creations from nature's bounty, plates filled with vibrant colours and enticing flavours that fuel the body and support the planet.



There's a lot of noise about *vegetarianism* and *veganism* these days, and while there's much good coming out of these movements, it can be tricky, fully eliminating

History of Plant Power Day

Although, there has been a recent upsurge in diets that avoid animal products, *plant powered eating* has been around for thousands of years, for both, practical and ethical reasons. Early proponents of *vegetarianism*, for example, include the Buddha and the Greek philosopher, Pythagoras. The plant-based industry has really taken off over the past couple of decades or so, with vegetarian and vegan restaurants popping up, all over the place, and supermarkets adding plenty of plant-based items. *Plant Power Day* was launched in 2018 by the European company Alpro,

Benefits of going plant-powered

Generally speaking, people tend to prioritize *plant-powered consumption* for one or a combination of three main reasons, 'health, ethics and the environment.' Plant-based foods such as tofu, lentils, legumes, nuts, fruits and vegetables tend to be high in fibre and rich in various nutrients, and well-planned plant-based diets have been deemed healthy at every stage of life. Well-planned is the key word here, as relying solely on plants can put people more at risk of certain deficiencies such as iron and Vitamin B12. However, it is perfectly possible to get all necessary nutrients through a *well-managed plant powered diet*. Many people focus on the ethical implications of going plant-based, which helps to reduce the consumption and exploitation of animals and



Who Were the Mamluks?

PART:1

Mamluk dynasty was founded by Qutb ud-Din Aibak, a *Turkic Mamluk* slave-general of the Ghurid Empire from Central Asia. The Mamluk dynasts began their rule as early as the 9th century and gradually, the *Mamluks* became a 'powerful military class' in various Muslim societies. Mamluks held political and military power, most notably in Egypt, and also in the Levant, Iraq, and India. In 1206, Muhammad of Ghor, *Sultan* of the Ghurid Empire, was assassinated. Since he had no male heirs, his empire split into minor *sultanates*, led by his former *Mamluk generals*. Taj-ud-Din Yildiz became the ruler of Ghazni, Muhammad bin Bakhtiyar Khalji got Bengal and Nasir-ud-Din Qabacha became the *sultan* of Multan. Qutb ud-Din Aibak became the *sultan* of *Delhi*, and that was the beginning of the 'slave dynasty.'



Who were the *Mamluks*? The word means 'owned,' yes they were *slaves*, in fact owned by mainly *Kipchak Turks* from Central Asia. In principle (though not always in practice), a *Mamluk* could not pass his property or title to his son. Indeed, sons were, in theory, denied the opportunity to serve in Mamluk regiments, so, the group had to be constantly replenished from outside sources. The *Bahri Mamluks* were mainly natives of southern Russia and the *Burgi* comprised chiefly of *Circassians* from the *Caucasus*. As steppe people, they had more in common with the Mongols than with the peoples of Syria and Egypt, among whom they lived. And they kept their garrisons distinct, not mixing with the populace in the territories. The contemporary Arab historian, Abu Shama noted that after the Mamluk victory over the Mongols at Ayn Jalut in 1260, 'the people of the steppe had been destroyed by the people of the steppe.'

Boys of about 13 would be captured from areas to the north of the Persian empire, and trained to become an elite force for the personal use of the *sultan* or higher lords. The Arabic word '*Ghulam*' (boy) was sometimes employed for the bodyguards that they would become. The boys would be sent by the caliph or *sultan*, to enforce his rule as far afield as Spain (Venice and Genoa were major players in their transportation despite *Papal interdictions*), and sold to the commanders of the Islamic governments of the region. Under their

new masters, they were manumitted, converted to Islam, and underwent intensive military training. The *Mamluks*, who had been taken from their families in their youth and had no ties of kin in their new homelands, were personally dependent on their master. This gave the Mamluk state, divorced as it was from its parent society, a solidity that allowed it to survive the tensions of tribalism and personal ambition, through establishment of interdependency between the lower orders and sergeants and the higher lords. They have a resounding place in history, though. Mamluks ruled Egypt and Syria from 1250 until 1517, when their dynasty was extinguished by the Ottomans. But Mamluks had first appeared in the Abbasid caliphate in the ninth century and even after their

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overthrow by the Ottomans, they continued to form an important part of *Egyptian Islamic society* and existed as an influential group until the 19th century. They destroyed the Crusader kingdoms of Outremer, and saved Syria, Egypt and the holy places of Islam from the Mongols. They made Cairo the dominant city of the Islamic world in the later Middle Ages, and under these apparently unlettered 'soldier-statesmen's' rule, craftsmanship, architecture and scholarship flourished. Yet, the dynasty remains virtually unknown to many in the West. The dynasty had two phases. From 1250 to 1381, the *Bahri clique* produced the Mamluk Sultans. From 1382 until 1517, the *Burgi Mamluks* were dominant. These groups were named after the principal regiments, provided by the *Mamluks* for the last Ayyubid sul-

#DYNASTIES



Tomb of Sultan Ghani I.



Map of the Mamluk Dynasty.

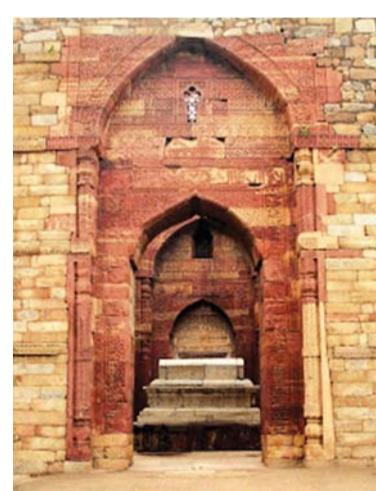
Delhi Sultanate.



Mamluk from Aleppo, Syria.

Shahabuddin Suri.

Tomb of Razia Sultana.



Tomb of Iltutmish Qutb Minar complex, Mehrauli.

three elements, the '*ulum* (science), *funun* (arts) and *adab* (literature), of 'cavalry skills.' The *Furusiyah* was not dissimilar to the chivalric code of the Christian knight insofar as it included a moral code embracing virtues such as courage, valour, magnanimity and generosity, but it also addressed the management, training and care of the horses that carried the warrior into battle and provided him with leisure time sporting activities. It also included cavalry tactics, riding techniques, armour and mounted archery. Some texts even discussed military tactics like the formation of armies, the use of fire and smoke screens. Even the treatment of wounds was addressed.

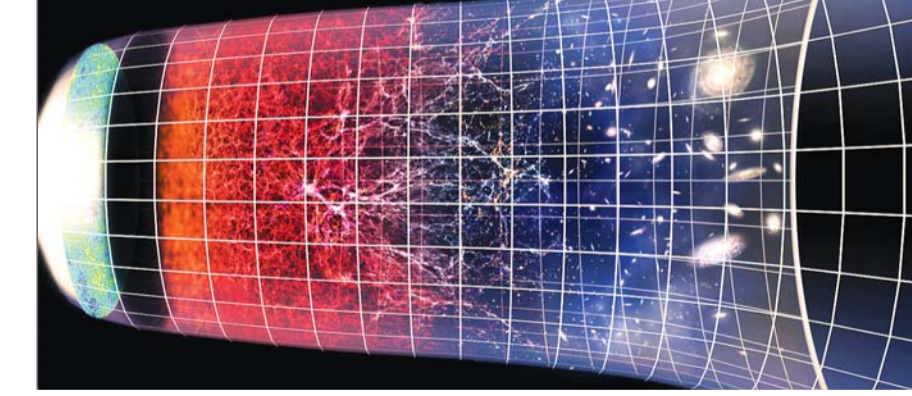
The *Mamluk dynasty* carefully codified the *Furusiyah*, and beautifully illustrated examples were produced. These books also carry the mark of the Mongol influence.

held political and military power, most notably in Egypt, and also in the Levant, Iraq, and India. In 1206, Muhammad of Ghor, *Sultan* of the Ghurid Empire, was assassinated. Since he had no male heirs, his empire split into minor *sultanates*, led by his former *Mamluk generals*. Taj-ud-Din Yildiz became the ruler of Ghazni, Muhammad bin Bakhtiyar Khalji got Bengal and Nasir-ud-Din Qabacha became the *sultan* of Multan. Qutb ud-Din Aibak became the *sultan* of *Delhi*, and that was the beginning of the 'slave dynasty.' Aibak rose to power when his Ghurid overlord, Muhammad of Ghor, was assassinated. However, his reign, as the Sultan of Delhi, was short-lived as he died in 1210, and his successor Aram Shah rose to the throne, only to be assassinated by Iltutmish in 1211. The *Sultanate* under Iltutmish

Romans' drills were bloodless battles and their battles were bloody drills. Polo was the chief among these for the *Mamluks*. With its need for control of the horse, tight turns and bursts of speed, it mimicked the skills required on the battlefield. Mounted archery competitions, horseback acrobatics and mounted combat shows, similar to *European jousting*, often took place up to twice a week. The *Mamluk sultan*, Baybars, constructed a hippodrome in Cairo to stage these games and polo matches. Mamluk dynasty was founded by Qutb ud-Din Aibak, a *Turkic Mamluk* slave-general of the Ghurid Empire from Central Asia. The Mamluk dynasts began their rule as early as the 9th century and gradually, the Mamluks became a 'powerful military class' in various Muslim societies. Mamluks

established cordial diplomatic contact with the Abbasid Caliphate between 1228-29 and had managed to keep India 'unaffected' by the invasions of Genghis Khan and his successors. Following the death of Iltutmish in 1236, a series of weak rulers remained in power and a number of the noblemen gained autonomy over the provinces of the *Sultanate*. Power shifted hands from Rukn-ud-din Firuz to Razia Sultana until Ghiyas-ud-din Balban rose to the throne and successfully repelled both, external threats to the *Sultanate* from the Chagatai Khanate invasions, and internal threats from the rebellious *sultanate* nobles. The slave Mamluks' opportunity to overthrow their masters came at the end of the 1240s, a time when the Kurdish Ayyubid dynasty set up by Saladin in the 1170s, had reached a *modus vivendi* with the Crusader states. Skirmishing, rather than outright war, was the order of the day in Syria and the Holy Land. However, events in the east were beginning to impact on the region. The Mongols, on the eastern steppes, were attacking western Chinese tribes and advancing into southern Russia, pushing their people west. In 1244, with the tacit support of the Ayyubids in Cairo, Jerusalem fell to a wandering band of *Khwarezmians*, an eastern Persian group, who were themselves fleeing the Mongol destruction of their fledgling empire. One of their first acts was to destroy the tombs of the Latin kings of Jerusalem. In response, Louis IX of France called a crusade (the seventh). Though, neither the papacy nor any other major Christian monarch was stirred to action. Rather than directly attacking the Holy Land, Louis planned to wrest the rich lands of Egypt from Islam, hoping that control there would lead to the control of Syria. To be continued...

Those 'first stars' delivered radiation, that was strong enough to peel electrons away from their nuclei, and reionize the gas. By this point however, the Universe had expanded so much that the gas was diffused, and could not prevent light from shining out. By about 1 billion years after the Big Bang, the end of the period known as the *cosmic dawn*, the Universe was entirely reionized. *Ta-da!* The lights were on. But because there's so much murk in the cosmic dawn, and because it's so dim and far away across time and space, we've had trouble seeing what's there. Scientists thought that the sources responsible, for most of the clearing, must have been powerful, huge black holes whose accretion produces blazing light, for example, and large galaxies in the throes of star formation. JWST was designed, in part, to peer into the cosmic dawn and try to see what lurks therein. It's been very successful, revealing all sorts of surprises about this 'crucial time' in the formation of our 'Universe.' Surprisingly, the telescope's observations now suggest that dwarf galaxies are the key player in reionization. An international team led by astrophysicist, Hakim Atek of the Institut d'astrophysique de Paris, turned to JWST data on a galaxy cluster called *Abell 2744*, backed up by data from Hubble. *Abell 2744* is so dense that space-time warps around it, forming a cosmic lens. Any distant light, traveling to us through that space-time, becomes magnified. This allowed the researchers to see tiny dwarf galaxies, close to the cosmic dawn. Then, they used JWST to



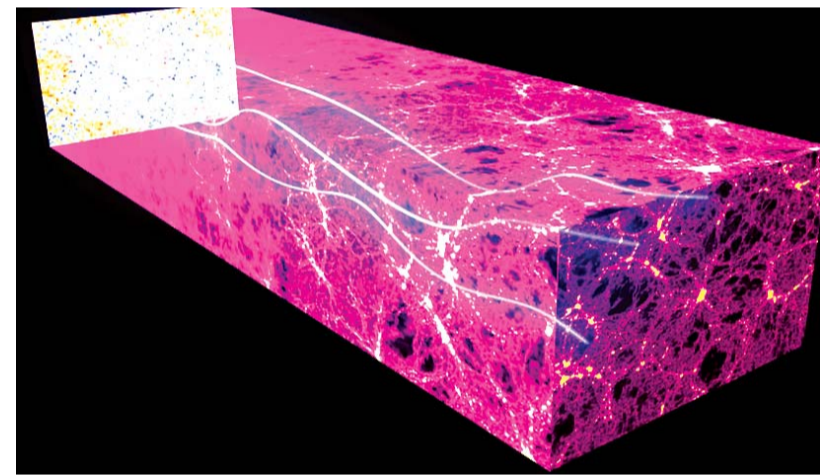
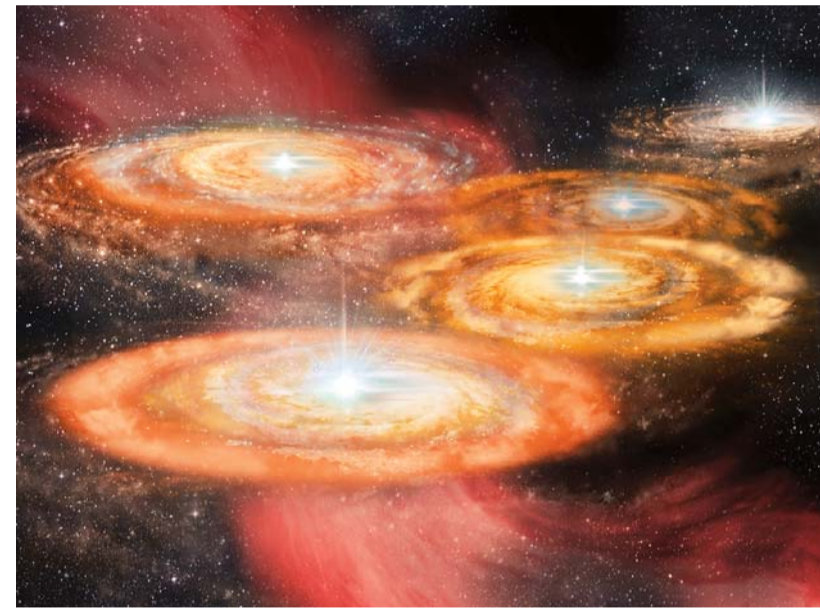
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#COSMOS

We Finally Know What Turned The Lights on at The Dawn of Time

About 1 billion years after the Big Bang, the Universe was entirely reionized. *Ta-da!* The lights were on.

We finally know what brought 'light' to the dark and formless void of the early Universe. According to data from the Hubble and James Webb Space Telescopes, the origins of the free-flying photons, in the early cosmic dawn, were small dwarf galaxies that bared to life, clearing the fog of murky hydrogen that filled intergalactic space. "This discovery unveils the crucial role, played by ultra-faint galaxies, in the early Universe's evolution," says astrophysicist Iryna Chemerynska of the Institut d'astrophysique de Paris. "They produce ionizing photons that transform neutral hydrogen into ionized plasma during cosmic reionization. It highlights the importance of understanding low-mass galaxies in shaping the Universe's history."

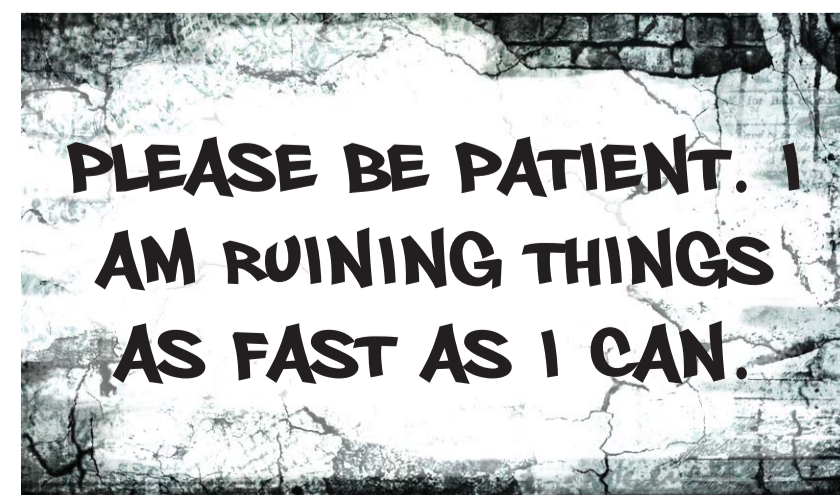


At the beginning of the Universe, within minutes of the *Big Bang*, space was filled with a hot, dense fog of ionized plasma. What little light there was wouldn't have penetrated this fog, photons would simply have scattered off the free electrons floating around, effectively making the Universe dark. As the Universe cooled, after about 300,000 years, protons and electrons began to come together to form neutral hydrogen (and a little bit of helium) gas. Most wavelengths of light could penetrate this neutral medium, but there was very little, in the way of light sources, to produce it. But from this hydrogen and helium, the first stars were born. Those 'first stars' delivered radiation, that was strong enough to peel electrons away from their nuclei, and reionize the gas. By this point however, the Universe had expanded so much that the gas was diffused, and could not prevent light from shining out. By about 1 billion years after the Big Bang, the end of the period known as the *cosmic dawn*, the Universe was entirely reionized. *Ta-da!* The lights were on. But because there's so much murk in the cosmic dawn, and because it's so dim and far away across time and space, we've had trouble seeing what's there. Scientists thought that the sources responsible, for most of the clearing, must have been powerful, huge black holes whose accretion produces blazing light, for example, and large galaxies in the throes of

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obtain detailed spectra of these tiny galaxies. Their analysis revealed that, not only are these dwarf galaxies the most abundant galaxy type in the early Universe, they are far brighter than expected. In fact, the team's research shows that dwarf galaxies outnumber large galaxies by 100 to 1, and their collective output is four times the ionizing radiation, usually assumed for larger galaxies. "These cosmic powerhouses collectively emit more than enough energy to get the job done," Atek says. "Despite their tiny size, these low-mass galaxies are prolific producers of energetic radiation, and their abundance, during this period, is so substantial that their collective influence can transform the entire state of the Universe." It's the best evidence yet, for the force behind reionization, but there's more work to be done. The researchers looked at one small patch of the sky. They need to make sure that their sample isn't just an anomalous cluster of dwarf galaxies, but is a representative sample of the entire population in the cosmic dawn. They intend to study more cosmic lens regions of the sky to obtain a wider sample of early galactic populations. But just on this one sample, the results are incredibly exciting. Scientists have been chasing answers on reionization for as long we've known about it. We're on the brink of finally blowing away the fog.

THE WALL



BABY BLUES



By Rick Kirkman & Jerry Scott



ZITS



By Jerry Scott & Jim Borgman