

# THE ADSTOCK SCIENCE CLUB



## Dark Matters

Let's start with a little history lesson.

In the early 20<sup>th</sup> century, a chap called Edwin Hubble, after whom the space telescope was named, discovered that ours was not the only Galaxy in existence. Later on he further discovered that these other galaxies were all moving away from our own and the further away they were the faster they seemed to be going. This became known as Hubble's Law. Fast forward to the 1990's and it was found that these galaxies were not just speeding away but they were also speeding up. Something seemed to be pushing them faster and faster. What could this be? Well a number of theories exist that try to explain this strange effect, the current favourite postulates that all of space is filled with a substance called Dark Energy. It is, so this theory goes, a force capable of expanding intergalactic space causing the observed acceleration of these distant galaxies. It appears that approximately 70% of the universe is composed of this stuff, another 25% contains a mysterious substance called Dark Matter. We can't see it, touch it, taste or smell it but it is evidently what keeps our solar system and other suns orbiting around our Galactic centre instead of flying off into space. Normal matter, the stuff you, me and the dog is made of, makes up about 4% with the remaining 1% being composed of something called Neutrinos.

Well now you know a little about Dark Energy and Dark Matter, but have you heard of the Dark Web. No, nothing Intergalactic here, a bit more down to earth. Are you getting the feeling that there may be a bit of a theme going on here? You may be right, but that's just the way things seem to happen in The Adstock Science Club. Dark Energy and the Dark Web were two of the most recent topics we have covered in our meetings.

The Dark Web was originally conceived in the 90's and developed by the U.S. Naval Research Laboratory in the States and was intended to be used to hide the Internet identities of those within the U.S. government, the NSA, DoD etc. Once it was made available to the public, it soon became the standard means by which drug traffickers, credit card hackers and other "Dark" enterprises bought and sold their wares. We discovered that contactless credit and debit cards are relatively easy to hack with the details; credit card number, security code and user details, being uploaded to Dark Web sites such as "Silk Road" for sale to the criminal community. Though the other side of the coin is where the Dark Web was and is being used to let the world know about atrocities being performed in places like Syria, Afghanistan, Egypt, China and Guantanamo Bay Cuba amongst many. So beware, if you have a contactless credit or debit card be very careful; you never know when the person standing next to you on the bus or the train may be scanning it for his or her enrichment.

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