

“Comprehensively Commanded Automation”

 Posted on 1 November 2020 by [cjf](#)

The title is a puzzling but evocative expression from Bucky Fuller’s book “Operating Manual for Spaceship Earth”. Our exploration of it will show that Bucky’s book is, perhaps, his most concise articulation of his full philosophical vision. Before I try to interpret it, let me provide some background.

Last year, I wrote [a synopsis for Buckminster Fuller’s “Operating Manual for Spaceship Earth”](#). Recently, I wrote [another synopsis of “Operating Manual”](#) for the [Comprehensivist Wednesdays series](#). Inspired by [my presentation on Bucky’s Comprehensive Thinking](#), Shrikant Rangnekar of [52 Living Ideas](#) has organized [a series of events on Bucky’s Operating Manual for Spaceship Earth](#). This essay was written to provide ideas in support of the [7 November 2020 event on “Operating Manual” for that series](#) ([crossposted](#) at [The Greater Philadelphia Thinking Society](#)).

Introducing “Comprehensively Commanded Automation”

When I wrote my first synopsis of R. Buckminster Fuller’s 1969 book “Operating Manual for Spaceship Earth” last year, I identified the title of chapter 3 “Comprehensively Commanded Automation” as a significant idea in the book. It is not a catchphrase. I do not think Bucky ever used the phrase again. This essay will show how my interpretation of “Operating Manual” sees this phrase as a significant unifying concept in the book that resonates repeatedly with the text revealing meanings that might otherwise be missed.



I will indicate how the phrase “comprehensively commanded automation” connects with other passages through juxtaposition and parallel word usage to reveal meanings that are implicit on a first reading. Your task is to assess the value of this interpretation.

The book begins by extolling our “comprehensive proclivities”.

[I]n observing a little child, we find it is interested in everything and spontaneously apprehends, comprehends, and co-ordinates an ever-expanding inventory of experiences.... Nothing seems to be more prominent about human life than its wanting to understand all and put everything together.

— *Buckminster Fuller*

This is a strong statement for what Bucky calls “comprehensivity” and I labeled “comprehensivism” in the [“Collaborating for Comprehensivism” site](#). It modifies the meaning of “comprehensively” in the phrase we are interpreting to include understanding it all and putting it all together.

After a couple of chapters exploring the historical roots of the dangerous adoption of over-specialization, Bucky introduces the phrase “comprehensively commanded automation” in this passage:

Suddenly, all unrecognized as such by society, the evolutionary antibody to the extinction of humanity through specialization appeared in the form of the computer and

its comprehensively commanded automation which made man obsolete as a physical production and control specialist—and just in time.

— *Buckminster Fuller*

With 50 years of hindsight, we now realize there are pernicious issues with distorting biases in digital data and pernicious issues with the algorithms that too many thought would bring about only positive change. Nevertheless, Bucky got this basically correct. Today, no one would address any of the challenges we face without a computer. The reason is exactly what Bucky identified: keeping track of data, goods and services production, and the control of processes is now routinely *automated* by computers freeing us “to reestablish, employ, and enjoy [our] innate ‘comprehensivity’”.

Bucky is explaining the idea of “comprehensively commanded automation” through multiple interweaved angles and perspectives. Our interpretive challenge is to identify the different aspects of the concept so we can see its integrated meaning. Notice how the above quote is juxtaposed with the following:

Evolution consists of many great revolutionary events taking place quite independently of man’s consciously attempting to bring them about.... But all the larger evolutionary patternings seeming favorable or unfavorable to man’s conditioned reflexing are transpiring transcendently to any of man’s conscious planning or contriving.

...I remind you quickly that none of you is consciously routing the fish and potato you ate for lunch into this and that specific gland to make hair, skin, or anything like that. None of you are aware of how you came to grow from 7 pounds to 70 pounds and then to 170 pounds, and so forth. All of this is automated, and always has been. There is a great deal that is automated regarding our total salvation on Earth...

— *Buckminster Fuller*

Bucky has clarified what he means by “automation”. It can be unconscious. It can be widespread without our noticing it. We can say more: “comprehensively commanded automation” can be seen as “evolutionary patternings transcending our spontaneous cognitions and recognitions”. Our evolution must be considered comprehensively as Bucky elaborates throughout the book: we ought to strive to see the Big Picture of evolution. When we do, evolution is seen as “commanded automation”: we get swept along spontaneously and unawares to attend to this and that just like the nutriment in our food. That sense is reinforced at the end of chapter 3 when Bucky uses the phrase “inexorable evolution”.

But “comprehensively commanded automation” also refers to our commanding evolution as we help coordinate “local universe affairs”. Consider these clauses throughout chapter 3 (note: by “metaphysical” Bucky means our thoughts and ideas which are unaffected by physical principles such as gravitation): “metaphysical initiative of unbiased integrity could unify the world”, “metaphysical mastering of the physical”, “[to] fulfill a much greater destiny than that of being a simple muscle and reflex machine—a slave automaton”. These quotes suggest our role is also to command evolution with our conscious design initiative. So, “comprehensively commanded automation” is also a moral calling to intervene in our forward evolution.

In chapter 4 Bucky introduces Spaceship Earth and expands our scope to the cosmic. We learn about the automation system where the Earth travels around Sun at more than 60,000 miles per hour while rotating on its axis at 1,000 miles per hour while the Sun supplies us with vast amounts of energy to service our hurricanes and our water cycle, while gravity from the Sun and Moon propel our tides, and much more. This is again “comprehensively commanded automation”.

Then Bucky re-emphasizes what he calls “the generalized principles”. These principles hold in every case, they are what others call “laws of Nature” like the principles of leverage and gravitation. That is, they are comprehensively applicable. Because they hold in every case, we are commanded to obey them, always. They automate the world. We can now see that “comprehensively commanded automation” refers to all the generalized principles as well.

We use our knowledge of the generalized principles to “command” our forward evolution, to engineer our machines, to grow our crops, etc. There is a fascinating balance between commanded as a subjugating principle over which we have no control and the command authority of our design initiative: conscious and unconscious interweaved. That’s the integrated sense I get from “comprehensively commanded automation”.

This is how “comprehensively commanded automation” articulates the Spaceship Earth metaphor of the book: we live aboard an intricately automated machine AND we are all crewmates working toward our shared forward evolution.

What do you think Bucky’s phrase “comprehensively commanded automation” means? What aspects of my interpretation resonate for you? What aspects, if any, seem mistaken?

Comprehensivity and Regenerative Evolution: The Main Theses of “Operating Manual”

After linking the “comprehensively commanded automation” concept into the Spaceship Earth metaphor, Bucky devotes chapters 5 and 6 to his synergetic approach to systems thinking. Then at the end of chapter 7 Bucky asserts, “All tools are externalizations of originally integral functions.” He juxtaposes the following a few paragraphs later:

Man cannot compete physically as a muscle and brained automaton—as a machine—against the automated power tools which he can invent while metaphysically mastering the energy income from universe with which evermore powerfully to actuate these evermore precise mass-production tools. What man has done is to decentralize his functions into a world-around-energy-networked complex of tools which altogether constitute what we refer to as world industrialization.

— *Buckminster Fuller*

The word “automaton” reminds us of the earlier passages where Spaceship Earth was joined in a bipartite “comprehensively commanded automation”, that is, both as a subjugating inexorable evolution and as our commanded design initiatives. So, we see the externalized automation of “integral functions” (our onboard biological functions including our brains) as world industrialization which is, in turn, “an externalized metabolic regeneration organism involving the whole of Spaceship Earth and all its resources”.

Bucky repeats himself in a spiral way: it is not verbatim repetition and the new context expands the meaning, but the central issue of the book again manifests in another variation of “comprehensively commanded automation”. Bucky ratchets forward with one final recapitulation for his conclusion:

[I]t is humanity's task to comprehend and set in order the special case facts of human experience and to win therefrom knowledge of the a priori existence of a complex of generalized, abstract principles which apparently altogether govern all physically evolving phenomena of universe....

Man can and may metaphysically comprehend, anticipate, shunt, and meteringly introduce the evolutionarily organized environment events in the magnitudes and frequencies that best synchronize with the patterns of his successful and metaphysical metabolic regeneration...

— *Buckminster Fuller*

These are the two theses of “Operating Manual for Spaceship Earth”: our comprehensivity AND our design role in regenerative evolution. The phrase “comprehensively commanded automation” provides key supports linking these theses with the related metaphor of Spaceship Earth. It is a profound vision where our comprehensivity reveals we are both the stewards of Spaceship Earth and surfers propelled along unconsciously by its transcendental evolutionary waves!

What do you think of the interpretation of “comprehensively commanded automation” as a key supporting idea for the dual integrated theses of “Operating Manual”? What are its strengths? What are its deficiencies?

This essay was written to provide ideas in support of the [7 November 2020 event on “Operating Manual for Spaceship Earth”](#) at [52 Living Ideas](#) ([crossposted](#) at [The Greater Philadelphia Thinking Society](#)).

Addendum: 1h 40m video from the 7 November 2020 event:

Additional Resources

Here is a list of resources you might read to further explore these ideas:

- A [44 page PDF](#) of “Operating Manual for Spaceship Earth” by R. Buckminster Fuller at http://designsciencelab.com/resources/OperatingManual_BF.pdf, or read a [web-based copy](https://web.archive.org/web/20041028062223/http://www.futurehi.net/docs/OperatingManual.html) at <https://web.archive.org/web/20041028062223/http://www.futurehi.net/docs/OperatingManual.html>
- [Advice for reading “Operating Manual for Spaceship Earth”](#)
- My [November 2019 synopsis](#) of Buckminster Fuller’s “Operating Manual for Spaceship Earth”
- My [October 2020 synopsis](#) of “Operating Manual for Spaceship Earth”
- [Videos from a series of events on Bucky’s “Operating Manual for Spaceship Earth”](#)
- Archive of past monthly announcements for the [Comprehensivist Wednesdays series](#)
- [Join the weekly announcements mailing list for Collaborating for Comprehensivism \(which includes Comprehensivist Wednesdays announcements\)](#)

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Recent Posts:

The Comprehensive Thinking of R. Buckminster Fuller @ Comprehensivist Wednesdays



Details

We will explore the Comprehensive Thinking of R. Buckminster Fuller as disclosed in his 1969 book "Operating Manual for Spaceship Earth". Bucky's Comprehensive Thinking was an inspiration for the "Collaborating for Comprehensivism" initiative which led to Comprehensivist Wednesdays. We will learn more about how Bucky's Comprehensive Thinking, his "comprehensivity", comprehensivism, and Comprehensivist Wednesdays are related.

I have written a brief of the book to help participants focus on the main aspects we will explore. You can read it at <https://www.cjfearnley.com/CfC/2020/10/the-comprehensive-thinking-of-r-buckminster-fuller/>

That resource also includes some commentary on comprehensivism as context for our topic and some advice for readers of the book.

To read the book on-line here are two options:

A 44 page PDF is at http://designsciencelab.com/resources/OperatingManual_BF.pdf

A web-based copy is at <https://web.archive.org/web/20041028062223/http://www.futurehi.net/docs/OperatingManual.html>

https://upload.wikimedia.org/wikipedia/en/1/16/Operating_Manual_for_Spaceship_Earth.jpg

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Welcome to the series "Comprehensivist Wednesdays". Transdisciplinarity, Renaissance humanism, homo universalis, and Polymathy are some of the ways of describing this approach which Buckminster Fuller called Comprehensivity and described as “macro-comprehensive and micro-incisive”.

July 15: Why Be a Comprehensivist? — a Panel Discussion.

Watch here: <https://youtu.be/qjwTy6pGkNA>

July 22: Louis Sullivan’s Ideas: Art of Expression & Form Follows Function with Architect Sherri Tracinski & Shrikant

Watch it here: <https://youtu.be/oM8vbQQ-4MU>

Jul 29: Humanity's Great Traditions of Inquiry and Action with CJ Fearnley

Watch it here: https://youtu.be/8RuHE_3FMUs

Aug 5: Optimize Everything: Interview with mathematician Spencer Greenberg on Psychology, society, technology & science

Aug 12: The Necessities and Impossibilities of Comprehensivism

Watch it here: <https://youtu.be/u6372Te2YA8>

Aug 19: Polymaths in 21st Century with Angela

Aug 26: The Art-Experience and The Architecture of Our Identities Karen

Sep 2: Neuroscience: Why are our Habits so Powerful? with Sanjay

Sep 9: Four Cardinal Greek Virtues in Visual Art & Mythology by John Roth

Sep 16: The Fundamental Role of Story in Our Lives with CJ Fearnley

Watch it here: <https://youtu.be/4UvDO2z0bjo>

Sep 23: Lightening Talks (Talk for 5 minutes about what you are exploring)

See the calendar at <https://www.meetup.com/52LivingIdeas/events/calendar/>

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Bucky Fuller's Main Theses in "Operating Manual for Spaceship Earth"

Join me to explore the main theses of Bucky Fuller’s 1969 book “Operating Manual for Spaceship Earth” through the puzzling but evocative phrase "Comprehensively Commanded Automation" which is the title of chapter 3 in the book.

When: Sat 7 Nov 2020 @ 2:30PM (New York time)

Full event description and to RSVP: