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Tripping in Solitude
Introducing Honza Samotar by Way of John Lilly

Nicolas Langlitz

Whereas self-experiments were part and parcel of scientific practice in the nineteenth century, today they are regarded with suspicion. But despite its marginalization, self-experimentation has not vanished altogether. In the gray area of contemporary science, some curious individuals are still seeking a more profound understanding of themselves and our kind by systematically manipulating their bodies and minds. Honza Samotar, for example.[1] I would like briefly to introduce his work and the tradition from which it has arisen before you hear his own report.

Samotar is a Swiss physician of Czech descent in his mid-thirties, currently finishing his MD/PhD training, which involves two theses – one on insect navigation with respect to a potential application in robotics, the other one on the effects of hallucinogenic drugs on the brain. At a neuroscience laboratory in Switzerland, he doses healthy volunteers with the NMDA-antagonist ketamine to provoke psychosis-like symptoms. He examines whether the co-administration of the classic antipsychotic haloperidol or the antiserotonergic drug ketanserin can alleviate the ketamine-induced deficits in a manner that is neuropsychologically quantifiable and that changes brain perfusion in a consistent way as measured by positron emission tomography (PET).[2] During my fieldwork on contemporary hallucinogen research in 2005–2006, I served as a test subject in his study. While I was recovering from my first ketamine trip, we spoke about Samotar's work and how he came to do what he does. It turned out that before taking up academic-model psychosis research on human subjects, Samotar engaged in extensive self-experimentation with ketamine and a multitude of other psychoactive substances, mostly hallucinogens.

From 1992 to 1995, as a medical student in his early twenties, Samotar had access to an isolation tank that a friend of his operated in the back room of his bookstore. Samotar used the tank after closing time to test the effects of about a dozen psychoactive drugs on himself, from alcohol and cannabis to fly agaric, psilocybe mushrooms, LSD, ketamine, MDMA, dextromethorphan, trihexiphenidyl, and laughing gas. The isolation tank (also known by its popular name "Samadhi tank" – after the Sanskrit term for a state of "neutral bliss" or "consciousness without object") was developed in the mid-1950s by the American physician John Lilly. But Samotar did not only make use of Lilly's technology. Since he had read Lilly's "autobiography of inner space" entitled *The Center of the Cyclone* at age 17, he also looked at Lilly's whole self-experimental approach as a model. For Samotar, it is Lilly as an unconventional scientist with whom he identifies:

> Lilly made a strong impression on me and has influenced my development significantly as he was akin to me insofar as he approached new problems with great openness. He did so with a

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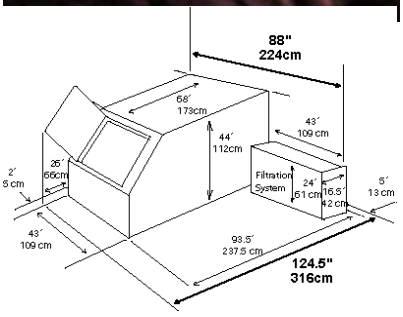
1 Following ethnographic convention, I am using a pseudonym to protect the identity of my informant.

2 For a detailed account of the historical epistemology of hallucinogen models of psychosis, see Nicolas Langlitz, "Ceci n'est pas une psychose. Toward a Historical Epistemology of Model Psychosis," *BioSocieties* 1 (2006).

> high degree of scientific clarity instead of getting lost in esoteric blather and odd speculations. His approach consisted of examining the mind scientifically as a system by isolating it. This was his original idea, which led to the construction of the isolation tank. As little input, as little output as possible to allow grasping the mind as purely as possible and observing it as a scientific object. I found this very impressive because I am a critical and scientifically minded person by nature. For this reason, I have more or less taken over Lilly's approach to drug research and followed in his footsteps for quite some time.[3]

As Lilly's work has had such a profound impact on Samotar, I will give an overview of Lilly's highly original project to provide a historical and conceptual framework for Samotar's self-experimental practice.

1. John Lilly's Isolation Tank Experiments



John Lilly invented the isolation tank in 1954 while he was working as a brain researcher for the National Institute of Mental Health (NIMH) in Bethesda, Maryland. He was interested in research on the reticular activating system of the brain stem and the physiology of waking and sleeping. At the beginning of the 1950s, the neurophysiologists Horace Magoun (University of California, Los Angeles) and Frederic Bremer (Brussels) had suggested that the brain only stayed in a waking state due to outside stimulation. In Lilly's eyes, "the obvious experiment [to test this hypothesis] was to isolate the human from all external stimulation insofar as this was physically possible, and to see what the resulting states were."[4] To carry out this experiment he conceived of the isolation tank: Test subjects were to float for hours in a saline solution at 33.9–34.4°C in complete darkness and dead silence. Under such conditions the human body is deprived of almost all tactile, thermic, visual, and acoustic stimuli (apart from those it creates itself, for example through breathing, heart beats, or bowel movements[5]). In this tank, Lilly engaged in extensive self-experimentation.

3 This quote from Honza Samotar is derived from an interview I conducted with him on February 7th, 2006. The interview has been edited by Nicolas Langlitz and Honza Samotar. (My translation – NL)

4 John Lilly, *The Center of the Cyclone. An Autobiography of Inner Space* (New York: Julian Press, 1972), 41. Cf. John Lilly, *The Scientist. A Novel Autobiography* (Philadelphia: J. B. Lippincott Company, 1978), 98-103.

5 In his discussion of attempts to build sound- and light-proof experimental psychology laboratories in the nineteenth century, Henning Schmidgen emphasized the confounding role of the body: "After excluding every obvious sensation of sound and light, what remains is an encounter with the body; its eyes and ears, its lungs, and its blood. The consequence is that the subject of the experiment reveals him or herself to be a disturbing factor in the execution of the experiment." Henning Schmidgen, "A Roaring Silence: Encountering the Body Without Organs in Time Experiments around 1900," in *Experimental Cultures: Configurations between Science, Art, and Technology 1830-1950 (Preprint 213)* (Berlin: Max-Planck-Institut für Wissenschaftsgeschichte, 2001), 76.

The result of the experiment seemed to rebut the claims of Magoun and Bremer:

> In the absence of all stimulation it was found that one quickly makes up for this by an extremely heightened awareness and increasing sensory experience in the absence of known means of external stimulation. Within the first few hours it was found that I did not tend to go to sleep at all. The original theory was wrong. One did not need external stimulation to stay awake.[6]

Lilly's psychic processes did not die down. In fact, his mind came to develop a rather animated life of its own:

> I went through dreamlike states, trancelike states, mystical states. [...] I went through experiences in which other people apparently joined me in this dark silent environment. I could actually see them, feel them, hear them. At other times, I went through dreamlike sequences, waking dreams as they are now called, in which I watched what was happening. At other times I apparently tuned in on networks of communication that are normally below our levels of awareness, networks of civilizations way beyond ours. I did hours of work on my own hindrances to understanding myself, on my life situation. I did hours of meditation, concentration, and contemplation, without knowing that this was what I was doing. It was only later in reading the literature that I found that the states I was getting into resembled those attained by other techniques.[7]

John Lilly in front of isolation tank.

By itself the isolation tank did not allow much more to be learned about the brain than the fact that its deprivation of most external stimuli did not lead to a significant reduction in vigilance.

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6 Lilly, *The Center of the Cyclone*, 42.
7 Ibid., 42-43.

However, instead of changing the instrument, Lilly changed his epistemic object. Having started off as a neurophysiologist studying the brain, he soon became more interested in the exploration of his own mind. In many self-experiments, "self-" refers to the use of one's own body as a medium of experimentation with something else. For example, the self-experimenter tests the effects of a certain drug or vaccine on his brain or immune system. In Lilly's case, the self was not only the medium, but also the object of his investigations. For this purpose, the isolation tank seemed to be a highly suitable device. Following the logic of the scientific method, it appeared to single out the epistemic object while minimizing external confounding factors: "A given mind seen in pure culture by itself in profound physical isolation and in solitude is the raw material of our investigation."[8] However, the mind Lilly examined in the isolation tank was not so much a natural given, but a carefully constructed scientific object appearing as it did under highly artificial conditions. The tank had to be installed on several layers of rubber in a secluded and soundproof room protected from daylight, preferably in a basement (and even then the vibrations caused by certain airplane motors and earthquakes could still be perceived in the tank[9]). The temperature of the water had to be maintained through an almost silent heating device and the saline solution had to be filtered and circulated impalpably by a pump to prevent the formation of noticeable temperature gradients between skin and water.[10] The air in the tank had to be renewed continuously as well, which required a second pump.[11] Additionally, the test subject's solitude had to be guarded by locked doors and signs, while someone had to stay close-by to help in case of unexpected events.[12]

Lilly continued to explore his own responses to the "solitude-isolation tank situation" for a decade before complicating the experimental setting. During this period of time, many of Lilly's colleagues at NIMH were studying the effects of lysergic acid diethylamide (LSD). They suggested experimenting with LSD in the tank, which Lilly steadfastly rejected. He did not want to "contaminate" his findings by introducing drugs into his research.[13] However, after he had experienced the effects of LSD in different settings in the early 1960s, he finally decided to follow up the idea.[14] In 1964 – by which time he had left NIMH and established the Communication Research Institute on the Virgin Islands, a center devoted to fostering human-dolphin communication – he finally took LSD in the tank. Over the following two years, Lilly repeated this self-experiment twenty times before LSD was made illegal in the United States. At this point, the

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8 John Lilly, *Programming and Metaprogramming in the Human Biocomputer. Theory and Experiments* (New York: The Julian Press, 1972), xxii. Here, solitude served to isolate the object of investigation. But at the beginning of the nineteenth century, scientists like Wilhelm von Humboldt also regarded solitude as a precondition of scientific access to truth more generally. U. Dierse, "Einsamkeit," in *Historisches Wörterbuch der Philosophie*, ed. Joachim Ritter (Basel: Schwabe & Co., 1972), 410.

9 John Lilly, *Das tiefe Selbst* (Basel: Sphinx, 1988), 40.

10 Related efforts at keeping external disturbing noises out of experimental psychological laboratories in the nineteenth century are described by Schmidgen, "A Roaring Silence."

11 For Lilly's comprehensive list of recommendations concerning an "ideal tank environment," see Lilly, *Das tiefe Selbst*, 168-170.

12 Similarly, in their sociological analysis of monastic life, Niklas Luhmann and Peter Fuchs argue that the monks' withdrawal from society paradoxically required a high degree of social organization to be practicable. Niklas Luhmann and Peter Fuchs, *Reden und Schweigen* (Frankfurt/M.: Suhrkamp, 1989), 21-45.

13 Lilly, *The Scientist*, 105.

14 Lilly, *The Center of the Cyclone*, 7-36.

regulations of scientific applications of hallucinogens became stricter and stricter as well. In 1966, Lilly was obliged to return his LSD stocks to the manufacturer, the Swiss pharmaceutical company Sandoz. Later on, he continued self-experimentation in the tank with ketamine. Despite his use of pharmacological agents, the object of Lilly's inquiry was still the mind, not drugs or the brain. In his eyes, LSD and ketamine only served as vehicles for his psychonautical expeditions.

2. Pharmacologically Facilitated Thought Experiments

Lilly claimed that the special conditions of physical isolation were optimal for "exploring, displaying, and fully experiencing new states of consciousness." "[T]he elimination or at least maximal attenuation of all modes of stimulation from the external reality allows deeper direct penetration of the unconscious."[15] Before he began his self-experimentation in the isolation tank, Lilly had undergone eight years of psychoanalysis with Robert Waelder. He regarded the practice of introspection, which he developed in the tank, as a continuation of this process. But instead of speaking to his analyst and responding to the latter's interventions, Lilly was now on his own. He was well aware of the difficulties that self-analysis poses:

> When one compares the classical analytical situation to the solitudinous self-analysis situation one must be quite aware of what has been sacrificed in each case. The advantage of the external analyst being present listening to one producing the material is that one avoids some of the pitfalls of solitude in that some of the above evasions can be pointed out rapidly before one became too involved in them. On the other hand the interpretations of the analyst can be a distraction from pursuing in depth certain aspects of one's own self-analysis.[16]

Lilly preferred to rely on "a satisfactorily functioning internal analyst" developed over the years on Waelder's couch. He only returned to his analyst when encountering problems he felt he could not solve on his own.[17]

Lilly's self-analysis in the isolation tank was based on the premise shared by all hermeneutics of the self: "The exploration of the inner reality presupposes that the inner reality contains large unknowns which are worth exploring."[18] Yet the outcome of Lilly's journeys into the realms of the unconscious differed in a slight, but decisive, manner from the findings of Sigmund Freud's self-analysis at the end of the nineteenth century: "After having been through some of the innermost depths of the self, a result is that they are only one's own beliefs and their multitudes of randomized logical consequences deep down inside one's self."[19] While Freud conceived of the mental apparatus as a steam engine-like machine operating with charges of libidinal energy, Lilly

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15 Lilly, *Programming and Metaprogramming*, 14, 25.
16 Ibid., 28.
17 For a historical account of the clinical cultures of self-observation in the late nineteenth century and their subsequent problematization, see Andreas Mayer, *From Introspective Hypnotism to Freud's Self-Analysis (Preprint 168)* (Berlin: Max-Planck-Institut für Wissenschaftsgeschichte, 2001). The development Mayer described as "the demise of self-analysis" primarily refers to the move from self-analysis to training analysis in the psychoanalytic movement. Self-analysis has remained important for trained analysts though. The analysis and interpretation of the unconscious is regarded as a lifelong task to be continued independently after the termination of one's own analysis.
18 Lilly, *Programming and Metaprogramming*, 61.
19 Ibid., 40.

looked at the mind as the software of the "human biocomputer" implemented in the brain.[20] The basic elements with which this computer is supposed to operate and by which it is determined are propositional beliefs. Affects only play a minor role in this logocentric model of the psyche. Lilly's self-analysis aimed at identifying the beliefs that he had unconsciously held ever since he was inculcated with them ("in a sense we are all victims of the previous metaprograms which have been laid down by other humans long before us"[21]). The goal was to go beyond the limits of thought and experience set up by these unexamined assumptions. From Lilly's point of view, the altered states of consciousness occurring under sensory deprivation in the tank and under the influence of hallucinogens allowed one to become aware of and to understand those determinations. As for the effects of LSD, Lilly's interpretation was consistent with the use of hallucinogens in "psycholytic therapy" developed by Ronald Sandison and others in the 1950s. Their idea was to facilitate psychoanalysis and other forms of psychotherapy by administering comparatively low doses of LSD to improve the patient's access to the unconscious. As Lilly put it:

> The LSD-25 allows breakdown of the barriers between the emotional-wordless systems, and the wordfilled modeling systems by means of channeled uninhibited feeling and channeled uninhibited action. (This is one way that the unconscious is made conscious in a sometimes too rapid fashion.)[22]

The combination of the isolation tank and LSD allowed a "deeper penetration of self," Lilly reported. But he recommended doing self-analysis without LSD as well as training sessions with LSD and another person before taking the drug in profound physical isolation and solitude.[23] The knowledge gained through these forms of introspection had a practical purpose: Realizing one's determinations was meant to be the first step towards emancipation from them. The isolation tank, Lilly hoped, would allow us to "free ourselves from the effects on our thinking machine of storage of material from the external world" and from "the effects of storage of metaprograms which direct our thinking, programs devised by others and fed to us during our learning years."[24]

But mere understanding of one's conditioning does not suffice to change one's life. For Lilly the psychoanalytic quest for an inner truth was only a first step. To achieve greater autonomy one has to replace one's old imposed beliefs with freely chosen new ones. As far as Freud's "psychic reality" was concerned, Lilly was a radical constructivist: "In the province of the mind, what one believes to be true is or becomes true, within certain limits to be found experientially and experimentally. These limits are further beliefs to be transcended. In the mind, there are no limits."[25] This almost boundless optimism concerning the malleability of the psyche combined

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20 Ibid., 8. At about the same time, the French psychoanalyst Jacques Lacan also reinterpreted the Freudian model of the psyche in terms of information theory, cybernetics, and computer technology. See Annette Bitsch, *›always crashing in the same car‹. Jacques Lacans Mathematik des Unbewußten* (Weimar: VDG-Verlag, 2001). Friedrich Kittler, *Draculas Vermächtnis. Technische Schriften* (Leipzig: Reclam, 1993). Nicolas Langlitz, *Die Zeit der Psychoanalyse. Lacan und das Problem der Sitzungsdauer* (Frankfurt/M.: Suhrkamp, 2005), 157-199. Henning Schmidgen, *Das Unbewußte der Maschinen. Konzeptionen des Psychischen bei Guattari, Deleuze und Lacan* (München: Wilhelm Fink Verlag, 1997).

21 Lilly, *Programming and Metaprogramming*, 6.

22 Ibid., 68.

23 Ibid., 25-26, 35.

24 Ibid., xxvi.

25 Ibid., xii.

the ideals and hopes of human engineering and the Human Potential Movement prospering in the United States at the time.[26] From a Freudian perspective, Lilly's mantra is tantamount to a regression to hypnosis and suggestion, which Freud's "talking cure" was meant to overcome.[27] In fact, LSD was said to provoke a state of increased suggestibility. Hence, the drug not only served to reveal the unconscious programs and beliefs by which the subject is determined, as a "reprogramming substance," it was also meant to help substituting them with more beneficial programs and beliefs.[28] Lilly explained the power of LSD to modify one's programs in terms of information theory:

> In the analysis of the effects of LSD-25 on the human mind, a reasonable hypothesis states that the effects of these substances on the human computer is to introduce *white noise* (in the sense of randomly varying energy containing no signal of itself) in specific systems in the computer. [...] In such noise one can project almost anything at almost any cognitive level in almost any allowable mode: one dramatic example is the conviction of some subjects of hearing-seeing-feeling God, when "way out." One projects one's expectations of God onto the white noise as if the noise were signals; one *hears the voice of God in the Noise*. With a bit of proper programming under the right conditions, with the right dose, at the right time, one can program almost anything into the noise within one's cognitive limits.[29]

The most original aspect of Lilly's self-experiments is his use of LSD and the isolation tank for the purpose of a rather peculiar kind of thought experiment. Thought experiments are usually carried out to examine certain assumptions about reality. Based on the premises in question one thinks through the consequences of these assumptions and compares them to what one has learned about the world empirically. If the results of the thought experiment do not comply with experience the premises need to be questioned.[30] Lilly used the heightened suggestibility under LSD and the physical interruption of social relations in order to implement new beliefs in his own "biocomputer" by way of autosuggestion. When the drug effects died down Lilly was able to reflect on where the assumptions had taken him.

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26 Cf. Rebecca Lemov, *World as Laboratory. Experiments with Mice, Mazes, and Men* (New York: Hill & Wang, 2005).

27 Cf. Langlitz, *Die Zeit der Psychoanalyse*, 22-28.

28 "Certain chemical substances have programmatic and/or metaprogrammatic effects, i.e., they change the operations of the computer, some at the programmatic level and some at the metaprogrammatic level. Some substances which are of interest at the metaprogrammatic level are those that allow reprogramming, and those that allow and facilitate modifications of the metaprograms. [...] For example, the term 'reprogramming substances' may be appropriate for compounds like lysergic acid diethylamide. For substances like ethyl alcohol the term 'metaprogram-attenuating substance' may be useful." Lilly, *Programming and Metaprogramming*, 9. And even more pointed: "It is to be emphasized for those who have not seen the phenomena within themselves that this kind of manipulation and control of one's own programs and its rather dramatic presentation to one's self is apparently not achievable outside of the use of LSD-25." Lilly, *Programming and Metaprogramming*, 19-20.

29 Lilly, *Programming and Metaprogramming*, 76-77.

30 Henning Genz, *Gedankenexperimente* (Hamburg: Rowohlt, 2005). See also Sören Häggqvist, *Thought Experiments in Philosophy* (Stockholm: Almqvist & Wiksell International, 1996). Ulrich Kühne, *Die Methode des Gedankenexperiments* (Frankfurt/M.: Suhrkamp, 2005). Thomas Macho and Annette Wunschel, eds., *Science & Fiction. Über Gedankenexperimente in Wissenschaft, Philosophie und Literatur* (Frankfurt/M.: Fischer, 2004).

> During this first trip I also defined other kinds of belief with which I would experiment. I would try to go to universes other than our consensus universe, universes I didn't necessarily believe existed, but which I could imagine. At first this was a test of the hypothesis that what one believes to be true becomes true. Before the trip, I didn't believe in these universes or spaces, but *I defined them as existing.* During the LSD trip in the tank *I then took on these beliefs as true. After the trip, I then disengaged and looked at what happened as a set of experiences, a set of consequences of the belief.*[31]

Lilly regarded the mind as perfectly malleable. The question was not whether the beliefs experimented with were true, but whether their consequences for the self were desirable. Hence, he did not strive only for self-knowledge. The goal was to change himself by meditating over new beliefs, some of which Lilly found beneficial enough to keep:

> Experiments were done on myself to test the theory, to change it, to absorb it, to make it part of me, of my own biocomputer. As the theory entered and reprogrammed my thinking-feeling machinery, my life changed rapidly and radically. New inner spaces opened up; new understanding and humor appeared. And a new skepticism of the above facts became prominent: "My own beliefs are unbelievable," says a new metabelief.[32]

In the absence of an external referent, Lilly's thought experiments were not about testing certain assumptions about the world. Their main objective was not even to discover an inner truth, although the discovery of "previous metaprograms" was a necessary first step. The goal of Lilly's experiments in the tank was to internalize newly constructed "truths" while maintaining an ironic distance from them. The aim of Lilly's self-experimentation was not so much methodical self-exploration as in psychoanalysis, as much as it was a meditative "work on the self" (Michel Foucault) producing the self-deprecating maverick Lilly came to be.[33]

3. The Paradox of Methodico-meditative Self-experimentation

There is a certain tension between the methodical and the meditative poles of this kind of self-experimentation. Hans Blumenberg pointed out that modern science is based on the principle of method. Its purpose is the integration of a potentially infinite number of subjects doing research in different contexts over time. Their individual lives and their personal desires for truth are irrelevant.[34] If a particular experiment does not lead to the desired outcome, it is regrettable for the experimenter, but the scientific community can still learn from it. Hence, even experiments with a negative outcome are valuable. They contribute to the progress of science at large. Consequently, this must be true for self-experiments as well. The recklessness towards oneself implied by the determination to go beyond given limits was articulated most clearly by Friedrich Nietzsche:

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31 Lilly, *The Center of the Cyclone*, 48.
32 Ibid., 5.
33 For the distinction between method and meditation, see Paul Rabinow, *Anthropos Today. Reflections on Modern Equipment* (Princeton: Princeton University Press, 2003), 6-12.
34 Hans Blumenberg, *Die Legitimität der Neuzeit* (Frankfurt/M.: Suhrkamp, 1988), 370.

> [O]ur attitude towards *ourselves* is *hubris*, for we experiment with ourselves in a way we would never permit ourselves to experiment with animals and, carried away by curiosity, we cheerfully vivisect our souls: what is the "salvation" of the soul to us today? Afterwards we cure ourselves: sickness is instructive, we have no doubt of that, even more instructive than health – *those who make sick* seem even more necessary to us today than any medicine men or "saviors." We violate ourselves nowadays, no doubt of it, we nutcrackers of the soul, ever questioning and questionable, as if life were nothing but cracking nuts; and thus we are bound to grow day-by-day more questionable, *worthier* of asking questions; perhaps also worthier – of living?[35]

Following this severe logic of self-negation for the purpose of overcoming one's current limitations, Lilly even welcomed what he described as a "near-lethal 'accident'," a suicide attempt he committed after his second LSD experience: "No experiment is a failure," he concluded. "I had learned that death is not as terrifying as I had imagined it to be."[36] Within the wider framework of the pursuit of knowledge realized in a *series* of experiments (and not in one experiment alone), it is to be expected that individual experiments fail and there is a lesson to be drawn from such failures as well. Lilly's systematization of self-experimentation, his deliberate disengagement from beliefs he had taken up merely to try them out, and his appreciation of good and bad experiences alike reflect the detached relationship with the world underlying the ideology (if not the practice) of modern science. But how does this fit together with a self-experimental practice aimed at a better life for oneself? How do the recklessness of methodical self-experimentation and Lilly's meditative care of the self go together? Here the subject experiments for his own sake, not for the sake of scientific progress.

The French historian of science Georges Canguilhem has raised the question of norms underlying the epistemology of medicine and the life sciences. Can living beings, who – by nature – invest life with normativity, study this very life in a value-neutral manner? Canguilhem did not think so. From his point of view:

> Medicine exists as the art of life because the living human being himself calls certain dreaded states or behaviors pathological (hence requiring avoidance or correction) relative to the dynamic polarity of life, in the form of a negative value. We think that in doing this the living human being, in a more or less lucid way, extends a spontaneous effort, peculiar to life, to struggle against that which obstructs its preservation and development taken as norms.[37]

According to Canguilhem, judging "certain dreaded states or behaviors pathological" is a function of the normativity inherent in life itself. Consequently, medical and biological research – including self-experimental approaches like Lilly's or Samotar's drug research – must be seen as part of the struggle of living beings for "preservation and development" in insecure and changing environments.[38] Thus the formation of concepts in the life sciences does not take place in the abstract realm of "theory", located at a safe distance from the world of living things described. The production of knowledge in the life sciences constitutes a life process itself. However, if physicians

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35 Friedrich Nietzsche, *On the Genealogy of Morals*, trans. Walter Kaufman and R. J. Hollingdale (New York: Vintage Books, 1967), 113 (§9).
36 Lilly, *The Center of the Cyclone*, 35.
37 Georges Canguilhem, *The Normal and the Pathological* (New York: Zone Books, 1989), 126.

and biologists are not detached observers, but living organisms pursuing vital interests, one would expect that the degree of engagement Canguilhem postulated would be even higher in the case of a self-experimenting psychonaut. In his isolation tank experiments, Lilly was involved in the most existential manner. After all, it was his own life with which he experimented. From Canguilhem's viewpoint, it seems paradoxical that Lilly presents himself as a detached observer of his own impingement while putting his well-being and even his survival at risk without pressing cause. What was he looking for?

In *Selbstversuche*, Peter Sloterdijk pointed out that the rationale underlying modern self-experimentation must not be reduced to the logic of self-preservation. Often a second motivation comes into play, which Sloterdijk called "self-intensification":

> In the concept of self-intensification, there is an element that cannot be accounted for by the rationale of self-preservation alone. In classical tradition, he who preserves himself by abiding by the cosmos is wise – and even in modernity, one still presumes a profound equation of reason and self-preservation. But modernity has long since left the space of self-preserving rationality. The will to self-intensification cuts the auto-conservative cord. One reclaims the right to self-annihilation. The one who always acted in a self-preserving manner couldn't do many things that have been part of our experimental habits since long ago – this unbridled furor, this tendency toward escalation in everything made into an absolute.[39]

Self-intensification aims at transgressing the boundaries of everyday experience and overcoming the limits that define and restrain the self at a given time. This can serve as an apt description of Lilly's project. But does Sloterdijk's diagnosis of a neo-Nietzschean mania at work in modern self-experimentation apply equally well to Honza Samotar?

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[38] At first glance, this appears to be a return to the Aristotelian logic of life. For Aristotle, the soul constituted a fundamental unity of life's reality (*ousia*) and definition (*logos*). "Thus, the concept of the living thing was, in the end, the living thing itself." Georges Canguilhem, *A Vital Rationalist. Selected Writing from Georges Canguilhem* (New York: Zone Books, 2000), 303. From this perspective, the *logos* of life can only be true (at least on the basis of a correspondence theory of truth). The nominalist antithesis to this position holds that there is no necessary connection between the reality of life and its *logoi*. Canguilhem's own stance is strongly informed by the contemporary resurgence of an Aristotelian conception of life in molecular biology. After all, the genetic "code" and its "letters," the "book of life," etc. indicate a certain reunion of matter and *logos*. But Canguilhem's concept of normativity incorporates both the naturalism of Aristotelianism as well as nominalism's emphasis on contingency. Aristotle's life inhabited a cosmos belonging to a lasting and meaningful order of things. The conception of life as situated in an unstable, highly dynamic environment demanding constant adaptation only arose in the nineteenth century. Although Canguilhem does not regard the *logoi* of life as external to life itself these logoi have lost the essentialist privilege of Aristotle's *logos*.

[39] Peter Sloterdijk, *Selbstversuch. Ein Gespräch mit Carlos Oliveira* (München: Carl Hanser Verlag, 1996), 15 (my translation – NL). In this context, Sloterdijk claims that the self-destructive tendencies in modern self-experimentation are related to the idea of self-annihilation in Christian mysticism: "... daß sich das moderne Individuum in seinen Versuchen mit sich selbst die Freiheit nimmt, sich bis an die Grenzen der Selbstzerstörung auszutesten. Das ist ein ziemlich überraschender Zug. Wenn man etwas Vergleichbares in Betracht ziehen will, dann müßte man zurückgehen bis auf die Idee der mystischen Selbstvernichtung, wie sie im europäischen Mittelalter geläufig wurde, vielleicht auch in östlichen Meditationsschulen. Mir scheint, daß da Elemente, die in der christlichen Mystik schon einmal durchprobiert worden sind, heute in einem nicht-theologischen Code wiederholt werden – meistens in der Sprache der gesteigerten Selbsterfahrung, des Rausches, also der Erlebniszivilisation." Sloterdijk, *Selbstversuch*, 14.

4. The Contemporary Problematization of the Self

Samotar's self-experiments in the isolation tank took place in the first half of the 1990s, which George H. W. Bush announced as the "Decade of the Brain."[40] Since then there has been much concern that the self and other aspects of our subjective lives are called into question by the neurosciences. In his preface to a collection of texts representative of the German debate about recent advances in the neurosciences, Christian Geyer articulated this growing disquiet about the illusory character of subjective experience:

> Our life is an illusion. This is the succinct conclusion with which neuroscientists clobber the scene. They say: You think that you're thinking, but in fact, you only think that you're thinking. In reality, nobody thinks, but the brain plays its neuronal game, in which the self doesn't have a say. So much the worse, they say, that the self is even taken in by the illusions, which the play of neurons constantly produces. Among these illusions is the self and its whole way of experiencing the lifeworld.[41]

In my eyes, this uncertainty about the self points to an opening for new forms of representation and intervention, Samotar's resumption of Lilly's practice in the age of cognitive neuroscience among them. I understand Honza Samotar's self-experiments in the isolation tank as one response to this problematization of the self. Samotar is neither primarily interested in self-preservation nor self-intensification and self-transcendence. For him, self-transcendence through the drug-induced dissolution of ego boundaries is only a means, not an end. The question underlying his drug experiments in the isolation tank was, he says, whether there are "experiential invariants" [*Erlebnisinvarianten*]. By this he means: Is there anything in one's experience that resists a broad range of pharmacological challenges? Does anything remain experientially consistent despite sometimes massive alterations of brain chemistry? Is there a core self enduring under all conditions, something steady amidst the flux of neurotransmitters, the firing of nerve cells, the feelings of unlimited freedom and abysmal anxiety going along with the so-called dissolution of ego-boundaries typically induced by hallucinogens?

These were the questions materializing in Samotar's self-experimentation with drugs in the isolation tank. These questions indicate that the existence of the self has become problematic. It is not taken as self-evident anymore. Samotar's worry about "experiential invariants" suggests a

[40] George H. W. Bush, *Presidential Proclamation 6158* (18 July 1990 cited); available from http://www.loc.gov/loc/brain/proclaim.html.

[41] Christian Geyer, "Vorwort," in *Hirnforschung und Willensfreiheit. Zur Deutung der neuesten Experimente*, ed. Christian Geyer (Frankfurt/M.: Suhrkamp, 2004), 9 (my translation – NL).

gnawing disquiet, a lack of confidence vis-à-vis the self in tune with the uneasiness expressed by Geyer. However, while the representatives of the anti-biologistic current in the humanities, social sciences, and the German and Swiss feuilleton have responded to neuroscientific incursions into their traditional territory by writing more and more defensive texts denouncing reductionism, Samotar has drawn a different lesson from his self-experiments. The conclusions at which he has arrived, you will now hear from him.

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