

Death is an Engineering Challenge

Daniel Burger¹, Masataka Watanabe², and Gabriel Cunha³

¹**Eightsix Science**

daniel@eightsix.science

²**University of Tokyo**

watanabe@sys.t.u-tokyo.ac.jp

³**Neurosyncs**

gabriel@neurosyncs.com

April 4, 2025



Abstract

We introduce Synconetics, a new scientific discipline dedicated to solving death through synthetic consciousness mechanics—a set of practical, engineering-focused, transdisciplinary approaches grounded in solutions achievable today. Synconetics prioritises evidence-based, buildable technologies over philosophical speculation, aiming to preserve the continuity of human consciousness across different substrates.

Table of Contents

List of Figures	II
List of Tables	III
List of Listings	IV
1 Introduction	1
1.1 First Principles of Death	1
1.2 A New Way of Thinking	1
1.3 New Discipline Needed	2
1.4 Aligned Values, axioms?	2
2 Nomenclature and Definitions	3
3 Methodologies and Approaches	3
3.1 Daniel's Approach	3
3.2 Masataka's Approach	3
4 Roadmap and Funding	3
5 Economics and Impact	3
6 Conclusion and Call to Action	3
References	4

List of Figures

List of Tables

List of Listings

1 Introduction

1.1 First Principles of Death

- we want to treat death as an engineering challenge. what we mean here, is that we see what death means <explain what death is from a very first principles perspective> and that it is purely from first principles perspective, an engineering challenge. - we want to preserve the continuity of human consciousness across different substrates (substrate independent minds) - we look at whatever we are (our consciousness) as a process of several actions in physical space, or receiving whatever is being received if this is e.g. also the case for our consciousness, and look at it as a 4D world line (as in the case of general relativity) and whatever happens, we try to preserve that. no interruption, no copy, no new line emerging next to it, even if the same properties, as it's an atomic process in the 4D world line. - we focus on death itself as the focus, not the object that defines death (the human body), as this shifts the focus from the problem to the solution and first principles. - the end goal is lifespan extension, but compared to existing longevity approaches, we are not only trying to defeat death, but make it really hard to die. we can land a man on the moon, but we it's still incredible hard to do so. - the reason for this is that we disconnect the mind from the body. as it's the body where we're embodied that makes it easy to die. even if we can extend the lifespan, it's super easy for somebody to stab you in the face and kill you. the most radical approach to defeating death from a first principles approach is to preserve this 4D line. we can replace organs, we can replace our entire body, but when we start what makes us, presumably in the brain, we need to preserve that. - we need to preserve the 4D world line. for that there are a few approaches, the most prominent to this is the idea of achieving substrate independence. and the most prominent approach to that is to achieve it through what most people call mind uploading. however there are some problems with the current way of thinking that surrounds the research of mind uploading.

1.2 A New Way of Thinking

- explain what mind uploading is and how it mostly relates to the field of whole brain emulation. - say that there are a few problems with it, as the main problem is that we focus on the mind itself to be preserved, and not the underlying substrate, which is key to preserve the 4D world line. we focus on this blurry concept of mind and consciousness and assume we can model it on a computer to preserve it. however, reality is more complex than our best models. the best model would include every parameter of reality in order to model reality to its best satisfaction, however, such a model would be reality itself (hence we assume that trying to emulate reality inside reality itself is asymptotically approaches infinity) - we need to focus on the underlying substrate, the brain, and work with what we know for sure, such as that consciousness exists, that brains exist, that reality is physical, and that the brain is physical and that such a concept of a 4D line exists. - the problem with mind uploading already assumes computability, that the mind is something of a process, and generally everything is very inspired by computer science. mind uploading has the fundamental flaw in thinking that we focus on the blurry concepts that are hard define, and not the physical obvious things we have at hand, hence

mind uploading is never an engineering approach that can actually be built with strong confidence and without huge assumptions and beliefs. mind uploading seems more of a religion than a science just purely based on this way of thinking. - there are a bunch of other problems with mind uploading, which we don't want to deepen too much as it has been discussed a lot already, such as the teleportation paradox, scale separation, philosophical zombies, etc. what is evident, that next to the underlying wrong way of thinking of the actual problem in the room; preserving the 4D world line in order to cure death and make it really hard to die, we need to shift our way of thinking away from this and into something that is actually an engineering approach with first principles we know for sure without philosophical assumptions.

1.3 New Discipline Needed

- Due to these problems, we want to differentiate ourselves from the current way of thinking in the works from people working on mind uploading, and create a new discipline that separates itself from the current way of thinking. - we need to create a new discipline that is focused on the engineering approach to death, and that is focused on the first principles perspective of death. - generally want to retire the term mind uploading, as it's a very vague term that doesn't really tell us anything about what we're actually trying to achieve. as well as it comes from science fiction, and not science. - <describe what needs to be done to create a new scientific discipline> - this new discipline shouldn't be coming from one singular discipline as a subdiscipline <give an example> or a mix of disciplines (such as neuropsychology), but it should be a new discipline on its own combining transdisciplinary approaches to solve the problem of death. - e.g. mind uploading, or whole brain emulation, which is <a sister of mind uploading>, are all subdisciplines of computer science with neuroscience (computational neuroscience), which limit the thinking of the current space in this field, which is clearly the case as we have totally disconnected discussions on the actual problem in the room. - we want to not let the majority of funding and efforts go into the field of mind uploading due to the explained issues of thinking, and philosophical issues as well, where we all might end up in a great filter, where we are all simulated minds on computers, which would be a graveyard of philosophical zombies, that would be the funniest tragedy of the great filter - hence bringing together people into a new discipline, with some aligned ideas and concepts to work on what actually matters; defeating death and making it really hard to die, not in the next 200 years with assumptions of technological advances that might be solved (such as what consciousness is, if machine consciousness is even possible, nano tech, etc.) all things that don't exist, but with an actual engineering approach to the problem that we can start working on today, and tomorrow in order to solve it the day after tomorrow.

1.4 Aligned Values, axioms?

- death is avoidable and desired - death needs to be treated as an engineering problem grounded in first principles, totally freed from philosophical assumptions and potentially faulty ways of thinking. - we want to make dying hard in order to preserve this 4D world line, whatever that means. (generally, it's about sidestepping assumptions, but from an

external perspective, where we can work with it, but not ignore it like in e.g. dogmas in religions). - we say that substrate independence might be possible, as the brain itself is matter in reality composed in a specific way, and if we could replicate this in reality to 100%, we would get a conscious being as nature has given us, so there might be some law of consciousness. we don't wait for these pure scientific findings to be known, but we say that from a pure first principles point of view, it's possible. if whatever that is, needs to be biological or e.g. synthetic or as in the case of mind uploading artificial, we don't know, but maybe. <make comparison of wright brothers studying bird flight, building synthetic bird wings, finding the underlying laws of flying (not really understanding it perfectly, but making it an engineering-perspective okay enough to work for what goal they wanted to achieve: making humans flight for a very long time), and then how they built the artificial wing and motors and hence motorized flight for humans. after a few years, we built then better wings, and concepts such as the jet engine, which let us fly supersonic, which is not something evolution has given us, but something where we needed to escape the velocity of evolution constrained in biology and build things that weren't possible without. we say that we want to have this for the brain, whatever that will mean. but we need to start with what works today, which are our brains, and the constraints of understanding of the mind, consciousness, etc.> - there are certain benefits with computerized brains, such as the ability to store and process information in a way that is not constrained by the physical limits of the brain, co-location of the brain in physical space, higher processing speeds, etc. – however, these are assumptions and desires and go beyond the main goal for now to defeat death and make it really hard to die. there is also the concept of making death impossible, which might be true in the future after we "find the jet engine of the brain to fly supersonic", but we don't need to wait for that in order for us to start working on the problem. - we hence focus on the main goal, having something to work with to get a conscious 4D line being preserved with continuity sidestepping all issues with other approaches, and making this synthetic consciousness mechanics.

2 Nomenclature and Definitions

3 Methodologies and Approaches

3.1 Daniel's Approach

3.2 Masataka's Approach

4 Roadmap and Funding

5 Economics and Impact

6 Conclusion and Call to Action

References