

# As if by Design

Raqs Media Collective

In 1936, the equation<sup>1</sup> wasn't yet common knowledge and it was still decades before you could look things up on a search engine. If you forgot something or had a gap in your understanding, sometimes you still needed to 'phone a friend'. The best and most efficient design for information retrieval still required you to know people who knew things. Noguchi<sup>2</sup> wired his friend Buckminster Fuller, an admirer of Einstein.

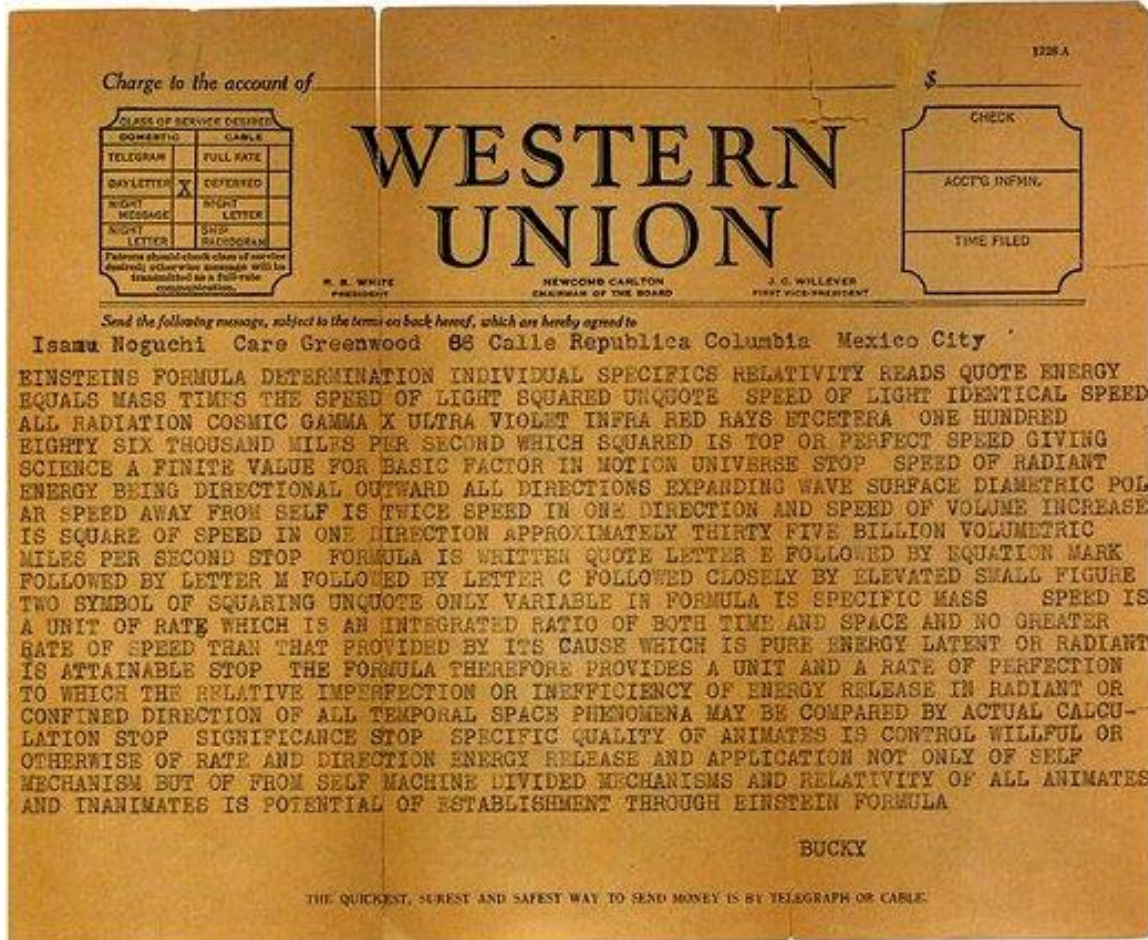
Fuller's reply to Noguchi - a five sentence, two hundred and sixty four word Western Union telegram<sup>3</sup>, is a model of how to be wildly rambling and tightly precise at the same time. The designer-engineer and not-yet-visionary messes with the physicist's equation to answer the artist's question. In his own way, Buckminster Fuller redesigns, clarifies, compresses and complicates Albert Einstein in response to Isamu Noguchi.

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<sup>1</sup> 'the equation' here is Einstein's equation expressing Special Relativity,  $E = MC^2$

<sup>2</sup> Isamu Noguchi, the Japanese-American sculptor, had forgotten the  $E=MC^2$  equation for Special Relativity while working on a frieze mural in brick and cement marking the forces of his time at the Abelardo Rodriguez Municipal Market in Mexico City in 1936. He needed to put the equation into his design. He had in mind a quiet corner by a window, with a young boy contemplating the equation, surrounded by the turbulence of history. For details of this episode, see the chapter on Noguchi in Mexico in *'Listening to Stone: The Art and Life of Isamu Noguchi'* by Hayden Herrera, Farrar, Straus & Giroux, 2015

<sup>3</sup> For a full transcript of the Fuller Telegram on  $E = MC^2$  to Noguchi, see, <http://www.lettersofnote.com/2011/08/energy-equals-mass-times-speed-of-light.html> on the 'Letters of Note' website created by Shaun Usher.



### Buckminster Fuller Telegram to Noguchi

We take the bare bones of this episode to be a kind of methodological exemplar for the problem of how to answer questions like ‘*are we human?*’, or ‘*how to be human?*’ and variations thereof. What else can you do when you have to respond to a question with an answer that was till just now at the tip of your tongue?

Fuller’s response is the kind of answer that we suspect that the Vikram would have had to offer twenty five times to his mentor and tormentor, the goblin Betaal (‘Out of Time’, pun intended). One for each time Betaal posed a riddle<sup>4</sup>,

<sup>4</sup>The goblin Betaal’s questions posed to King Vikramaditya (Vikram) feature in a famous set of ‘riddle stories’ known as the Vetālapañcaviṃśati, or Betaal Pachisi (Twenty Five Tales of the Betaal). The wikipedia entry on the story cycle ([https://en.wikipedia.org/wiki/Baital\\_Pachisi](https://en.wikipedia.org/wiki/Baital_Pachisi)) has the following succinct plot summary: “The legendary king Vikramāditya (Vikram) promises a sorcerer that he will capture a vetala (or Betaal), a spirit analogous to a vampire who hangs from a tree and inhabits and animates dead bodies. Vikram faces many difficulties in bringing the vetala to the

the solution for which would free Vikram from the task of having to bear the burden of carrying the being outside time as he sojourned in the world's charnel house.

[Perhaps Betaal asks Vikram, "When life and death run a race, who wins?" Perhaps Vikram answers, "Life is the anti-clockwise motion of clock-hands on a clock-face that runs clockwise towards death. Both life and death must read the numbers, one to run away from, and the other to run towards the direction of time. Death doesn't yet win, life still doesn't lose, but the referee's finger is always pulling the trigger on the starter gun, and the alarm never stops ringing." Perhaps a says "Bravo wise King, well played, but let's see if you can get to the heart of my next and best riddle." And so on, and on.]

We could say that Vikram's answers, or Buckminster Fuller's telegram's 'tensegrity ('tensile integrity') to use a Fullerism, is symptomatic of a kind of controlled communicative chaos. It features a startling but coherent conclusion that we are still trying hard to understand.

"...SPECIFIC QUALITY OF ANIMATES IS CONTROL WILLFUL OR OTHERWISE OF RATE AND DIRECTION ENERGY RELEASE AND APPLICATION NOT ONLY OF SELF MECHANISM BUT OF FROM SELF MACHINE DIVIDED MECHANISMS AND RELATIVITY OF ALL ANIMATES AND INANIMATES IS POTENTIAL OF ESTABLISHMENT THROUGH EINSTEIN FORMULA"

In other words, the mechanism of life (the property of animates) features the ability to achieve willful or involuntary control over the rate and direction of the release of energy along with the capacity to divide, and to create relationships with other animates and inanimates that are a result of that division, or that are present anyway. Life is that which coheres, divides, multiplies, relates, and by doing so, flourishes. Human life is that which know that it does so. Presumably, it still enjoys doing so.

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*sorcerer. Each time Vikram tries to capture the vetala, it tells a story that ends with a riddle. If Vikrama cannot answer the question correctly, the vampire consents to remain in captivity. If the king knows the answer but still keeps quiet, then his head shall burst into thousand pieces. And if King Vikrama answers the question correctly, the vampire would escape and return to his tree. He knows the answer to every question; therefore the cycle of catching and releasing the vampire continues twenty-four times. Finally, the twenty-fifth question stumps the king, and so the goblin consents to be made captive."*

For a note on Raqs Media Collective's work refracted through the prism of the Vikram-Betaal motif, see "In Rarer Air: Ten Entries in an Untimely Calendar" by Aarti Sethi, Take on Art Magazine, Issue 16, 2015

Seen this way, every human, and every living being is a temporary defeat of the second law of thermodynamics, which would ordinarily have the universe, and all matter in it, fritter itself away perennially towards chaos as time passes. But the accident, or blueprint, of Life, while it lasts, features biology outsmarting physics, one infinitesimal life at a time. We are as ephemeral and as strong as a thread in a spider's web. Gone in a breath, enduring a storm. Everything else is ordinary.

To embody a peak of concentrated living intensity even while caught in the undertow of thermodynamic dispersal is to be both in and out of time. To live, leaping from one such peak to the next, is to experience the intensity of the flux, flow, cross-overs, inversions, collisions, loops, folds and confusions of all kind of durational influences and processes. Time is a shape-shifting entity made up of layers, arranged in folds, latticed by cracks. Time waxes, wanes, wavers, winds up and winds down. Time is a trickster, wears disguises, plays hide and seek, plays for time.

The forces of time impacting upon us, burning us, oxidizing us, answer to different kinds of acceleration – of the planet and off the planet, to their entanglements. We have only a dim awareness of the disruptive power of these forces on our metabolic processes. And yet at a fundamentally cellular level, we tend to want to stay organized till we must die. Eventually, thermodynamics reigns supreme but every life is a conscious insurgency of the will of each cell against the way of all atoms. To stay human we have to stick to this plot and to this hunger. This is the only design. There is no plan B.

While we live, we betray a tendency towards the maintenance or increase of relatively high level of information, despite a simultaneous, constant and counterweighted tendency towards entropy and meaninglessness. Eternity would freeze design and melt disorder, but we aren't there yet. We will never be, even though we act like creatures that run anti-clockwise in a clock-wise universe.

[Now, Vikram asks Betaal, "Are you done?"

The goblin cackles in reply.

He is never done; always, already, undone.]

The daily plebiscite against time that unites every cell in the body's unruly democracy requires a lot of energy, which we mine from a cold, cold universe. From the sun, our nearest fire-place, our farthest gold mine. If the universe is a cold, ghostly, deity, a Shiva-sovereign drunk with *datura* and other poison,

then the suns and the stars and the planets and comets are his host of spirits, burning, dancing, spinning merrily around him as he goes to fulfill his tryst with time.

What does it take for us to join this cosmic raucous wedding party, this blazing, drunken cosmic orgy between cold space and hot time? <sup>5</sup>

We run till we drop. Our sun burns because it has no choice. Although it is in some fundamental way the source of all life on earth (and as far as we know, in the universe), It is not itself a living thing and so cannot, not even momentarily, reverse its tendency towards disorder. In ceaselessly dying, the sun generously endows life with its energy. This is the power that we use to stay up and running. The good saint Bataille taught us that the sun shits out a dying light, which we eat to stay alive. We, humans, are knowing solar scavengers, the sapient vultures, hyenas and pigs of solar time.

Basically, we harness light. We harvest other animates (other forms of life) that either turn light into life-force (by photosynthesis - such as all plants) or we prey on other life forms, that in turn prey on plant life. We live by eating the life that eats light to live. In the current scheme of things, this guarantees abundance for all, because the sun is too distant a source of sustenance to play at favorites by parcelling out the consequences of its combustion into greater and smaller portions.

We in our turn are eaten by darkness. And this is our design flaw. We look into the mirror and see mortality looking back. It tells us that we will run out of light in the end. Perhaps uniquely amongst creatures (with the possible exception of elephants and their close cousins, the cetaceans - some whales and dolphins) we know death, our own, that of our species, even that of our sun. One day, aeons from now, we know that our sun will grow cold, and that we will either have to prepare to outlive that freezing point by finding places to nest and scavenge in the light of other stars, or to accept that our days of eating light will have come to an end.

At more modest scales, the metaphor of the frozen sun may find other applications. We are aware that can get social hypothermia from capitalism's sub-zero dive into a zone of total alienation where our social relations become too brittle, too frozen to be supportive to any desire for life.

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<sup>5</sup> For a description of Shiva's 'wedding party' see - 'The Hideous Groom' in 'Myth=Mithya: A Handbook of Hindu Mythology' by Devdutt Patnaik, Penguin Books, 2006

Sometimes when markets crash, we see this happen. Capital then comes into its own as the death drive, the *alp* or goblin of dead labour that sits on the chest of living labour. Like Betaal, it is no longer a friendly imp, but an icy, sclerotic, anacoustics interrogator who's questions are sharp icicles.

When the weight of dead labour gets too heavy then the only way that capital knows to lighten its load on the earth is by shedding some ballast. In our times, this takes the form of wholesale destruction of constituted infrastructure, life and nature.

The descent and ascent of societies into and through war is a measure of a generation's willingness to commit mass ritual suicide rather than to consider an exit. There can be no greater design flaw.

The problem is, how is one to live, knowing as one does the possibility of personal tragedy, social death, and natural disaster.

Sometime in 1972, Buckminster Fuller came to the conclusion that he 'seemed to be a verb'.<sup>6</sup> To describe oneself as a verb rather than a noun is to insist that one is 'doing' rather than 'being'. To be, to just be, one can claim the ontological privilege of an accident. But to do, one has to have working parts, one has to have a design. Life, as in the fact that there should be any animate beings at all, may well be an accident. But once 'life' gets going then each life must adhere to the dynamism of the design for what it needs to do in order to be what it is.

From Hayden Herrera, Noguchi's biographer, we learn that while working on this frieze-mural in 1936 he wrote an article in 'Art Front', the magazine of the New York Artists Union. The text calls for the abandonment of traditional forms, materials, techniques and styles and advocates investigation and experimentation with new media, with new forms and materials. Even with new tools, such as spray guns, drills and pneumatic hammers. '*Why not paper or rubber sculptures*' he asked. Noguchi championed the cause of art in public contexts, and advocated for its embedding in life. He says, '*Capitalism everywhere struggles with inevitable death - all the machinery of war, coercion and bigotry, are as smoke from that fire*'.

We need not share Fuller's faith in a 'divine designer', or even to Noguchi's sense of historical destiny in order to cleave to a sense of one's design as a

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<sup>6</sup> See '*Life as a Verb: Applying Buckminster Fuller to the 21st Century*' by W. Patrick McCray, Los Angeles Review of Books, June 21, 2016.

continuing argument with the weight of accumulated dead labour. Design, in this case, is polemic of verbs against nouns, of 'doing' as opposed to 'being'. It is also the question of how to harness the light to keep the desire for life; for an esthetic and ethic of dividing, multiplying, relating, flourishing alive despite the retrospective and anticipated burden of the dead. It is a property of the phylogenetic emergence of a life form in conditions of entropy, or, the decision by Vikram to keep walking with the burden of Betaal on his shoulders while continuing to search for an answer to the riddles of time, life, death, truth, justice, beauty and love.

Design, unlike nature, does not abhor a void. Sometimes, while waiting for a really good answer, it can make do with what ever it at hand, until the just and or elegant answer finally comes calling.

It is said that while Isamu Noguchi waited for Buckminster Fuller's telegraphic response to his question to arrive he happened upon another answer. One of the Mexican workers working with him smiled and gave him another way to understand Einstein's famous equation.<sup>7</sup>

He said, " $e=mc^2$ " means '*Estado = Muchas Cabrones*' or '*The State equals many sons of bitches*'.

This is as valid an answer as the one that says,

QUOTE ENERGY EQUALS MASS TIMES THE SPEED OF LIGHT UNQUOTE  
SPEED OF LIGHT IDENTICAL SPEED ALL RADIATION COSMIC GAMMA X  
ULTRA VIOLET INFRA RED RAYS ETCETERA ONE HUNDRED EIGHTY SIX  
THOUSAND MILES PER SECOND WHICH SQUARED IS TOP OR PERFECT  
SPEED GIVING SCIENCE A FINITE VALUE FOR BASIC FACTOR IN MOTION  
UNIVERSE STOP

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<sup>7</sup> For details of this episode, see the chapter on Noguchi in Mexico in '*Listening to Stone: The Art and Life of Isamu Noguchi*' by Hayden Herrera, Farrar, Straus & Giroux, 2015



Noguchi Relativity Equation in Mexico