

# FREQUENCY AND FORM

by Vic Gioscia

What I'm doing with my life is building a set of generalizations comprehending how time works. I call the comprehension of the time laws of any process "chronetics".

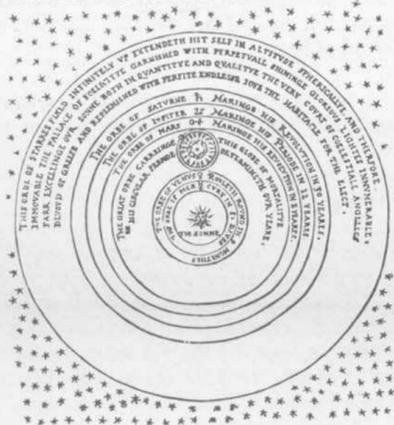
I've been working at it a "long" time and have done it in some strange places. Like, a dissertation on Plato's theory of time, which started in '58 but didn't come till '63. Like, in '65 getting a videotape system installed in a family therapy agency so families and therapists could play back their sessions during their sessions. Like getting headaches trying to transform the laws of general relativity into classroom sociology since 1953, though I hate the math. Like trying to figure out acid time expansion during acid time expansion. Etc.

This rap is about the chronetics of software, in other words, *some thoughts on the time forms of current communication events.*

As everybody knows, Universe is not a very large expanding balloon with galactic light bulbs interspersed at varying distances. Einstein told us Universe is not a simultaneous assembly of things. Universe isn't *there*—in fact—man's invention of the concept reveals his terror crouching behind a facade of omniscience. Currently, our mythos is that Universe is "really" atoms, (i.e., waves of energy spiralling at light velocity) arrayed hierarchically (i.e., a few is a gas, a lot is a planet, a very lot a galaxy, etc.). Whitehead said the *only* philosophical mistake you could make (hence the error of *every* philosophical mistake) was thinking you could simply locate anything anywhere. This "fallacy of simple location" is the intellectual form of man's wish to evade the terror which would flood him were he to admit the Heraclitus vision that all is flux. The emotional form of this saving illusion is hubris—pride—the myth of individual autonomy. Freud once wrote that the human central nervous system is to be compared to the osmosis process of the cell wall, whose main function is to keep some fluids in but most fluids out. Fuller suggests the inside is the inside of the outside—the outside the outside of the inside. Laing ponders why some people who spit in a glass of water can't—*can't* drink it. Others can. Recent experiments by Italian physicists, who ran electrons going "one way" against positrons going "the other" both "at" the speed of light, lead them to believe there's another whole realm "underneath" quantum atomics which is continuous, i.e., not "composed" of quanta, but of processes.

So, in my view, there is no Universe anywhere, "at" any instant, for there are no instants. Better—*there* isn't. Time is. What seems to be happening is a myriad of energy-rates dyssynchronously modulating. Nobody seems to know why there are different rates, or how they change. Recent speculations include a realm on the "other side" of the light velocity barrier wherein "particles" only go faster than light, and, if they slowed down to light velocity would annihilate as in  $E=mc^2$  (Feinberg). Others, at the Princeton Center where Einstein thought, wonder if there isn't a realm under the atoms where time "goes the other way, or not at all."

What I'm trying to show, in mosaic, is a Universe of varying frequencies, in which occasional synchronicities are called communication.



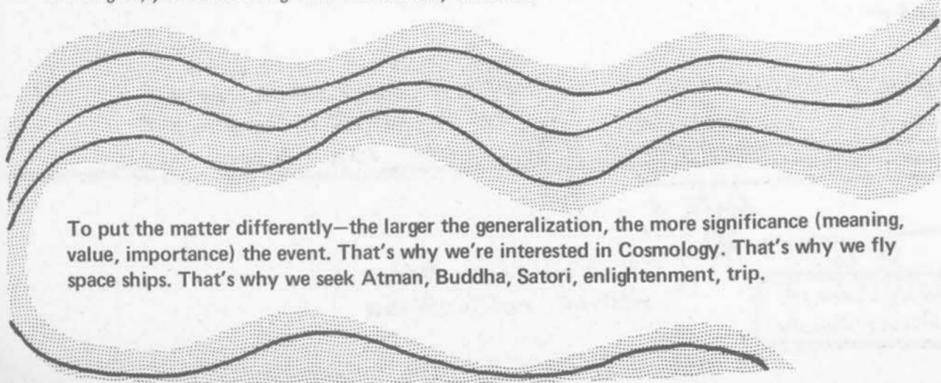
Now, some frequencies, after million year evolutionary periods of interacting dyssynchronously, have come into a harmony which we call sensation. Air waves and ear vibrations in synch result in our experience of sound. Light velocities in harmony with retinal photochemistry result in vision. Rates of neural transmission, when exceeded or unreachd, do not result in experience since there are limits within and only within which nerves fire. Overload or underload, outside certain limits, result in nothing. No experience. No communication.

Hence, Fuller says, human "sensory equipment can tune in directly with but one millionth of the thus far discovered physical Universe events. Awareness of all the rest of the million-fold greater than human sense reality can only be relayed to human ken through instruments devised by a handful of thought employing individuals anticipating thoughtfully the looming need of others."

This is probably an overestimate. There is no reason to believe that the tiny region of human synchronicity with Universe frequencies which is our band of experience is as much as a millionth, because it will may be that the range of frequencies goes from  $-\infty$  to  $+\infty$ . I have no quarrel with Bucky's adorable naturalism, but the range of options for synchronicity may be vaster than he has said. So far.

Even if the spectrum is not that large, it serves as a perspective on which to map the tasks of software design. Like Huxley's remark that any good plumber could have done better than god-evolution with the human appendix, it seems to be the case that the human sensory channels are fairly crummy samplers of the range of Universe frequencies. Hence, any software system which sets the outer limits of its responsibility as fostering the synchronicity of present human wavelengths could be guilty of a reactionary nostalgia. Filling in the gaps of the sensory range now is a tactic worthy of admiration, but it shouldn't be confused with the grand strategy, which, minimally, in my opinion, must include not only the design expansion of the realm of human experience, but the design expansion of the range of synchronicities in our local region or universe. Man may be negentropy, but there's more to Universe negentropy than man. How to tune in on that is the larger task. To say nothing of feedback.

It will be objected—this is visionary—idealistic—there are many more pressing urgencies presently at hand. To which a good reply might be if you're unaware of the spectrum you're working in, you're working with unnecessary blinders.



To put the matter differently—the larger the generalization, the more significance (meaning, value, importance) the event. That's why we're interested in Cosmology. That's why we fly space ships. That's why we seek Atman, Buddha, Satori, enlightenment, trip.

Software, therefore, results whenever dyssynchronous frequencies are mediated, i.e., related in some form of temporal harmony. It is not very far from the Platonic vision that the music of the planetary spheres is in proportion to the ratio of string lengths on a lute, to the view which reveals that the fundamental units of software are the chords and rhythms of perception. It is utterly banal to hold that the "bits of digital information" metaphor comes any where near the kind of planetary orchestration man is beginning to compose. This vision can be ecologized by the recognition that software results not simply from passing items of perception around among human sensors, but whenever and however Universe frequencies are proportioned. Man is not the only Universe function producing software. It is an entirely common event in Universe, and may in fact turn out to be its fundamental process, i.e., how it basically moves, so that, to do it is to be like the Druids at Stonehenge dancing to the rhythms of the cosmos. Groovin', as it were.

But there's more. Recent evidence suggests that brain waves can very easily come under deliberate control, that alpha highs can be turned on at will, that autonomic nervous system—endocrine interactions can be accelerated-decelerated consciously, that, in short, electronic yoga is now an increasingly popular research sport. *It begins to seem as if experience, not surgery, is the design avenue for deliberate human evolution.* All this before the mass availability of mini-laser communications technology, holographic environments instead of rooms/walls of plaster, liquid crystal read out systems, etc. etc.

So, it's time to ask—what are the chronetic laws of that accelerating process of which electronic software is the current mode? By this I do not mean "how soon will the matter transmitter be invented" or "will lunar language finally substitute Einsteinian categories for Aristotelian ones". Such inquiries are an exercise in linear prophecy only, necessary but not sufficient. I'm more interested in temporal design and its prerequisites.

For example, sociologists have unwittingly placed at the foundation of their game the notion of "expectation", by which they seem to mean what Eliot meant when he said the human mind can stand very little reality—raw. People seem to have to know how long a thing will be what it is to know how likely it will stay what it is so they can expect it to remain what it was so when it comes by again they can say—ah yes—that big—nothing new (terrifying) there. They want to be able to anticipate recurrence and periodicity, so they can generalize, and say, oh yes, it's one of those—I've seen it before—it won't hurt me because none of them ever did before. When things (societies, cultures, groups, etc.) change fast, faster than they can be generalized, people experience future shock—they need to experience and generalize faster than they can. When they repeatedly fail, they conclude (generalize) I can't know what to expect. This hopeless condition is known as despair. Are there ways to accelerate the formation of generalizations which can stave off this despair. Does acid do it? will videotape? How? It will be perceived that these questions are special cases of the more general question: how to mediate discrepant frequencies—that is—what forms of software (generalization—culture) do we require in this temporal myriad we call home.

Surely, a beginning is the creation of a new global network of communications hardware and software, so those who now dance to vastly different drummers can come together in the first planetary synchronous civilization ever to steer spaceship earth's evolution consciously deliberately joyously, freed of the fetters of national political (i.e. homicidal) idiocies.

More important, I think, is the work heretofore left to mathematicians, physicists, philosophers, psychiatrists, and other intellectuals—that is—identifying the waves and frequencies of which our experiences are the result, intuiting the laws which govern them, and designing better freer forms in which to live.

For example, a friend of mine set up his hardware so his five year old son could

- 1) watch Sesame Street broadcast
- 2) watch himself watching Sesame Street on a second live monitor.
- 3) make a tape of himself, watching his tape while watching himself on a live monitor watching himself on tape.
- 4) tape himself with a 5 second delay loop on 1 monitor and try to mimic that so that the second monitor was in synch with the first.
- 5) play with variable delay loops on both monitors (2 decks).
- 6) play with multiple variable delay loops and live monitors.
- 7) varying recording and playback speeds while doing any/all of the above.

Not surprisingly, the boy began asking his father to help him do things that went beyond the design limits of the hardware. To explain why he couldn't, his father began drawing diagrams of multiple feedback loops with variable time loops, which the kid dug on the basis of his experience. Then, this 5 year old started wondering how to design hardware so he could have the experiences he wanted. He had found the limits of the temporal rhythms built into the hardware available to him, and imagined himself beyond them—i.e., temporal design. He wanted more software than there was in his world. I pass over the obvious corollary that he also immunized himself to the information pollution belching from commercial TV. What interests me about such experiments (which we occasionally do at the Center) is the experimental immersion in complex time pools which are not only exciting but architecturally motivating.

A question which bothers everybody in software—Will enough of us get our hands on enough hardware to produce enough software to sustain a new (global) culture *in time*? That is, can we do it well enough fast enough?

The first half of this question involves ecological recycling—*there's an awful lot of good information around which we could share better if only those maverick data banks were set up.* After all, it's chronetically silly to shoot tape at light speed then air mail it to friends in London. And, since they own the satellites, all they have to do is charge prohibitive rentals so we can't move our information as fast as we shoot it. So far. They are not gonna rent us time to create alternatives to them.

So, it seems to me, we are going to have to come up with software which is not only good for us but good for them too. That's what global means. We have no choice but to take them with us—i.e., turn them on to the benefits of our way. We're gonna have to go beyond the hip ethnocentrism we built to defend ourselves against them. We can't any longer enjoy being so "far out" that nothing happens. This could turn out to be a fatal *underload*.

The only choice we have, in my opinion, is to produce software which mediates their (slower) frequencies and our (faster) ones into those which harmonize both of us with the (much faster) vibes of a really global synchronous system. To put it crudely, we have to show the satellite-computer people how our way is better for all of us, that a planetary form is better—for all of us—than a cartel.

I guess my own naturalism is unmasked in the following optimistic statement—somehow the people always recognize a masterpiece, so that's what we have to do. Which is not, in the strict sense, a political, but rather a cultural—aesthetic task.

The dilemma—you can't have a revolution unless your head's together—but you can't get your head together unless you have a revolution—here arises. *I'm suggesting that both tasks—solidarity and revolution—are facilitated by broadening the collective imagination* with such questions as: What is that process of which industrialism, then automation, then cybernation are the acceleratively appearing moments? What are the unknown time rules such processes follow? Can we design other frequencies and forms?

I think so. But, as Fuller says—"This means things are going to move *fast*".

