

E: "Have you seen that paper about the strange star discovered?"

A: "No, but you are the third person to ask me that today. This thing is clearly going viral.

E: "Oh, it's an absolutely fascinating read. It is so incredible I would assume it to be preposterous nonsense if the authors weren't so accomplished and respected. They insist it's for real although I still have suspicions it's a prank.... You know how astrophysicists like to publish joke papers"

A: "OK, I give up, I have to know and can't wait any longer... spoilers allowed, give it to me!"

E: "Well they claim to have discovered spirits living on a star."

A: "Spirits?!?!?!?"

E: "That's just about the only word anyone can come up with that suits the description."

A: "In WHAT WAY are they 'spirits'?"

E: "Well, first of all, they kind of just 'pop' into existence, as they manifest from the aether. There are times you can see other spirits involved in what some call a "summoning rituals" of some kind. But sometimes they just come from nothing in particular. It can take them some time to 'wake up' but once they are active they are clearly alive"

A: ".....OK....."

E: "While there is a matter component to them, they appear to be primarily composed of energy."

A: "Well, there are some interesting theories, mostly in the realm of Sci-Fi, about energy based life. But it will require some extraordinary evidence to convince anyone to take it seriously."

E: "They have lots of data and observations which supposedly prove it. They are very compelling.. But it's just so hard to believe that no one yet dares accept it as legitimate or accurate.. Most are still in a state of shock and digesting it"

A: "So What have they observed?"

E: "Well... these spirits can manipulate both matter and energy but they seem much better at manipulating energy than matter. They can move around and manipulate their environment in ways that are clearly not random"

A: "Ok.. But thermodynamics and conservation of energy..."

E: "Yes Yes.. They are constantly absorbing energy and matter from their environment over the whole surface of their bodies, like a cloud of energy perpetually inhaling from all directions. They do also occasionally consume or excrete large bursts of energy and/or matter.. But it seems they are primarily 'passively feeding' through an energy absorption mechanism.

A: "So they feed... Do they grow?"

E: "Well yes... but it's a pretty rapid formation and growth... explosive.. And they don't really exhibit any real sentient behavior until shortly after they are full grown, which happens very quickly relative to their life-span"

A: "life span... so they die?"

E: "They persist and live then begin to shrink..."

A: "Ahhh... so it's like a bubble of self sustaining energy patterns that contracts... does it pop or just disintegrate?"

E: "From what we can tell the other spirits help it return to the stars aether... well... that or they are cannibalistic and they consume other spirits when they shrink small enough to eat.. It's currently a contentious point of debate, the recorded data is still a bit unclear"

A: "Wow... and.. A bit gross haha... OK but what proves they are sentient? What is this so-called sentient behavior?"

E: "They tend to their environment. Like gardeners tending to a garden."

A: "How so? How does a star need 'tending to'?"

E: "Well... Sometimes a vein of flowing matter or energy can form on the surface of the star... sometimes due to natural events and sometimes it seems the spirits may cause it. But when it does form they regulate it, primarily at the terminal"

A: "To what end?"

E: "Well... The other 'ends' of the veins tend to flow in or out of 'solar-sinkholes'"

A: "Solar-Sinkholes????"

E: "Yes, points on the surface of the star that seem to be sucking in matter and energy. So the spirits attempt to regulate and quell these sinkholes, at the sinkhole itself and along the flow veins"

A: "I though such "solar downcurrents are usually short lived and quite rare"

E: "Oh normally yes. And they are normally observed as being far more intense and explosive, followed by a massive directed solar energy flare. However on this star they are less intense but very stable and long lived"

A: "So the star these spirits live on has these unique 'sinkhole' phenomena. Is the existence of these spirits somehow connected to these sinkholes?"

E: "That's one theory, but there are so many more unique behaviors by the spirits and phenomena on this star that it's going to take years sort it all out and untangle any kind of causal relationships"

A: "So what is their most ..umm.. Technological... or 'obviously planned behavior'? ... is there something that screams 'intelligent life'?"

E: "OK...Get This!!!... They build giant fields of particle emitters"

A: "Particle Emitters?"

E: "Yes. Now here is the amazing part... you know how stars usually have planets?"

A: "Of course!"

E: "Well they direct the particle emitters towards the planet, and the numbers are very clear, the spirits are building particle emitters that convert stored energy into particle emissions and shooting it at the planet"

A: "All stars emit particles towards their planets..so this star emits more energy than it should?"

E: "Nope, it just substitutes for the normal particle emission of that type of star. No strange violations of physics, just a super complex mechanism"

A: "I have read about plenty of different mechanisms for star particle emissions.. Some are quite complex"

E: "not like this.. The energy is not from the fusion of multiple matter particles.. Instead it is energizing low energy particles with complex energy structures as the 'fuel' and the 'device', there are no other words to describe it. Its like engineered "energy machines"

A: "Is it really that much more complex than energy reactions and systems previously discovered?"

E: "Insanely. These structures exhibit complexity on several structural scales, with internal self-similarity, and life-cycles that appear similar to the spirits"

A: "Life cycles?"

E: "Yup. They appear to also be alive in some way.. Or at least self-replicating or something to that effect. They emerge rather abruptly, usually followed by a dormant period, then they rather explosively spring into action.. Absorbing energy and spewing specific particles. They also appear to, like the spirits, consume energy slower than they radiate, and thus shrink over time"

A: "Truly Fascinating. And the spirits... they are 'gardening' these things"

E: "Yup. We have observed the spirits go in and create large fields... The fields seem largely self-sustaining once established.. They can even expand or contract territory on their own. Still, it is clear the spirits are gardeners, tending to and spreading these fields"

A: "Solar spirits.... I'm just... I don't know what to say... any chance of communicating with them?"

E: "Unlikely, the current theory is that they are not intelligent enough. They seem all consumed by their gardening task... some say it may be causing a detectable decline in their population and collective structures... besides from the particle emitters of course which are increasing steadily by all counts.

Besides, energy only exists in 3 dimensions, to them the 4th dimension is non-existent, like it's curled up in a tight knot. They can only interact with our matter in a way that would be akin to waves"

A: "So our matter is like energy to them... that would make it hard but not impossible"

E: "There were a couple attempts to communicate but they were rather disastrous for the spirits. And the reaction was extremely odd"

A: "Odd?"

E: "They didn't react at all.. But there was a change in behavior preceding the pulses we sent. They got erratic as the pulses approached as if they could somehow sense the oncoming pulses.. But once the pulses hit. Nothing.. Just normal behavior. Perhaps our machinery emitted some preceding radiation that irritated them"

A: "Such a pity... How long does their star have left?"

E: "Estimates are 4 or 5 billion revolutions around their planet before the planet dissolves, which is about 17 million second order cycles, so plenty of time, but the star will obviously be inhospitable to them before then... there are some other stars around their planet with similar composition.. Perhaps they can migrate from one star to another within their planetary system or even move to a star orbiting some other planet.. But many think their current star might be a unique environment.. After all, they are ephemeral energy based solar spirits.. Probably too delicate for such travels, That's probably why they are building the canopy of particle emitters."

A: "They need them to live?"

E: "It is still unclear.. Obviously like all stars they only emit because the gravity of the planet they orbit rips the particles away, and the emitters are stimulated or catalyzed by the gravity like many other similar phenomena, they act as a canopy shielding the surface layer from having those specific particles ripped away"

A: "Many stars do that in their upper layers"

E: "Yes. It is just that these insulate a specific scope of particles not previously observed, creating a very unique environment beneath the canopy.. Actually they seem to have a gap in their emission spectrum allowing the planet to still rip a specific range of particles from the centers of the insulation spectrum. It's as if they are designed to insulate the surface in a certain range, but leave open a gap window inside that range.. It seems so specific"

A: "But nothing about this star violates any laws of physics?"

E: "No No... Planetary gravity pulls particles in from all directions equally. The Stars have particles ripped from their surface facing the planet, the negative thermal charge causes the star to absorb smaller particles in all directions, etc.. it is just that they build a very unique canopy of particle emitters to produce a custom insulated environment... many assume this specific insulation spectrum, or something close to it, somehow occurred naturally and they evolved inside of that until they learned to build the particle emitters"

A: "Could the particle emitters have existed first?"

E: "Possible, they are of course catalyzed by planetary gravity, unlike many other unique phenomena on this star, it hosts a very diverse collection of very unique phenomena that absorb particles in unique ways not correlated with planetary gravity.. Many never before seen... Most seem connected to or influenced by the spirits "

E: "Solar spirits... such a fascinating idea... I'll read it tonight right after work"

A short story by Matthew DeBlock

In a style inspired by Asimov