

Monument
to the Future

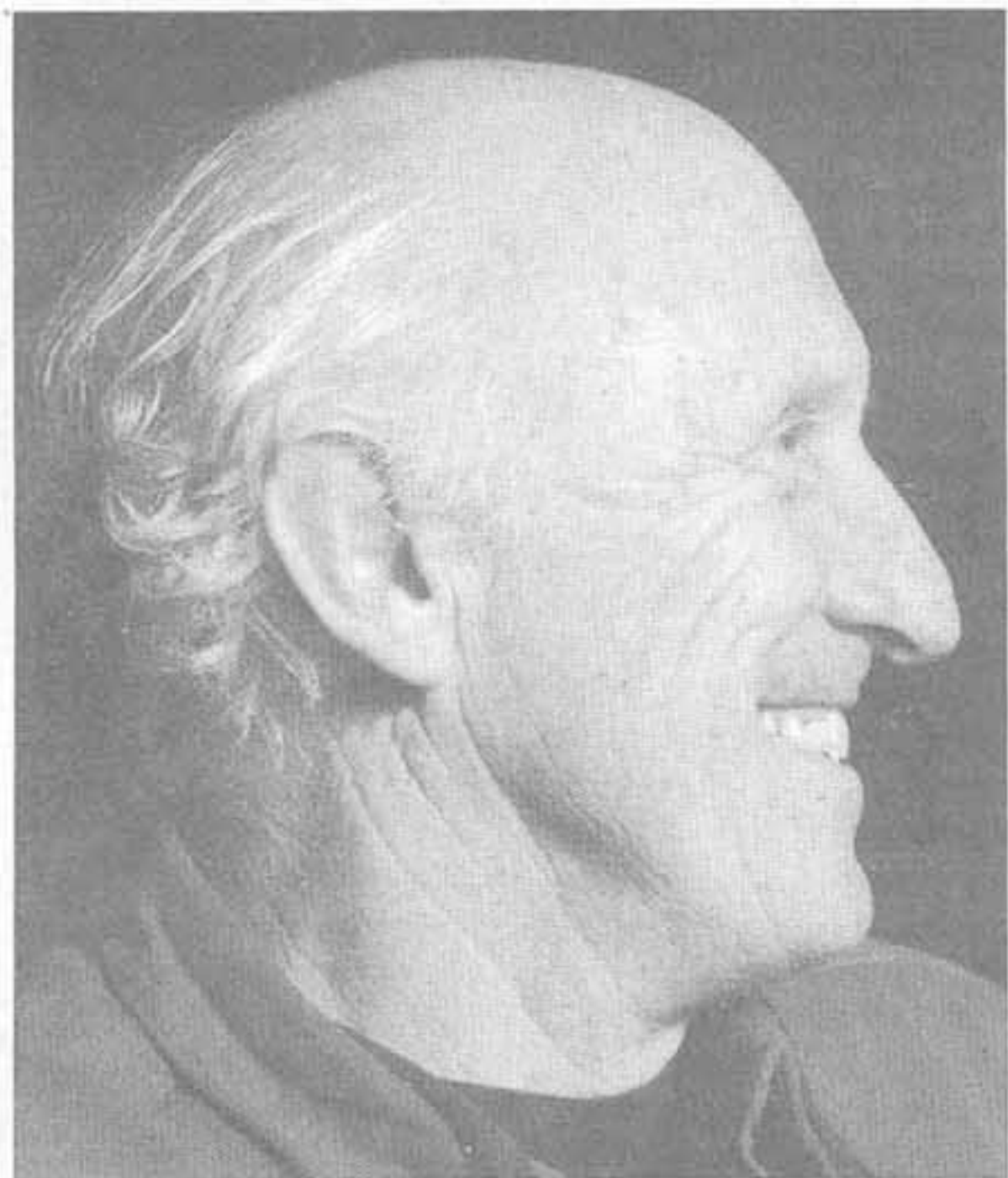


Photo: Paul Hawken

Stewart Brand
celebrates the Millennium
with a Clock/Library to last
10,000 years

by Virginia Lee

Stewart Brand has always been a maverick. As the creator of the Whole Earth Catalog in the 1960s (of which there now more than a million copies worldwide), Brand went on to further distinguish himself as a writer and editor of the Co-evolution Quarterly (which has since evolved into Whole Earth Review). A graduate of Stanford University and always on the cutting edge of avant-garde thinking, Brand's latest project is to create a Clock/Library in the Nevada desert that will last 10,000 years. But Stewart Brand is not alone in this. Joined by an eclectic group of artists and entrepreneurs, the Long Now Foundation is still in the planning stages of how to build what Brian Eno has dubbed "The Clock of the Long Now."

Stewart Brand has recently published a book of the same name, a collection of conversations, ideas and essays about various aspects of the project, as a way of inviting the rest of the world to participate in the creative process. Anyone who wishes to be part of this monument to the future can contact the Long Now Foundation via their website: www.longnow.org



CG: As we approach the eve of the 21st century, your most current project is to build a Millennial Clock that will last 10,000 years. Please describe what it will look like and how it will work.

SB: The poetic description of the original idea is that this 10,000-year clock will tick once a year, bong once a century, and the cuckoo will come out every 1,000 years. The Millennial Clock will be located inside a remote but well-protected mountain in the high desert, and will be about 80 feet or more high. Although it will be a bit of a pilgrimage to get there, it will be awesome in its size and charisma.

One of the design principles of the Clock is: Reward patience. If you hang around the Clock for five minutes or more, you start to see some interesting stuff. And at noon every day, the Solar Adjuster will fine-tune the Clock with a pulse of sunlight on sunny days. A visit would require at least an hour, or perhaps a whole afternoon to really become acquainted with the whole structure, which will probably have different rooms on different levels, all recording different aspects of time.

It will show the Sun and the Moon and where they are in the sky, and it will predict eclipses 10,000 years into the future. It will show the horizon shifting with the seasons within the grander procession of the equinoxes, as well as a star field showing where the Clock is situated and what is visible in the sky at that moment. It will even compensate for the microscopic slowing of the Earth's rotation, which over 10,000 years would be quite significant.

There will be many stages in its con-

struction. The clock which is being built right now is a prototype about eight feet tall. It's a matter of going through the process of examining all the mechanical and engineering concepts that Danny Hillis has come up with to make it actually work. One of the things about clock-making, "horology" as it is called, is that it is a tremendously nuanced technology. Very delicate variances make a huge difference as to how well things actually work. So this original clock is going through many stages of redesign and refabrication. It will definitely be Y10K compliant.

The 10,000-year Clock will be mechanical and also digital. In that sense it is different from Charles Babbage's design over a century ago, which did not quite work since it was made out of brass and used decimal notation. In contrast, the Millennial Clock will work on binary calculations. Also, it will not calculate by gear ratios the way mechanical clocks at present work. There are a number of advantages — and it will be more fun to watch. Entering the 10,000-year Clock will be a world unto itself. Possibly, it will affect our perspective of time the way the first pictures of Earth taken from space altered our perception of space.

CG: Where is the site for "The Clock of the Long Now"?

SB: We've actually bought a moun-

tain in eastern Nevada near Great Basin National Park, on the Utah border. It is located on private property surrounded by public land, which hopefully will be protected for a long time to come. In working with the National Park Service, they don't use the word "forever," they use the phrase "future generations." But they take it very seriously.

CG: Would you compare this structure to Stonehenge?

SB: In concept, yes, but we have to be careful that it doesn't go the way of Stonehenge, which has become a mysterious but ill-maintained ruin. No one really has any idea what it was used for. A better comparison for us is the Ise shrine of Japan, which is rebuilt every 20 years down to the last splinter. Then they recycle the timber to other shrines and temples.

CG: Who will maintain the Millennial Clock?

SB: We see three really interesting design problems: One is how to design a clock that will last 10,000 years. The next is how to design a 10,000-year library, which is a very large part of the project. The third and perhaps most difficult aspect is creating an enduring institution to take care of all this. Ideally it will be maintained by those alive at

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the time. In the desert it would be easy to implement a power source which would essentially wind the clock itself by solar power. But Danny Hillis wants to include the principle of fostering responsibility into its overall design.

CG: Do you see this as one of the future Wonders of the World?

SB: Maybe if all goes well. Certainly it takes a lot of ideas, luck and money. But the possibility exists that it might affect people's lives in the way a visit to Machu Picchu or the Grand Canyon does.

CG: What do you mean by the "Long Now"?

SB: Basically it means treating the next 10,000 years the way we treat next week. It is a perspective we have in mind when we make decisions about things in our realm of influence and responsibility. It's not just a matter of consequences; it's a matter of feeling an ongoing presence within that period of time. Most of what we do next week is in reference to last week. We're suggesting that the things we do in regard to the next 10,000 years should be mindful of what happened in the last 10,000 years. The story of human civilization is about that old. We have a few messages from the past in the form of cave art. It's pretty clear that the people who made those drawings were having an underground experience like the Clock.

CG: What is your role in the Long Now Foundation? Who else is involved?

SB: The co-chairs are Danny Hillis and myself. And the Executive Director is a 28-year-old man named Alexander Rose. There is a surprising amount of interest in this project by younger people, who are very optimistic about it. Musician Brian Eno is also on the Board, and came out to San Francisco to visit the new site with us just last week. He's actually the one who came up with the name, "Clock of the Long Now." Esther Dyson, the great maven of the computer industry, Doug Carlston, Kevin Kelly (founding editor of *Wired* magazine and author of *Out of Control*), futurist Paul Saffo, Peter Schwartz (author and head of the Global Business Network) and Mitch Kapor are all involved with the Long Now Foundation, and most of them with the Global Business Network too.

The head of Stanford University's Library and Information Services, Mike Keller, has recently joined the Board as well. With his guidance we are sponsoring a conference next June to discuss how to implement the 10,000-year Library aspect of the project, specifically how to manage that body of information over such a long period of time. The Library is far more amorphous compared to the

Clock, which is very specific. Whereas the Clock project will take decades, the Library will take centuries. The Library will be a living, growing, evolving entity.

CG: You were first known for creating the *Whole Earth Catalog* in the 1960s. Is this new project connected with what you've done in the past? Will the idea behind the *Whole Earth Catalog* continue in the 21st century?

SB: Someone asked me the other day if I'd want to start the *Whole Earth Catalog* now and I said, "No, the Internet really is the *Whole Earth Catalog*."

Meanwhile, *Whole Earth Review* [formerly *Co-Evolution Quarterly*] carries on better than ever with Peter Warsaw as editor. So that's alive and well.

The main connection I see is the actual photograph of the Earth, which really transformed things and became an icon of the ecology movement. Earth Day started a year after the first photograph was published.

CG: Please describe the idea behind the Global Business Network.

SB: The Global Business Network is a research and consulting operation based in Emeryville, California which helps large organizations think very seriously about the future — corporations, governments, non-profits. The major tool is called "scenario planning," although there are many other devices which have emerged. Scenario planning is the opposite of making predictions. An organization, facilitated by the GBN, thinks quite seriously about three or four different worlds it may be facing over the next 10 to 20 years, and developing a rather robust, adaptive and alert strategy that would work in any of those possible worlds. It's not betting the company on just one idea of what might happen. That turns out to be beneficial in many respects, but the one that most intrigued me is that once the organization has a rigorous way of envisioning the future, they can't help but step up to greater acts of responsibility.

For example, when we think of what the work force is going to be like for this company in 20 years, they have to think seriously about education. What they do now in regard to education will pay off in the future. Similarly, this includes a company's relationship to their industry and the region where they are located. It is a way of stepping out in front of current events and taking them seriously, but not too seriously. It's also a way of paying attention to current events in a different way, without getting blindsided by the obvious. The Internet is a good example of this, for example, the effect of amazon.com on the publishing industry.

CG: What do you think the Earth will be like 100 years from now? 1,000 years from now? 10,000 years from now?