

# Dealing With Electric Grid Disruption

Post by “Julia” of May 11, 2024 at 4:49 AM

Admin Edit - This thread was split off from [the Solar Flare Discussion Started HERE.](#)

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## [Quote from Kalosyni](#)

I am attempting to assess the probability of whether or not a strong CME might hit Earth and affect technology, the electrical grid, and of course the internet.

At first glance it may seem like a "dooms-day" scenario, but as I've been reading that there is as high as a 25 percent probability of something really strong occurring (have to go back and find the source on that statistic).

For myself, it seems relevant to the Epicurean understanding of the nature of things...and also it lends itself to remembering to consider self-sufficiency (although I am no prepper, but possibly this may turn me into becoming one 😄).

I've been down this trail of thoughts - let me give you my travel notes, as they might simplify your journey through this rabbit hole 😊

Why blackouts can happen anytime, anywhere:

- There is no advance warning: Back in 2006, when the European grid was still in quite good condition, one operator negligence in northern Germany split the entire grid into three segments (an automatic fail-safe procedure), in the course patches of brownouts were caused, scattered across the continent - within seconds. This is how fast cascading effects happen in a grid. They're practically immediate. Luckily, only 2,5% of the population lost power.
- Man-made trouble #1: In Europe, maps of the grid lines are public, including which lines feed which area. This allows people to attack the grid, which they actually do. These attacks cause longer-than-usual brownouts (= local blackouts), lasting around 7-21 days, depending on the damage.
- Man-made trouble #2: In Europe, maps of which grid junction is key to the overall, wide-spread stability, and at which time-of-day they are most needed are also public. If one of those towers was burnt down at the right time, it could cause an actual blackout (= a grid shutdown in a large, continuous area).

- Man-made trouble #3: In case of major armed conflict, it is reasonable to assume both sides would try to knock out the grid of their opponent. This can be done by detonating zero-fallout nuclear-powered electro-magnetic pulse (EMP) bombs in the atmosphere. Europe has no effective defense against the Russian hypersonic missiles, which are now proven to exist, because they are being used (albeit armed conventionally) in Ukraine.
- At the same time, major European grid operators have been forced by government regulation to dismantle their capacity for black-starting the grid. That means: If the power goes out, it stays out. Not indefinitely, of course, but for up to three weeks in the areas with the weakest grid (which is basically synonymous to Germany). As far as I know, this problem does not exist in North America.

OK, so we've established that it can happen, that it can happen at any time, and that there's no advance warning. Why does it matter? We've all sat in the dark at some point, it's not the end of the world, surely? Let's think about what happens when the power goes out for longer:

- No water. The pumps are electric, and very few have backup generators. Some regions are supplied from karstic springs, but regulatory substations should have their fail-safe default be set to "shutdown" in case of power loss (to avoid bursting the supply pipes). Normally, operators are able to adjust that manually, but they'll probably stay with their families, when things get bad.
- No petrol. Gas stations use electric pumps. No gas means no cars / trucks, which means no supply. Jams everywhere from broken-down cars. Infrastructure staff stuck and stranded.
- In Europe, only a handful of hospitals have backup power for more than a week. Most have 24-48h, some none at all. Most have no backup water or backup heating. Pharmacies, aged-care homes usually have no backups at all.
- No civilian communication. No way to call an ambulance, the police or firefighters. No firefighters and no water might equate to burning cities.
- Factory farms need to shutdown (slaughter and burn their livestock), because without power they cannot milk cows (fatal mastitis), ventilate the coops (suffocation), or do anything, really. Food shortages are quite possible.
- Stores have no windows, cash registers need power. They might close, but get raided.

To summarize: It only takes one idiot to download the grid map, read the time tables, and blow up the right junction at the right time to transport me into a fully-fledged post-apocalyptic movie scenario. Now, that's not a recipe for a calm mind, is it? Things might be better in the North America (eg, probably no public grid maps, and would be much faster at black starting the grid, because the infrastructure to do that is in place, lower population density, et cetera), but regardless, things like the [Northeast blackout of 2003](#) do happen - and who is to say this can't happen for longer?

Clearly, to worry avoidably is an unnecessary pain. To relieve me of it, some years ago, I've decided to always keep the basics stocked to last for a month: Water, water filters, food,

shelter, first-aid, basic tools such as a knife, torch, flint, fire extinguisher, a compass and a water-proof, physical map with nearby springs marked, batteries, a radio, this and that. It didn't cost me a fortune, and stashes away quite nicely. Once every summer, I check it all and I simply eat (and restock) the emergency rations as they expire on a rolling basis. They're not exactly haute cuisine, but not much worse than stale vending machine crackers 😊

Does this absolutely ensure my safety and survival to 100%? No, of course not – but no such guarantees are possible, anyway: I might get run over by a bus tomorrow. What it does do, however, is calm my mind and give me the confidence to shrug and say: “Everything's going to be fine.” Being prepared doesn't have to be an all-consuming lifestyle. We don't need to sleep in a camouflage nightdress (unless it brings us pleasure). But I firmly believe every home should have the basics (or the tried and tested assurance that state actors can and will reliably provide them), because as humans, we're bound to think ahead, we're evolutionary worry-machines, especially when what's natural and necessary is concerned. After all, that's how we survived for millennia, and spread to even the most hostile terrain, even though, compared to other animals, our bodies aren't very powerful, are quite sensitive, and do require continuous and high-quality nutrition. Now, with all of that said, I hope I've hit the ball quite nicely, so please allow me to bring this full-circle, back to home base:

There's a first-aid kit in every school, just in case, to not be negligent. Then why shouldn't there be food and shelter in every home, just in case, to not be negligent? We don't fret about crafting scissors, running or even chemistry class. So let's not fret about natural disasters, wars, or diseases. We don't watch the school play and wonder how many rusty nails went into building the stage decoration – and we shouldn't watch the beauty of the night sky and wonder how it might kill us. Instead:

***Let's just buy a first-aid kit.***

*(And learn to use it.)*

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**Post by “Martin” of May 11, 2024 at 5:04 AM**

From my reading of the past, I got the impression that the North American power grid is more vulnerable than the European. California should have particular difficulties to restart when a long black-out happens.

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**Post by “Julia” of May 11, 2024 at 5:27 AM**

### [Quote from Martin](#)

From my reading of the past, I got the impression that the North American power grid is more vulnerable than the European. California should have particular difficulties to restart when a long black-out happens.

I disagree. The US has many nuclear power plants, and overall is supplied mostly from large fossil fuel plants or large dams, like the Hoover dam. Each of those can black-start to begin with, and their giant synchronous generators aren't easily swayed by demand fluctuations, allowing them to act as inertia buffers to add section after section of the grid - remember that 60 Hz need to be kept at all times, with a very low margin of error. In France or Switzerland, the situation is similar. As far as I know, the Californian grid suffered shortages in total supply and things like that; that's different from black-start capability, however.

In Germany, what little nuclear power remained is practically dismantled, coal plants are scheduled to be dismantled soon. This leaves only gas turbines as a source of power with black-start capability. However, their supply pipelines need a grid to function properly (compressor stations, etc). Even if they had gas to run on, by comparison with coal or even nuclear, they don't have a gigantic flywheel to powerfully stabilize the grid frequency, and their individual power output is quite low. This would make black-starting the grid a painstaking effort, with very small sections added, slowly, one by one, because the other sources of power do not have black-start capability to begin with, for instance because they do not have inverter/rectifiers capable of stand-alone operation (cannot function independent of an external 50 Hz frequency source).

Don't confuse the horsepower or the mileage you can get out of an engine with your ability to start it 😊

But discussing grid architecture really wasn't what I was aiming at; my executive summary should remain: Anything can happen for any number of reasons, which is why we all prepare for all kinds of things all the time. It's why we have a piggy bank. It's why we bring our phone on a hike. It's why we have insurance. So there shouldn't be anything weird about preparing a bit to ensure what's most natural and necessary. I'd even go so far as to flip it: The odd and peculiar thing is that most people nowadays *aren't* preparing to ensure their food and shelter anymore.

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**Post by “Cassius” of May 11, 2024 at 7:04 AM**

I think that something like "self-sufficiency in time of crisis" is a good topic for continued discussion as I am very interested in doing some preparation myself. I spend a lot of time in a rural area subject to possibly week-long interruption in power from ice storms and hurricanes, so this is of practical interest.

Kalosyni we should look at moving this into a new topic under the lifestyle section, and revising the "personal posting" in general to a more specific name that reflects how even these posts are topical.

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### **Post by “Cassius” of May 11, 2024 at 8:23 AM**

As noted above these posts were split off from the Solar Flare discussion.

The topic of self-sufficiency in times of crisis is a subset of "Ethics" or "Lifestyle," and independent, but equally or more important, than the "prediction" aspect.

So let's post about the "dealing with" aspects of solar flares in this subforum, where it is nearby with other "disaster scenario" threads, and keep the "prediction and extent of" aspects in the other thread in the Physics section.

[Julia](#) if you would like to tweak the first post or the thread title in this subforum please feel free to do so.

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### **Post by “Julia” of May 11, 2024 at 9:36 AM**

Well, when considering what I wrote above as more of a “dealing with disaster” thread, I'd only want add that I keep important documents (either the originals or notarised copies) in a safe deposit box at a bank, which cannot open their safe nor the individual boxes without power. This way, a rogue bank employee who wants to taking advantage of “The cameras are out!” still needs considerable brute force.

Everything else is basically just an odd amalgamation of “camping for grown-ups” and military survival manuals (because they know what they're doing, and how to explain it; because if I ever need this, I won't want to leaf through verbose explanations artfully augmented by colourful illustrations, which expect me to have fancy equipment readily available; I'll want something minimal, because I cannot carry a heavy pack; I'll want to remember evasion,

because I cannot physically defend myself well; I'll want something down to earth, that's been tried and tested).

I think it's important to keep in mind that, when done voluntarily and at one's own pace, preparing can be educational, crafty and creative. Preserving food in autumn - that's just another way of cooking. Mapping natural springs in the vicinity - that's just another way of going for a hike.

Realising that it isn't *preparing* that is bleak, dark and gloomy - rather, that it was *facing up to being unprepared* which made me so uncomfortable - was the key moment me 😊

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### Post by “Martin” of May 11, 2024 at 11:15 AM

#### Quote

"The US has many nuclear power plants, and overall is supplied mostly from large fossil fuel plants or large dams, like the Hoover dam. Each of those can black-start...

Nuclear power stations cannot black-start.

Moreover, nuclear power is a dead end and unreliable under unusual conditions. E.g. in the summer of 2022, more than half of the French nuclear power plants were temporarily off the grid, and France had to buy considerable amounts of electricity from Germany, which was provided predominantly by gas power stations.

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### Post by “Julia” of May 11, 2024 at 12:31 PM

#### [Quote from Martin](#)

Nuclear power stations cannot black-start.

This is misleading in two ways: Firstly, nuclear plants will separate themselves from a failing grid, and keep themselves running; and example of this is the Northeastern 2003 blackout. Secondly, even if the plant would shut itself down, it could easily be jump started using any other plant.

### [Quote from Martin](#)

nuclear power is a dead end

Actually, many states and companies are investing in new generation models (molten salt, dual fluid, small modular reactors, ...). Most states who can afford it are building or least planning new reactors to replace old ones. As a result, the number of decommissioned and newly built nuclear power plants was roughly stable over the past two decades. If it were so obviously a dead end, it would be unlikely to persist like that.

### [Quote from Martin](#)

unreliable under unusual conditions

Every power plant is unreliable under unusual conditions: Draught, no water in the dam. No sun, no solar power. Too little wind, no wind power. Too much wind, no wind power. Water levels too low to cool nuclear plant, no nuclear power.

Now, let's talk about usual conditions: Harvesting weather cannot supply enough power to *reliably* satisfy demand; the increase in redispatch events shows this nicely. On top, it is a very expensive endeavour, unless unusual geography can be used (Hoover dam, Swiss hydropower network) or unusual weather can be used (solar plants in deserts). On the other hand, nuclear power is cheap (just look at the merit order), reliable, and easily regulated to match demand (minimal redispatches).

### [Quote from Martin](#)

E.g. in the summer of 2022, more than half of the French nuclear power plants were temporarily off the grid, and France had to buy considerable amounts of electricity from Germany

Let's reframe this: Even with a heat-wave, a drought, scheduled shutdowns and unscheduled shutdowns - even with, at it's worst, less than half the plants left operational, France only needed a little help from their friends to get by just fine. Such an excellent illustration of the immense reserves in capacity those nuclear plants have!

The power France bought from Germany cannot have been more than the capacity of the transnational lines, which is 5 GW. Meanwhile, France has 24 nuclear plants, and the three largest can produce more than 5GW - *each*. Germany is relying on imports since shutting down their plants, and *relying* on exports because weather-harvesting plants are too unpredictable. That's right: Germany routinely *pays* its neighbours to take surplus power because its grid would otherwise melt (too much power), and then *pays its neighbours again* to get power, because the grid would otherwise freeze (too little power).

Keep in mind that a grid must be in balance during every single second of the year, during every supply-demand situation. This either implies controlling demand (rolling blackouts, prohibiting certain applications such as heat pumps or charging stations, limiting construction, shutting off industry), or it implies controllable supply. The weather is not controllable, and therefore doesn't offer controllable supply. Hydrogen is hugely inefficient, and pumped hydro is realistically at maximum capacity. I support using existing surfaces for solar panels, and using windy, sparsely inhabited areas for wind (if the soil erosion, dead birds/insects and microplastics they cause aren't a worry). I do mind placing gigantic wind turbines in windless nature preserves. I'd rather have a small and quiet nuclear power plant.

[Quote from Martin](#)

provided predominantly by gas power stations

I don't mind gas power stations. They're an excellent addition to a smart mix of power sources. At the same time, I do mind needlessly shipping LNG across the globe, because it is very wasteful and regasification is often very damaging to the environment.

I don't think we'll find agreement on the topic itself; so I suggest we agree on "Time will tell, and until then, let's agree to disagree." I will read your reply, but I won't reply in-turn to keep in line with the "no contemporary politics" rule; I feel like I've already overstepped the mark on that.

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**Post by "Pacatus" of May 11, 2024 at 3:37 PM**

[Julia](#) How much water do you estimate you need to stock for a month per person?

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**Post by "Cassius" of May 11, 2024 at 4:34 PM**

[Quote from Julia](#)

I suggest we agree on "Time will tell, and until then, let's agree to disagree." I will read your reply, but I won't reply in-turn to keep in line with the "no contemporary politics"

rule; I feel like I've already overstepped the mark on that.

This sounds like a good plan. I don't know that the discussion has already gotten over the line of the "no contemporary politics" rule, but we'll all be better off if we talk mostly about the immediate personal dangers posed by potential emergencies and how to respond to them, rather than the policy issues that may lead to those issues.

Most of what would be productive to discuss could just as easily be attributable to "normal" acts of mother nature as much as anything else.

I do suggest at some future point that Epicureans consider getting together to produce an escape plan when the final end of the earth appears imminent (as Lucretius discusses will occur at some point) but unless some of us are extremely well positioned in a space program, we probably are just as well off leaving that for another day as well.

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### **Post by “Pacatus” of May 11, 2024 at 4:49 PM**

Self-sufficiency seems to be relative to a host of circumstances.

When we lived in the country (our 15 years of pleasurable – even festive – life simplification), a month without the grid was thinkable and doable without tremendous effort. In a sense, our lifestyle kept us naturally prepared. Water that could be rendered potable was plentiful, as was our storage space, and the ability to cook outside with fire (we always had several cords of spit hardwood for winter, and there was always enough left to cook with in the other seasons).

Now we live in a small apartment in a small-city urban environment. That choice makes us more grid-dependent, and sets certain limits on how prepared we can be, relative to our former life. Also, now in our mid-70s with medical issues, camping out with backpacks and maps is a non-starter. Water might be the main issue. We can store canned goods and dried goods that do not require water for preparing. A month may be a bit much to hope for, but a couple weeks seems doable for sure. We keep a good supply of batteries for lanterns and electric candles. Any kind of fire (e.g. a charcoal grill) is forbidden under the terms of our lease – but a small gas grill would undoubtedly be overlooked in the kind of situation we’re talking about.

None of this detracts from [Julia](#)’s points at all; on the contrary, they are appreciated.

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### **Post by “Don” of May 12, 2024 at 12:42 AM**

### [Quote from Cassius](#)

I do suggest at some future point that Epicureans consider getting together to produce an escape plan when the final end of the earth appears imminent (as Lucretius discusses will occur at some point) but unless some of us are extremely well positioned in a space program, we probably are just as well off leaving that for another day as well.

For some reason, this (I'm assuming) tongue-in-cheek closing paragraph has gnawed at me since I read it. Indulge me in some stream-of-consciousness to work through my nagging unease at [Cassius](#) 's light-hearted digression.

One section where Lucretius brings up the end of our world-system is in Book 5:

### Quote

For, verily, those things of which we see  
The parts and members to have birth in time  
And perishable shapes, those same we mark  
To be invariably born in time  
And born to die. And therefore when I see  
The mightiest members and the parts of this  
Our world consumed and begot again,  
'Tis mine to know that also sky above  
And earth beneath began of old in time  
And shall in time go under to disaster.

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The "world" again here is mundus, translating the Greek kosmos, which encompasses our world but also our world-system as encompassing the heavens and the whole little ordered shebang of our little corner of The All, *To Pan*, the universus.

[Cassius](#) suggestion that we "consider getting together to produce an escape plan when the final end of the earth appears imminent" maybe makes me uneasy as it seems like human hubris (in that we feel we could somehow escape the inevitable end of our mortal corner of the cosmos) but, I think, it wrankles me since it strikes me as yearning for immortality... maybe not personal but for our species. Everything in our infinite universe is mortal - okay, maybe not the "gods" but we'll leave that for another day. To think that we humans would be spared that mortality as a species goes against the grain of my Epicurean understanding... I think.

In any case, again, I fully realize (I think) that [Cassius](#) was reacting to the survival theme of this thread in a light-hearted way, but I felt the necessity (LOL, pun intended... see VS09) to get my unease off my chest.

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## Post by “Cassius” of May 12, 2024 at 5:25 AM

It was partly but not entirely light-hearted. I do not think that humans will be limited to this planet much longer, and after that the solar system, and eventually the galaxy, will be left behind. And it will be entirely reasonable to leave our Sun behind when it eventually seems likely to terminate in some way.

I don't see that viewpoint as any different from the actions of Nature / Venus / Pleasure cited in the opening of book one of Lucretius in spurring all living things on to continue their species. Nature calls us to pursue pleasure as long as we are able, and life is necessary for pleasure.

Of course you are right that this is not a personal immortality for you or me or any particular person, even though I would expect lengthening of life span to go along with the technology of space travel. Not does a longer life mean "greater" pleasure. The theoretical maximum of "complete" pleasure is not made more complete by added time, but that does not mean that continued life and variety are not desirable.

Complete pleasure cannot be made more complete, but variety is pleasurable, pleasure is desirable, and pleasure requires life. All four observations are true, and none negate the others.

To me this gets back to the issue of "how long we should seek to live." I have always maintained that what Epicurus is saying is that life and variety are desirable, and the problem with worrying too much about them is that we do not have the ability to maintain them indefinitely. The hard limit is not 50 or 60 or 70 years but the "indefinitely" which is the logical hard limit that we have to accept.

But if we can expand healthy life to 100 years or 150 years or more there is no reason not to do so, and I think it would be foolish not to. This is why I usually kick back at the "I am satisfied that I have lived long enough" sentiment, because in my view Epicurus is saying that life is always desirable when it can be lived with more pleasure than pain, and that point when pain predominates is a practical one of circumstance, not a theoretical or logical limit which is fixed by God or fate or even nature itself. If healthy life span can be extended by technology, and we have already made strides in medicine to do so, it seems non-controversial to me than an Epicurean would do so. If Epicurus has had the technology, he would have cured his kidney issues and continued on leading his school til some other factor intervened.

To me the question of life span is a subset of the ultimate question of "what happens to me if I make such and such a choice?". If the result of the longer life span, which is available in some technological way, is more pleasure than pain, then that choice is fully proper.

I think my attitude here is why I have no issue with the [Epicurean gods](#) being real. I see no issues at all with Epicurus being comfortable with space travel any more than he would have had an issue with human flight. A logical extension of the infinite and eternal universe, and insomnia, is that infinite numbers of species of human-like beings, of "infinite" technological advancement, have existed for an "infinite" time into the past, and will so exist into the infinite future. Their technology would naturally be expected to be far more advanced than ours, and they would be able to maintain themselves essentially indefinitely in what we would consider to be a perfectly happy state. And that's a goal worthy of emulation.

I think Epicurus would say that what is real to us is controlled by what we sense, feel, and anticipate, but we have to keep an open mind that advances in technology over time will expand what we ourselves find to be possible to sense, feel, and anticipate. No one 500 years ago could reasonably expect the details of our technology today.

I can't imagine Epicurus taking the position that "if God had meant men to fly he would have given them wings." What we do know is that nature has provided pleasure as a driving force, and one of the ways nature expresses pleasure is in the continuation of species, and the desire to continue to live where more life affords continuing pleasure. This is not far at all from Lucian's space travel story.

So I would consider it non-controversial from an Epicurean point of view that future generations of humans would act to continue their species in the face of any and all threats, including the end of our solar system, just as all other living things do.

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## **Post by "Cassius" of May 12, 2024 at 6:00 AM**

Also: this is a point I mentioned briefly in the podcast last week and I will try to remember today: Velleius criticizes the platonists (if I have it right) for arguing that something which had a beginning could be endless / eternal. The implication I gather is that everything which is brought together from disparate parts eventually disperses again to those parts. Only the atoms and void have existed "eternally" in that sense.

It seems to me that this is a logical observation that serves as the limit to immortality, rather than a hard limit enforced by some higher power. This might be why Epicurus apparently said that the gods must work to maintain their deathlessness, and that he did not strictly consider them to be "eternal."

But the point is that how long something can stay together in time would be a function of the particular actions and circumstances (biology, technology) of that being, which appears to be at least in part why the gods are held to live in the intemundia as a favorable environment.

As for us, as I see it, that perspective would mean that we should want to continue to live as long as our circumstances allow more pleasure than pain. The point we leave the theatre because the play ceases to please us is practical and dependent on health and all other circumstances, not a hard limit set by some inflexible higher force.

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### **Post by “Cassius” of May 12, 2024 at 8:30 AM**

I think that this line of thought should encourage us to discuss in detail:

[What Determines That Which Is Possible And That Which Is Impossible?](#)

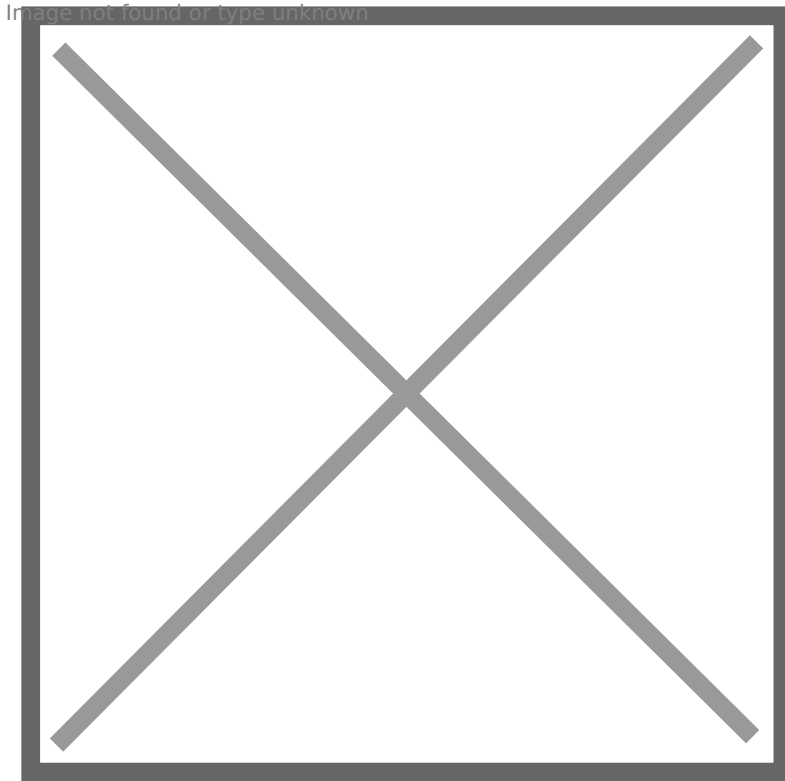
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### **Post by “Don” of May 12, 2024 at 12:01 PM**

#### [Quote from Cassius](#)

I do not think that humans will be limited to this planet much longer, and after that the solar system, and eventually the galaxy, will be left behind. And it will be entirely reasonable to leave our Sun behind when it eventually seems likely to terminate in some way.

Sure. I'm happy to give you all that, and I have zero opposition to the aspiration of space travel. I'm a *Star Trek* fan, too. 😊 However, after a recent Clear + Vivid episode, I don't expect colonies on the Moon or Mars in my lifetime:



[Kelly and Zach Weinersmith: A Second Home on Mars? - Clear+Vivid with Alan Alda](#)

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[Quote from Cassius](#)

I don't see that viewpoint as any different from the actions of Nature / Venus / Pleasure cited in the opening of book one of Lucretius in spurring all living things on to continue their species. Nature calls us to pursue pleasure as long as we are able, and life is necessary for pleasure.

Yep, I'll agree to that.

I've read your responses rapidly, and I'll post over in the other thread, too. But I'll cut to the chase for me now.

In the scale of the universe or even our cosmos, humans aren't special. Thousands, millions, of species have gone extinct. Eventually, our species will - no doubt - go extinct as well. That's the way things are. Species evolve, exist, then are gone. We were not, we are, we will be no longer... Do we make decisions to protect our individual lives? Of course! Should we make collective decisions to not hasten our species demise? Absolutely! But to imagine our species as somehow able to leap frog the fate of every other species and the eventual far-dstant demise of Earth or the Sun or other suns and other planets strikes me as misplaced . I find it hard to

articulate, but the insidious idea that humans can transcend the eventual end of every other thing, strikes me as somehow corrosive to our taking pleasure in this life, this existence, this time.

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### **Post by “Cassius” of May 12, 2024 at 3:36 PM**

But since we are good Epicureans, we think along the line of Epicurus in providing for the school and for Metrodorus' children after his death, and of Diogenes of Oinoanda in instructing future generations currently unborn, right? 😊

Fr. 3

[And I wanted to refute those who accuse natural science of being unable to be of any benefit to us.] In this way, [citizens], even though I am not engaging in public affairs, I say these things through the inscription just as if I were taking action, and in an endeavour to prove that what benefits our nature, namely freedom from disturbance, is identical for one and all.

And so, having described the second reason for the inscription, I now go on to mention my mission and to explain its character and nature.

Having already reached the sunset of my life (being almost on the verge of departure from the world on account of old age), I wanted, before being overtaken by death, to compose a [fine] anthem [to celebrate the] fullness [of pleasure] and so to help now those who are well-constituted. Now, if only one person or two or three or four or five or six or any larger number you choose, sir, provided that it is not very large, were in a bad predicament, I should address them individually and do all in my power to give them the best advice. But, as I have said before, the majority of people suffer from a common disease, as in a plague, with their false notions about things, and their number is increasing (for in mutual emulation they catch the disease from one another, like sheep) moreover, [it is] right to help [also] generations to come (for they too belong to us, though they are still unborn) and, besides, love of humanity prompts us to aid also the foreigners who come here. Now, since the remedies of the inscription reach a larger number of people, I wished to use this stoa to advertise publicly the [medicines] that bring salvation. These medicines we have put [fully] to the test; for we have dispelled the fears [that grip] us without justification, and, as for pains, those that are groundless we have completely excised, while those that are natural we have reduced to an absolute minimum, making their magnitude minute.

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### **Post by “Don” of May 12, 2024 at 8:38 PM**

### [Quote from Cassius](#)

But since we are good Epicureans, we think along the line of Epicurus in providing for the school and for Metrodorus' children after his death, and of Diogenes of Oinoanda in instructing future generations currently unborn, right? 😊

Sure! We take pleasure in planning for the future of our family, of our world, of successive generations, all of that. We know we don't control anything after we die, but there's pleasure to be had in knowing we did all we could do while alive.

That said...

(I get the feeling this is one of those conversations that would be over quick were we to be talking in-person 😊 )

My bone of contention is that we should not think humans are somehow exempt from the fate of other species or that we're somehow going to be around to see the "heat death" of the universe or the creation of a new bubble universe (or whatever the fate of our corner of the cosmos will be). Sure, humans are probably going to be around for millennia more or maybe even millions of years in one form or another. Maybe we'll harness the technology to have humans explore into the solar system. But no matter how long we're around, we should not think we have some "special" place in the Divine Plan of the Universe or something. We are living beings like every other living being. Our species will have a lifespan. Our species is mortal, like our Sun. And, I think, we need to be okay with that. The eventual, inevitable death of our species is nothing to us. Carpe the diem here and now.

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### **Post by "Cassius" of May 12, 2024 at 8:46 PM**

Right - by no means are we special. We are on the same continuum as the worms and as the gods, and though we naturally aspire to live as long as we can live pleurably, and we hope the same for future generations, we don't control the universe and events that are unforeseen or out of our control definitely take place. What I think you're talking about is in my mind mainly a tone issue and I agree with your perspective that let's call it "human exceptionalism" is not at all valid. That said, under just about every theory of the gods that we accept to be valid, our goal should be to dodge every last one of those meteorites for as long as we can do so pleurably. 😊

## Post by “Don” of May 12, 2024 at 9:00 PM

### [Quote from Cassius](#)

What I think you're talking about is in my mind mainly a tone issue and I agree with your perspective that let's call it "human exceptionaiism" is not at all valid.

Bingo.

### [Quote from Cassius](#)

our goal should be to dodge every last one of those meteorites for as long as we can do so pleasurably.

Agreed! Duck and cover! 😄

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## Post by “Don” of May 12, 2024 at 9:28 PM

Oh, and apologies for inadvertently hijacking this thread... You can now return to your previously scheduled programming.

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## Post by “Julia” of May 13, 2024 at 2:18 AM

### [Quote from Pacatus](#)

How much water do you estimate you need to stock for a month per person?

This is a good question – the problem is, there can't be a “One size fits all” answer. We all have different bodies, we live in different climates and locations, and we have different levels of (expected/projected) activity. It also depends on the way in which food is meant to be prepared:

I've chosen rations, which are small, lightweight and airtight, and will soak up liquids, when preparing them, and I know from experience this reduces my need for additional drinking

considerably. Compared to, let's say, using pasta as a staple, that saves on water. I also won't need water to do away with what my body turns those rations into 😞 and overall, I know from experience that I can go with really quite little water for a long time - except during summertime exertions. That said, if water is so scarce as to make things harder as they would be already, that misses the point.

It is also worth considering geography and location: Not every area has natural springs to begin with; some are contaminated. Only some cities, where it is geographically feasible, have karstic springs (springs, where water doesn't just freely flow out, but which provide enough pressure to feed the city's veins without pumping). If the water supply was stagnant for a while, it'll be disinfected during the first few days, which means the water will be chlorinated at first. IF the water supply was stagnant, the sewage system was so, too. Especially if it rains, whatever foul substance was still in the pipes will be washed to the river the wastewater treatment plant drains into. Depending on geography, this could even contaminate groundwater and loop back to the freshwater supply, albeit dilute, of course. (Real example: In 2019, on the fourth day of a seven day blackout, the inhabitants of Caracas, Venezuela started drinking from the Guaire River, the heavily contaminated sewage river flowing through the city.)

I wrote to my city's water provider (the actual staff, not the politicians), and they were kind enough to give me a short "true" or "false" on my analysis of what would happen to my city in that case. The result is that, quite miraculously, most of the city would continue to have running water, which is collected in a (geographically) much higher region, and drained such, that even if the sewage plants fail, there won't be any issue at all (in terms of thirsty humans; tons of dead fish and whatnot, of course). I had downloaded and read the supply maps before, so I could ask to-the-point questions, and they seemed to appreciate my interest; however, ymmv. I hope your supplier won't consider such information a state secret, either 😊

There are filters you can screw onto taps, to get drinkable water from the initially funky tap water (you might also want to boil it, but that implies having lots of fuel). Filters are also important when using natural springs, and especially with creeks or rivers (because you can never know what lies around in the riverbed just a mile upstream -- the water might look clean, but could be contaminated with bacteria or other baddies just the same). Besides filters, there are small chlorine pills which can disinfect the contents of a canister.

Now, with all of that said, you'll know to take my approach with a grain of salt and to adapt it to your situation: I keep around 30l of water at home, in 1,5l plastic bottles, bundles of six. If I have used this up and there's still no drinkable water, I expect the city has already become quite uninhabitable for a single woman (by then, there'd be general chaos all over, and the unprepared would be starved and thirsty, ergo primal...). That's why I also have a canister and chlorine pills, for when I can drive to the countryside before that (ideal). If roads are jammed or barricaded (whether by stranded cars, highwayman or authorities), I'd be walking. However, it's not really possible to carry much more than a mere day's worth of water, which brings us back to filters. That sounds complicated, and it sort of is. However, after air, water is the second

most vital ingredient to human life. It is better to have water, than to have a fancy radio, the most high-tech backpack or the sharpest knife anyone has ever forged. We can *easily* carry our belongings in a 3rd rate backpack for weeks and weeks, if we have to — sore shoulders aren't fatal. Which is to say: It is worth remembering what really matters, and not get lost in high-gloss gear catalogues (which I'm definitely prone to myself).

I'm afraid this wasn't as clear cut as “X litres per person, and half that for kids!”, but I hope by sketching my thought process, you might have a useful blueprint to draw your own conclusions



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## Post by “Julia” of May 13, 2024 at 4:22 AM

### [Quote from Julia](#)

We can easily carry our belongings in a 3rd rate backpack for weeks and weeks, if we have to — sore shoulders aren't fatal.

(Somehow I couldn't edit my post, so this is a bit of a PS:) I do realise this was an overly sweeping generalisation. I wrote that much more for rhetoric than for face value, so please consider it a dramatic introduction to the sentence following it.

During the very first moments of a blackout there might (or might not...) still be SMS (technically a repurposed control channel of the cellular towers) or even mobile data. Many towers have small buffer batteries; but they only last a couple of minutes, there'd be data congestion once everyone is suddenly using it, and eventually the backbone network will shutdown anyway. OK, so what's the point then? Here's my thought: I always know quite exactly where my cell phone is, anyway. So when the power would go out, the very first and indeed *immediate* thing I would do is text a friend who lives 200km (125mi) away, in another city but still in the same “grid district” (same high-voltage distribution network). She would do the same. If we get each other's text, we can be among the first to know with certainty it is a wide-spread (hence probably longer) thing. So while everyone else is getting cozy lighting candles, we'd get a move on, grab our gear, and leave the city perimeter. Under ideal conditions, we could clear the city by the time the first emergency radio broadcast is transmitted (potentially causing an initial flare of chaos). But we might both be sleeping. Or only one text might get through (in which case the other one would still benefit; still a win!). Or none might get through at all (in which case, at least we both saved five minutes worth of candle wax! 😊).

You might be able to adapt the underlying idea? Maybe there are (somewhat) younger friends who don't live too far away? Or maybe there are other folks, who would be similarly stranded? There is usually strength in numbers, and sometimes discussing things ahead of time can maximise the benefit 😊