

Keeping Time Into The Great Beyond

The 10,000-year clock is neither a ‘frightening’ ‘distraction,’ as its critics scorn, nor the ‘admirable objective’ its fans claim. It’s something else — a monument to long-term thinking that can unlock a deeper and more thoughtful spirit of interpretive patience.



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By Vincent Ialenti

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WHITE PINE COUNTY, Nevada — A dusty field in the high desert of eastern Nevada’s Snake Range. Remote, desolate scrubland. Sagebrush, Rocky Mountain juniper trees, Jerusalem crickets, sage grouse. Sheep skull fragments and rusty cans left behind by bygone ranchers. Old bullet holes in a rusty, abandoned truck.

October.

I scanned for a campsite. The setting sun turned Mt. Washington's limestone cliffs to a deep orange. I tried to take in the region's temporal immensity. Nearby were ancient clonal aspen groves, a melting Pleistocene alpine glacier, 3,000-year-old Indigenous cave paintings, Cambrian trilobite fossils and the "forgotten Winchester" — a rifle manufactured in 1882 and discovered leaning against a tree in 2014, where it had been mysteriously abandoned perhaps a century before. "Pondering this vast desert landscape," I wrote in my notebook, "can grind up one's short-term predicaments into the shifting sands of deep time."

I had driven over 500 miles east and north from Los Angeles, along what a 1986 issue of Life magazine called "the loneliest road in America," Nevada's Highway 50. But it was the San Francisco Bay Area that never felt closer. I'd embedded myself in the Long Now Foundation's annual "trip of self-reliance," hoping to gain an anthropological understanding of the staunch optimism of the organization's leaders — their trust that humans will still exist 10 millennia from now — and what that can offer at a moment of political disillusionment, ecological degradation and intergenerational mistrust.

At the campfire, I met a champion BattleBots roboticist, a screamo musician turned autodidact, a sailor with a Coast Guard license to captain 100-ton ships, a University of Nevada ecohydrologist, a former scenario planning consultant, two friendly dogs, a wealthy investor, an academic "experiential futurist," a former Wired journalist and multiple programmers fond of reminiscing about Burning Man. All were staff of, donors to or active members in the Long Now community. Eating Korean barbecue and gluten-free mochi served to us by a "backcountry caterer" ("trip of self-reliance" appeared to be more of an ambition) we'd come to Nevada to contemplate humanity's place within radically deep, planetary time horizons.

Our gathering was enabled by a remarkably brief slice of space-time: the sudden generation of wealth during Silicon Valley's personal computer and internet boom in the 1990s. The Long Now Foundation was established in San Francisco at the peak of that boom with a mission to "foster responsibility in the framework of the next 10,000 years." Its first president was Stewart Brand — the former editor of the Whole Earth Catalog and an early pioneer of 1960s counterculture and Silicon Valley cyberculture. Other key Long Now figures include the parallel computing inventor Danny Hillis, the ambient electronic musician Brian Eno, the founding editor of Wired Kevin Kelly, the corporate futurist Peter Schwartz and philanthropist-journalist-investor Esther Dyson, the daughter of mathematical physicist Freeman Dyson.

Long Now purchased the Nevada land in 1999 with donations from founders of Lotus Software, Sun Microsystems and Priceline.com. Originally, it was meant to be the home for the Clock of the Long Now: a massive art installation designed to keep time for 10,000 years. After Jeff Bezos announced his \$42 million donation in 2011,

however, the site for the clock was moved to West Texas, near Bezos's Blue Origin spaceport.

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Danny Hillis dreamed up the clock in 1986, three years after founding the supercomputing and artificial intelligence company Thinking Machines. He tinkered with his first prototype — a scale model now on display at London’s Science Museum — while working as a Disney Imagineer in the late 1990s. As the world’s slowest computer, the clock, Hillis hoped, would serve as a monument to long-term thinking, a counterpoint to the rapidity of market economics, a corrective to his tech colleagues’ fixations on accelerating computer processing speeds.

Wired published periodic updates on his progress. In 1998, Po Bronson dubbed Hillis a “legendary designer” with an “admirable objective that no one will contest,” concluding that “taking [the clock] seriously is so important.” In 1999, Reena Jana assured readers that the clock’s “engineering still impresses,” that its “longevity will be ensured by human guardians,” and that it would “swing for millennia — barring a direct nuclear hit.”

Since moving to Texas, however, the clock has become a lightning rod for criticism and scorn. In 2012, the eco-philosopher Michelle Bastian dismissed it as a distraction from “the other ‘clock’ Bezos is building” — the “clock of Amazon,” powered by one-click ordering immediacy, fulfillment center time-crunches, short-term labor contingency and federal tax avoidance. In 2018, the writer Anna Weiner cast it as “luxury” art embodying a “contemporary crisis of masculinity,” an “antagonism between millennials and boomers” and a “frightening” inheritance of “a ravished environment, eviscerated institutions and the increasing erosion of democracy.”

Two years later, Wired — once the clock’s greatest advocate — published a scathing article by political scientist David Karpf, criticizing it as a “Gilded Age distraction,” “art for and by the ultra-rich” praised by “futurists who routinely reassure the tech elite, telling them they’re the genius inventors of a better tomorrow.” The article featured an ominous, joyless, black-and-white portrait of Bezos.

At our Nevada campfire, however, the clock was barely mentioned. We discussed Easter Island’s Moai megaliths, Neal Stephenson’s science-fiction novels, the U.S.S. Nimitz’s U.F.O. sightings, Sausalito’s boathouse communities, biotech efforts to “de-extinct” the woolly mammoth, forgotten Soviet engineering megaprojects, new Patagonia backpacking gear and hallucinogenic mescaline cacti cultivation techniques. I explained that I’d come to understand the clock project

anthropologically — through their eyes, on their terms. Studying how a community relates to the passage of time can, after all, offer a window into a culture’s values and lifeways, and reveal how societies hash out relationships between the presently living and those yet unborn who may inhabit the distant future.

The Long Now Foundation is “about much more than the clock,” I was told. Indeed, Long Now’s headquarters at San Francisco’s Fort Mason — a converted military site turned arts and culture center — hosts a seminar series on long-term thinking, a steampunk bar called the Interval, two projects to preserve linguistic diversity, a platform for placing bets on future events and a research program examining dozens of long-lived organizations across the world.

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This was not the first time I conducted fieldwork among long-term thinkers. From 2012 to 2014, I spent 32 months living in Finland, exploring how the country’s nuclear energy waste experts dealt with incredibly long-lived radionuclides. They were building a nuclear waste repository around 1,500 feet below the tiny islet of Olkiluoto in the Gulf of Bothnia in the Baltic Sea. To assess the facility’s long-term durability, they forecasted geological, hydrological and ecological events that could potentially occur in western Finland over the coming tens of thousands — or even hundreds of thousands — of years. From their efforts emerged visions of distant future glaciations, climate fluctuations, earthquakes, floods, human and animal population changes and more.

As the desert evening darkened into night, the temperature dropped well below freezing. Jonathon Keats, a conceptual artist designing a new installation near the top of Mt. Washington, told me he’s developing an “arboreal calendar” to index how a Great Basin bristlecone pine — one of the world’s longest-living tree species — experiences the passage of time. Bristlecone pines, Keats said, can live for over 4,800 years. Apparently, the Interval bar has a “bristlecone gin” made from juniper berries picked from around the ancient groves.

I asked the group about the clock again, wondering if Silicon Valley cybercultural optimism was more mainstream then, compared to now. They answered with a collective shrug. The clock, for the Long Now folks, is a “piece of theater” designed to provoke public debate, or a “mirror” for successive generations to hold up to themselves, reflecting their worldviews back to them in an expanded temporal frame. By nudging their critics to reflect on intergenerational inheritances and historical structures of privilege, the clock was still doing its job: drawing an audience to ponder human “optionality” and “possibility space” over the radical long-term.

Besides, they asked me in return, why get bogged down in any single, momentary interpretation of the clock? In a 10,000-year sweep of history, interpretive frameworks indelibly rise and fall, sprout and turn to dust. People's thoughts about an industrial art project can change day to day, let alone century to century. They're as fickle as Nevada's high desert wind.

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In my tent after midnight, I listened to coyotes trade yips and barks with sheepdogs at a distant ranch. Pondering our planet's radical long term, I thought, can challenge any one generation's, community's or individual's timebound interpretations. It confronts what the anthropologists Margaret Mead and Robert Textor termed "tempocentrism" — the pathology of "being excessively centered in one's own timeframe."

Yet few today would see a giant, billionaire-funded clock as the most realistic remedy for the bad case of chronophobia with which America's tech elite has diagnosed us. Why invest in a long-term monument instead of long-term climate mitigation? The clock is up against regimes of short-termism that the tech industry directly profits from: rapid throwaway consumerism, contingent gig economy employment contracts, fickle pop culture trends, frenzied culture wars, corporate quarterly earnings reports, sudden stock market shifts and dopamine-modulating social media attentional economies.

Nevertheless, tearing down the clock seems no less silly than putting it on a pedestal. No sober risk analyst would place Hillis' clock on the list of today's most dangerous new technologies. Bezos' \$42 million investment is routinely dwarfed by far more frivolous cultural productions (the budget for the 2013 film "The Smurfs 2" was \$105 million). On top of this, the privileged socioeconomic origins of other grand historical projects — cathedrals, pyramids, acropolises, statues — have not impeded their capacity to inspire fascination. So why would the clock — a much smaller-scale monument — be any different?



Nevada's high desert. (Vincent Ialenti)

The next day, we rumbled over a rocky, switch-backed dirt road in a black Nissan Xterra. Brian Eno's 2003 album "January 07003: Bell Studies for the Clock of the Long Now" rang from the stereo. Gristly black trees, scorched by a forest fire, rolled by outside. Driving up toward the 13,000-foot summit of Mt. Washington, we passed an overlook from where we could look down at a wind farm in the valley, and, later, a dark, abandoned mineshaft going into the mountainside.

We eventually arrived at a stark, exposed mountain saddle. I found a solitary Bristlecone pine tree and sat beneath it. The clock drifted into my thoughts. I wondered how it would be perceived by a future community living 5,000 years from now. What do people today think of old monuments when we come across them? In 1599, I remembered, the English playwright Samuel Daniel described Stonehenge, which would have been standing for around 4,000 years, as a "huge dumb heape." Less than a century later, on the other hand, Isaac Newton wrote that he thought it was an "antecedent of Solomon's temple." In the 1800s, William Blake considered it "Satan's work in England." Today, UNESCO has labeled it "world heritage" to be conserved for posterity.

The future history of the clock, I reasoned, would be similarly open-ended: Societal perceptions of it would remain in ongoing flux. It would require an irremovable interpretive asterisk.

Stonehenge was not (to our knowledge) created with the intent of drawing people to think about the far future. However, like the clock, it can also relay a few relatively coherent messages across time. Its monolithic slabs were designed to align with the summer solstice's sunrise and the winter solstice's sunset. The clock was likewise designed to synchronize each day at solar noon.

As a result, the architectures of both can exhibit, for future societies, evidence of deliberate human-astronomical calibration. These features could, when encountered

by successive generations, foster an ongoing awareness of humanity's enduring attunement to the heavens. This could serve as a transgenerational reminder that, in the deeper time horizons of the universe, all of us humans are, ultimately, contemporaries — living and dying by the same star.



A bristlecone pine. (Vincent Ialenti)

Later, back in my apartment among Los Angeles' hazy skies, noisy freeways, sprawling suburbs, Hollywood glitz, imported palm trees, Skid Row tent villages and winding concrete aqueducts, I hunched over my laptop, working to develop a non-tempocentric analysis of the clock — one rooted in the interpretive asterisk I found in the desert. Contemporary depictions of the clock now appear weighed down both by (a) the ephemeral tropes of cyberlibertarian idealism that once enchanted the clock with starry-eyed motifs of 1990s tech ingenuity; and (b) the equally ephemeral

deconstructive tropes now baiting clicks by priming the clock for symbolic cancelation.

Both of these interpretive excesses, I reasoned, are (in)versions of the same phenomenon: short-term journalistic incentives to cast and recast Silicon Valley's rapidly shifting tech hype cycles as an evergreen media content generator that syncs, temporally, with their own rapidly shifting narrative hype cycles. To escape these timebound mediascapes of adulation and outrage, I wanted to reposition the Long Now community's worldviews in a wider cultural, historical and geographical frame.

Through Stewart Brand, Long Now perspectives have been shaped by the cybernetic theories of Norbert Wiener, the anthropological theories of Gregory Bateson, the ecosystem theories of Paul Ehrlich, the media theories of Marshall McLuhan and the design futurism of Buckminster Fuller. Through Danny Hillis, they have been influenced by MIT artificial intelligence pioneers like Marvin Minsky and information theorists like Claude Shannon. Through Kevin Kelly, they have pondered the idea of a planetary superorganism of "neobiological" computation "emerging from the cloak of wires, radio waves and electronic nodes wrapping the surface of our planet."

Today, many (but not all) Long Now insiders share the pro-nuclear, pro-geoengineering, pro-GMO "ecomodernist" views of bright green think-tanks such as Oakland's Breakthrough Institute. Others subscribe to the outlooks of professional futurist organizations such as Palo Alto's Institute for the Future. Some follow the beat of their own drum. One I met waxed poetic about ancient Greek philosophy and Heideggerian phenomenology. Another lauded how Long Now has, in recent years, opened itself to wider perspectival diversity — hosting seminars on "LGBTQ foresight," "Design by Radical Indigenism" and "Imagining Afrofutures."

Several Long Now insiders and current board members have worked with military-industrial entities that yet another clock — the Bulletin of the Atomic Scientists' Doomsday Clock — warns against. Scenario planning, for instance, was pioneered in Santa Monica in the 1950s, by RAND Corporation nuclear defense strategist Herman Kahn. In the 1960s and 70s, it was refined at Shell under oil executive Pierre Wack (a man who, incidentally, burned incense in his office, frequently spoke in riddles and was a devotee of Greek-Armenian mystic G.I. Gurdjieff).

Leading Shell's Group Planning Office in the 1980s was Peter Schwartz, a prominent futurist who, in 1987, cofounded the Global Business Network scenario-planning consulting firm alongside Brand. Shortly after GBN joined the Monitor Group in 2000, it spun off a new unit: Monitor 360, which focused on post-9/11 defense and intelligence contracts. By the time Deloitte bought the Monitor Group in 2013, its network had already consulted for Pacific Gas & Electric, Nissan, ABC, Texaco,

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Fossil fuel utilities, multinational corporations, intelligence operations and defense contracts are not what usually come to mind when most people think of long-term planetary responsibility. Nor is Shell (the world's ninth-biggest carbon emitter), nor Herman Kahn (a man who thought thermonuclear war was, in some scenarios, rational). If the clock is seen as a monument to this, then it is easy to see why it has rubbed certain commentators the wrong way.

However, in the wider Long Now community, all of this and more swirls together in a counterintuitive whirlwind of openminded ecological curiosity, DIY experimental artistry, adventurous outdoor pursuits and affluent techno-hippie organic intellectualism. Planetary futures are reckoned through an oddly provincial lens of California coastal cosmopolitanism, academic-industrial systems theories and Silicon Valley techno-determinism. What emerges is ambiguous, but also remarkably generative: a lively crossroads between stunning brilliance and fringe speculation, between brash countercultural idealism and pragmatic collaboration with society's most influential powerhouses.

Perhaps the clock is, at some level, merely a talented (but privileged) Disney Imagineer's eccentric (but extravagant) ride across the millennia. Or maybe it's just a trivial technology without a plausible use-case. As a powerful piece of theater, it can evoke all of these reactions and more.

When looking back on my ethnographic odyssey in the desert, however, something became clear: At no point was I bored. Long Now's atmosphere of unhinged creativity and unapologetic eco-pragmatism provided a near-constant drip of bold, stimulating, outside-the-box ideas. There is, to my knowledge, no better setting for pondering the planetary challenges of climate adaptation, nuclear weapons risk and sociopolitical division we will all need to face in the years ahead.

If Hillis' clock is a monument to this, then surely it stands for something important. Yet to appreciate why, one must first commit to approaching all timebound commentaries on the clock — including this one — with a patient, non-tempocentric, interpretive ambivalence. Five thousand years from now, after all, it may well be captivating millions, just as Stonehenge does today. What's certain is that neither its designers nor its critics will live to find out.