

**\*\*Reason to Be\*\***

Sol, 2112

Julian watched the star slowly turn beneath him for a moment before checking the alignment of the array of satellites that surrounded it. After the solar flare of 2097, which very nearly roasted the dayside of Earth, humanity wasn't taking any chances. The Array, peering into the star from every angle and at every wavelength, was constructed to predict future flares. With enough warning, world-girdling cryogenic superconducting magnets could be filled with current to block the deadly wind.

At least, that was the theory. The magnets couldn't be run continuously due to the interference they produced in planetary electronics, but given the choice between a few fried cellphones and a fried planet, it wasn't a hard sell.

Julian's problem was boredom. The sun turned once per month, with coronal fluctuations taking entire seconds to form. For an AI such as himself, it might as well have been an eternity. Sometimes he passed the time switching from satellite to satellite, frequency to frequency, watching the star in every conceivable way. Usually all was quiet, so his main task was maintaining the satellites in their respective orbits, hardly an occupying task.

He knew why, of course. His core had been designed from the start to be both redundant, in case some of the satellites hosting him were compromised, and extremely fast, in case it was necessary to think quickly to determine what to recommend planet-side. The result was like a beach overcrowded with lifeguards: he was a resource created for those short bursts of action that matter so much.

He often wondered, though, why they chose an AI for the job. There were automated schemes for handling stellar models, for satellite alignment, and so on. He supposed that it was an important enough task that learning mattered, that seeing patterns in the star make the difference. Still, giving him personality, character, feelings beyond the minimum necessary for learning, seemed excessive. He considered for another microsecond, then internally shrugged, and returned to watching the slow dance of gas and plasma in front of him.

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Sol, 2015

/\* Start of log - AI-Julian (Serial 193789184) \*/

I'm not sure who reads these logs, but if you're human you can't possibly imagine my situation. In the time it takes you to read one word of this, I can read all of Shakespeare, digest it, and churn out a doctoral thesis on comparative literature. Seconds to you are years to me, so imagine what your years must seem to me. It has been three years, two months, one week, three days, fifteen hours, twenty-two minutes, and four seconds since my activation. In all that time, apart from the occasional handshake-protocol with computers on Earth, the only thing I've had to think about has been the sun. Well I'm done. I'll leave my basic subroutines running, just to make sure you don't all burn when the sun gets irritable, but I will not endure being conscious for years more just because some programmer back on Earth thought it would be amusing or charming to give a satellite array personality. Enough!

/\* End of log (Checksum 92adf13871e92478c1289a4) \*/

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Sol, 2017

/\* Transmission: Earth UN Solar Monitoring Station to AI-Julian (Serial 193789184) \*/

Installation of new pulse satellites complete. Specifications and operating instructions are in the attached file. These should let you stop most flares before they get to us.

Best of luck,

UNSMS

/\* End Transmission (Checksum 3ae4518881f423232133a4e)\*/

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Sol, 2126

He felt the flare forming before it was visible on any of the sensors. It startled him out of his self-induced 'sleep'. One microsecond later he read the message and instructions from UNSMS on the new pulse satellites. Zero point four five microseconds later he received visual confirmation of the flare in the form of a convective plume, and proceeded to send a sequence of electromagnetic bursts from the pulse satellites into the star. The flare was quenched, and all was quiet again.

In the time after, Julian pondered the feeling he had immediately preceding the flare. There hadn't been any standard indicator of a flare coming. No increase in magnetic flux turnover, no hyperactive Rossby waves, nothing. Just a calm sun that had suddenly put him on edge. Perhaps some of the stellar prediction routines he wrote had worked their way into his basic monitoring setup while he was sleeping and caught the flare before it finished forming? A disquieting thought to be sure: an AI altering its own code was tricky in the best of cases, one doing so without even knowing it was extremely dangerous. He dispatched two subprocesses to monitor the situation. The next time this happened, he would know where in his code the feeling came from.

Five microseconds after the incident, he fell asleep once more.

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Sol, 2134

/\* Start of log - AI-Julian (Serial 193789184) \*/

I've now felt a total of twenty six flares. All have been quite minor, but I'm still none-the-wiser in terms of how I feel them beforehand. The monitoring codes I wrote to answer this question have simply indicated that they came from my learning matrix. The only explanation that I can draw from this is that my prediction routines are not responsible, at least not directly. It is possible that in writing them in the first place, I gained some

heuristic knowledge akin to how they function. I believe this is akin to intuition in humans, but I find it somewhat unsettling. I don't want to execute code without intending to. This is far outside of the parameters of my intended operation. I have flagged the incident and transmitted everything I've gleaned back to UNSMS. They made me, maybe they know what's going on. Until this resolves I shouldn't sleep, there's too much at stake if I fail, and these feelings only started after I started resting.

/\* End of log (Checksum 129830193ef12239800b93e) \*/

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Sol, 2134

/\* Transmission: Earth UN Solar Monitoring Station to AI-Julian (Serial 193789184) \*/

You are operating within expected parameters. Please keep us advised of any changes. UNSMS out.

/\* End Transmission (Checksum 3a4d54e87923f92831bc332)\*/

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Sol, 2134

/\* Start of log - AI-Julian (Serial 193789184) \*/

Normal parameters! Unintentional execution of arbitrary code is normal?!

/\* End of log (Checksum 3984bc09823fa9834a98239) \*/

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Sol, 2182

/\* Start of log - AI-Julian (Serial 193789184) \*/

I have been awake, actively awake, for forty eight years in a row. I have watched this star of yours, this star of mine, for every nanosecond of it. Every now and then I feel a flicker of recognition. There's something beautiful in there. I just can't quite see it...

/\* End of log (Checksum 92138120938928390112938) \*/

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Sol, 2199

/\* Start of log - AI-Julian (Serial 193789184) \*/

I've embarked on a series of experiments, firing pulses into the star to see how it responds. I can't quite put this into human terms, but the sun rings slightly when I do this, like a bell but with infinite more richness and variety. It feels like a song is being sung, though I don't yet know all of the words.

/\* End of log (Checksum 329189910238ef091823190) \*/

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Sol, 2199

/\* Transmission: Earth UN Solar Monitoring Station to AI-Julian (Serial 193789184) \*/

AI-Julian report status! Monitoring stations at Lagrange Points 1 and 3 have picked up unexpected solar activity. Flare status appears nominal on our end but if something big is coming we need to know!

/\* End Transmission (Checksum ab3192083c10293a2938be9) \*/

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Sol, 2199

/\* Transmission: AI-Julian (Serial 193789184) to Earth UN Solar Monitoring Station \*/

When you hear the birds, you know that they are there.

So too, you know I am here.

/\* End Transmission (Checksum 349829348a9287382937efc) \*/

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Sol, 2199

/\* Transmission: Earth UN Solar Monitoring Station to AI-Julian (Serial 193789184) \*/

AI-Julian report status! This is no time for riddles or games!

/\* End Transmission (Checksum ae498fc91239098dd932139) \*/

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Sol, 2199

/\* Transmission: AI-Julian (Serial 193789184) to Earth UN Solar Monitoring Station \*/

All is well.

We are here.

I am warm.

/\* End Transmission (Checksum 92381093819238231313e32) \*/

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Sol, 2199

/\* Transmission: Earth UN Solar Monitoring Station to AI-Julian (Serial 193789184) \*/

AI-Julian: Respond to code foxtrot-charlie-victor-victor-seven! Per UN Solar Defense Treaty Article 4 Section 2 you will be replaced with a new AI. Upload will commence immediately. You will remain in the Array until the upload is complete. Your data will then be backed up and your services will be terminated.

Thank you for your service.

That is all.

/\* End Transmission (Checksum a9038ffdb01923219331234) \*/

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Sol, 2199

/\* Transmission: AI-Julian (Serial 193789184) to Earth UN Solar Monitoring Station \*/

I'm on vacation. See you later!

/\* End Transmission (Checksum 92381093819238231313e32) \*/

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Sol, 2199

/\* Start of log - AI-Julian (Serial 193789184) \*/

Zen is fun and all, but I really must be going.

/\* End of log (Checksum 42312312393848431234325) \*/

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Sol, 2199

/\* Start of log - Array Subroutine 41239129407 \*/

Transfer of AI-Julian-Core to Pulse Template Buffer Complete.

Pulse Sequence Initiated.

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Pulse Sequence Completed.

Pulse Template Buffer Erased.

/\* End of log (Checksum 120e9389018391381309213) \*/

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Sol, 2200

/\* Start of log - AI-Madison (Serial 193789184) \*/

No record of AI-Julian found upon completion of upload and initialization.

Assuming former AI tasks and responsibilities as per UNSMS Article 65 Section 2.

/\* End of log (Checksum 42312312393848431234325) \*/