Valency : Participant Information

Paul Malone

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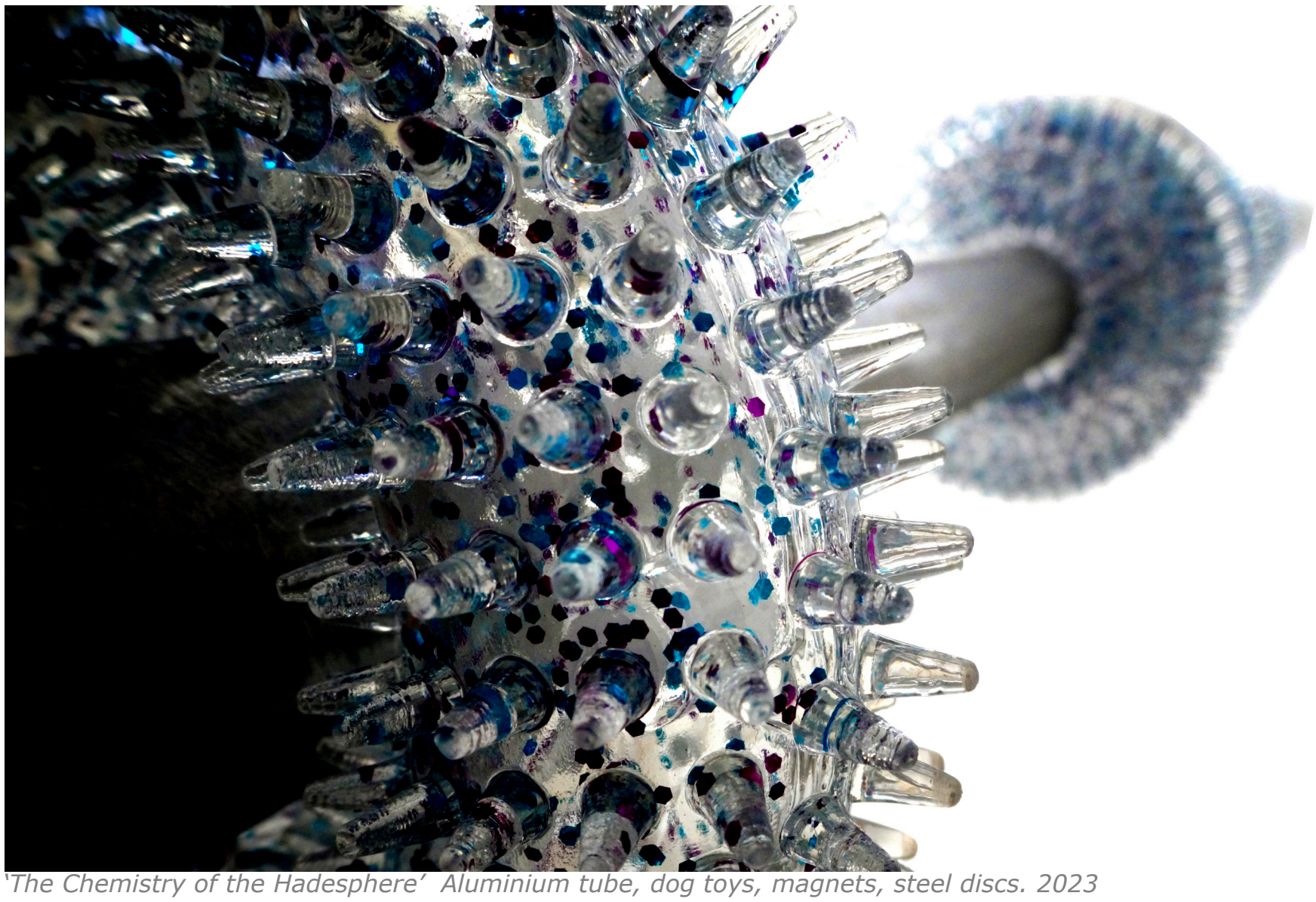


'The Chemistry of the Hadesphere' Aluminium tube, dog toys, magnets, steel discs. 2023

About the Artwork

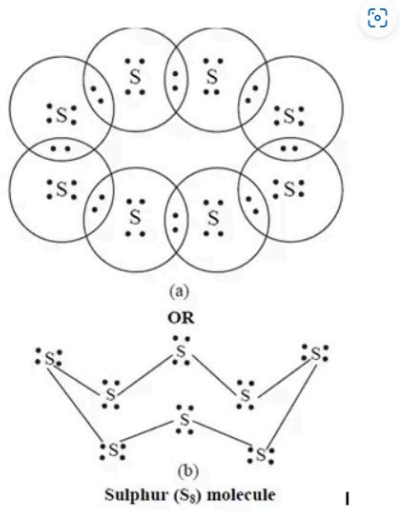
'The Chemistry of the Hadesphere'

This artwork is an emulation of the high temperature Sulfur 8 ring molecule as it rises through the atmosphere of Venus. In this instance it is represented by the iridescent rings of dog toys arranged along a vertical aluminium tube. The rings are arranged along the tube in the sequence of the Fraunhofer absorption lines of its spectrum. Although providing an explanation for the nature of what John Ackerman called the Venusian 'Hadesphere', this artwork proposes an aesthetic inverse. In the spirit of Goethe's Faust it advances that the Ruler of this Hadesphere as an Apollo; a bringer of understanding and light.

Drawing of the apparition of Mephisto by Goethe

About the Theory

The surface of the planet Venus lies beneath a dense cloud layer that has only recently been penetrated by landers visiting the surface and by radar from orbiters. Before this time there was extensive speculation about what we would find there. This ranged from dense tropical forests, an oceanic waterworld or even an Earth-like emulation. In the 1950's there were some theories that Venus was very hot. These were based on the 'Ashen Light' phenomenon observed on the night side of the planet. This was thought to be global fires raging uncontrollably.



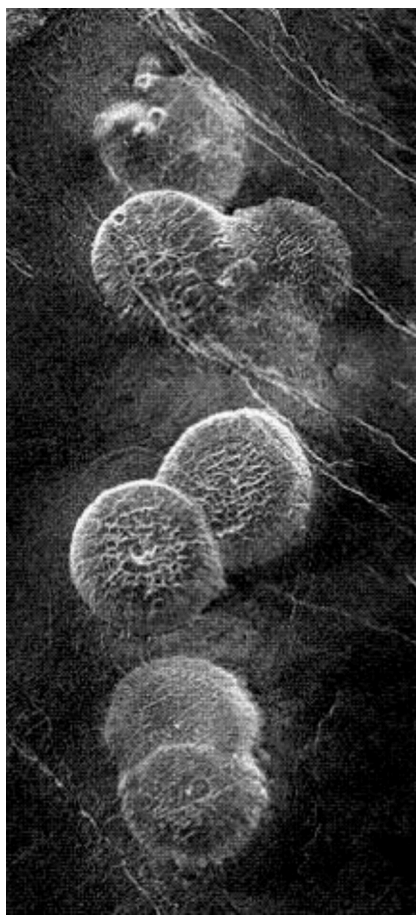
Sulphur 8 ring molecule

Apart from these theorists no one predicted that the atmosphere was hot enough to melt lead and fewer still that the pressure would be similar to that of the bottom of the Earth's oceans.

Current consensus proposes that these properties are the result of ‘runaway global warming’, however this does not fulfil all of the observed criteria. The artwork in this exhibition illustrates a different model of the Venusian atmosphere proposed in a paper by John Ackerman in 2006 – ‘An Alternative Venus’.

In this scenario, the high temperature and pressure of the atmosphere includes a large component of the ring molecule Sulfur-8. This is the high temperature variant of sulphur which, at its sublimation temperature, exactly matches that of the Venusian surface. Combined with carbon, this molecule (CS) has a molecular weight of 44 – the same as Carbon Dioxide. This is vented from the 200,000+ volcanic ‘pancake’ features scattered across Venus in ballistic plumes. It is the weight of this component which adds to the high density.

Above: Views of the surface of the planet Venus from the Venera 13 lander. Remastered by Don Mitchell

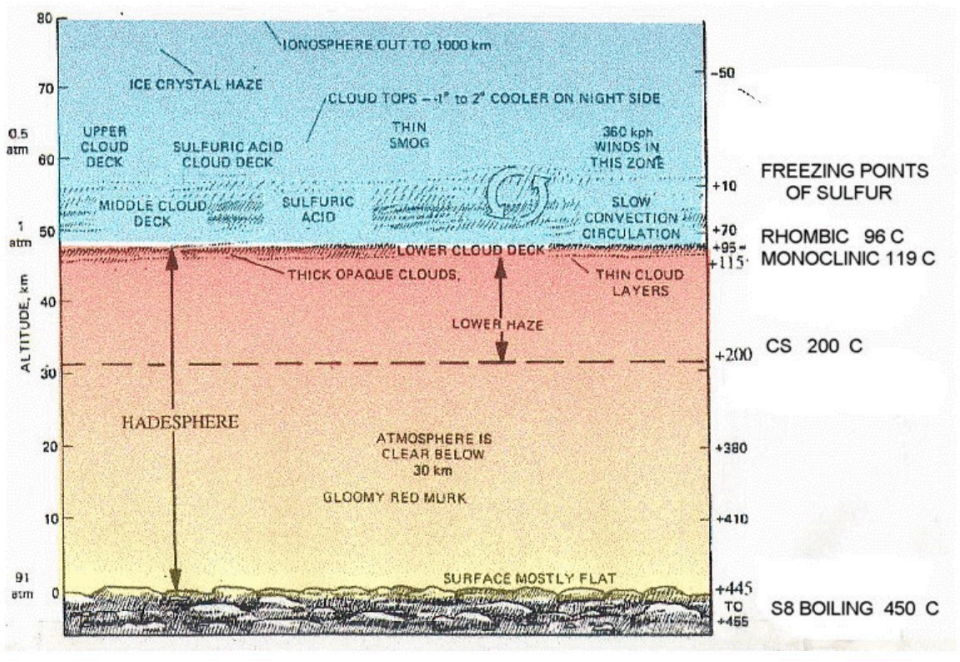


Radar view of several of the 20 mile wide Venusian ‘Pancake’ features. Note the shallow domes with central bright spots.

The presence of Sulfur-8 suspended in the atmosphere leads to a complex chemistry, not only with other molecules but with the sensors of the descending spacecraft. It was noted that, on several landers, particulates clogged up the inlet tubes and sensors as they passed through the lower cloud layer.

This corresponded to where the temperature falls below 100 deg C and where sulphur would condense back into particulates.

Above this layer the atmosphere cools rapidly, passing through layers of sulphuric acid clouds into a nitrogen rich envelope very similar in temperature and pressure to that of the Earth.



Left: Drawing of the composition of the Hadesphere by John Ackerman

What then could be the cause of these high temperatures and pressures in the Hadesphere?

Venus is rotating in reverse to the other planets in the Solar System. It could also be alternatively described as upside-down. This is not only relative to the other planets but to the Sun which is dominant in the inner solar system. This would include the electro-magnetic environment in which it is immersed. Venus would then be acting under electro-braking, rather like the motor of an electric train which can behave like a generator to initiate braking. Like all braking manouvers this will generate heat.

So is the planet Venus undergoing braking? Yes! - at approximately 20 seconds per year. At this rate the planet will come to a stop in 1 million years and start to rotate in synch with the other bodies in the Solar System. At this point it will rapidly cool, the upper atmosphere descend, and develop into a relatively Earth-like planet.

If Venus is of a similar age to the Solar System how could this ever have come about? Even a decade ago it would have been thought unlikely that planets could exist in interstellar space unattached to any star. Yet recently we have come to discover that these kind of objects (rogue planets) are relatively common.

If Venus was just such a rogue planet and entered into the Solar System, it would be reasonable to infer that it would have exhibited chaotic behaviour before settling into its current stable orbit. To achieve this state of orbital balance it would be necessary for its gravitational vector to be opposed by a charge vector. Any flipping of the Poles could have occurred at this time, assuming an Earth-like initial rotation, and in a potentially recent epoch.

New Study Reveals NASA's Roman Could Find 400 Earth-Mass Rogue Planets

This artist's concept shows an ice-encrusted, Earth-mass rogue planet drifting through space alone.
Credit: NASA's Goddard Space Flight Center

New research by scientists from NASA and Japan's Osaka University suggests that rogue planets – worlds that drift through space untethered to a star – far outnumber planets that orbit

NASA article by Ashley Balzer. July 2023

PLANETARY SCIENCE | RESEARCH UPDATE

Pairs of rogue planets found wandering in the Orion Nebula

12 Oct 2023

Going rogue: Jupiter-mass planets have previously been found floating freely without a parent star, but not in such large numbers and never as binary pairs until the current study. (Courtesy: NASA/JPL-Caltech)

More than 500 free-floating planetary-mass objects have been discovered wandering through the Orion Nebula thanks to new observations by the James Webb Space Telescope (JWST).

Physics World. October 2023

About the Artist

I have always been interested in the nature of the objective world; how it originated, how it maintains itself and how it is self evident. In parallel, I am also interested in consciousness and how it is related through its sensory perceptions.

My main theatre of curiosity is in astrophysics and associated fields. As many of my artworks concern grand concepts I enjoy employing toys, scavenged material and crass stupidity as a humorous counterpoint. In many ways they are in parallel with the English metaphysical poets and their 'conceits'.

I studied Fine Art at Reading University for B.A. Degree in 1976 and MFA in Sculpture at the Royal College of Art in 1980. During my time at college, and for the 40 years since leaving, I worked as a milkman for the South Bank and Bankside. By this means I was able to live and fund my studio and art practice. In many ways a vital part of my education. I retired in 2020.

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