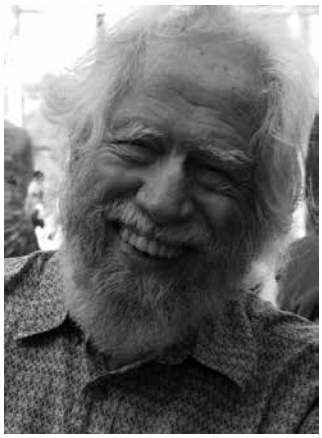

Alexander Theodore "Sasha" Shulgin 1925-2014

The foremost chemist of the mind and of mind alteration, Alexander "Sasha" Shulgin, died of cancer at age 88 on June 2 in his home and laboratory near Oakland, California, at peace after a long series of illnesses. He was born June 17, 1925, to parents who were teachers. Exceptionally bright from a young age, he began studying organic chemistry at Harvard University at age 16, but left to join the US Navy during World War II.[1]

After earning his doctorate in biochemistry from the University of California at Berkeley in 1954, Dr. Shulgin began working for Dow Chemical. He had his first psychedelic experience with mescaline, the psychoactive compound found in peyote cactus (*Lophophora williamsii*, Cactaceae) in 1960. After creating the biodegradable insecticide Zectran in 1962, Dr. Shulgin used the considerable freedom granted by Dow to explore his own interests. In 1966, he left Dow after the company asked him to stop using its name and address on his scientific papers.

Following his departure from Dow, Dr. Shulgin formed a friendship with Bob Sager, who was head of the United States Drug Enforcement Administration's (DEA) Western Laboratory. For more than 20 years, Dr. Shulgin held a Schedule I research license that allowed him to possess, identify, and analyze controlled substances in small amounts for research purposes. This enabled him to explore potential new psychoactive — particularly psychedelic (mind-expanding) — chemicals at his own personal lab. He tested each substance to determine activity, dosage, and safety, beginning with himself, and then with the help of his "research group" consisting of six to eight of his colleagues and his wife, Ann Shulgin (née Gotlieb, a Jungian psychoanalyst). In his work with the DEA, he served as an expert witness in drug trials and published *Controlled Substances: Chemical & Legal Guide to Federal Drug Laws* (Ronin Publishing), the then-definitive controlled-substances reference, for the agency in 1988. To our great loss, his Schedule I research license was revoked in 1993 after the DEA, state, and county raid on his property that stopped his original research. This infamous raid resulted in a slap on the wrist and an inconclusive environmental impact report. The deal offered by the DEA was to face charges or give up his research license. He surrendered the license and was fined $25,000.

Dr. Shulgin proceeded with research on psychedelics, but without the freedom of his Schedule I license. He published four more books, in addition to *Controlled Substances*, and numerous papers in scientific journals. By 2005, Dr. Shulgin estimated that he had had more than 4,000 psychedelic experiences. (His wife estimated that her own numbered above 2,000.)

As described in *The New York Times Magazine* in 2005 and in Dr. Shulgin's obituary in *The New York Times,* by the end of his long career, he had created more than 200 novel psychoactive chemicals including: "stimulants, depressants, aphrodisiacs, 'empathogens,' convulsants, drugs that alter hearing, drugs that slow one's sense of time, drugs that speed it up, drugs that trigger violent outbursts, drugs that deaden emotion — in short a veritable lexicon of tactile and emotional experience."[1]

I have been privileged to be Dr. Shulgin's friend and a recipient of his largesse for decades. The erosion of a great mind, a genius mind, an earth-moving mind, is difficult and sad, however inevitable our dissolution may be. Sasha tried his best to leave us with his encyclopedia, to download his learned treasure as a gift for posterity. In this he succeeded beyond any measure. He has given the world extraordinary gifts.

It was 1973 when Andrew Weil, MD, writing in his groundbreaking *The Natural Mind*,[2] asserted a division between the "natural" realm of psychoactive substances and the synthetic, exalting the plants and their extracts that included pure active principles themselves as safer and less materialistic, therefore directing the user toward the natural highs that occur without chemical alteration. At that time, there were few "synthetics" in circulation. The great expansion of experience with plant active principles and substituted phenethylamines and tryptamines lay ahead. That prejudice was bolstered by others, like Terence McKenna — the truth being that many who made this argument were sophisticated users of substances that were somewhat naturally occurring as well as those that were definitively "white powders," i.e., synthetics. But the prejudice had some taint to it, and chemists like Sasha were erroneously placed on the defensive. Sasha's absorption in the plant world was lifelong and unchallengeable, yet his work as a psycho-chemist and his personal development of hundreds of new structures left him a bit vulnerable to this mistaken identity — unfortunate, as that prejudice arose from what seems to me to have been a polemical notion.

At the center of the investigation of the relationship of mind and botany is Sasha's prelude to the isoquinoline encyclopedia: "One can identify a plant by what it looks like, or by what is in it. One can identify a natural

compound by its structure, or by what plant it is in. Know one, find the other."[2] And so it goes — reciprocally, as posited — in this case, hundreds of the varieties of isoquinolines, hundreds of plants, predominantly cacti and their known constituents.

In his masterpiece on the tryptamines, *TiHKAL* ("Tryptamines I Have Known and Loved"; Transform Press, 1997), Sasha wrote of his early inclination towards the plant world: "Many years ago, my dream was to put together a complete review of the snuffing/drinking/smoking world of ethnobotany into one piece and write the total story. But even then, it was too complex and interdisciplinary, and I have abandoned ship."[4]

Perhaps that vessel was forsaken, but the project has been encompassed and addressed by him. The components of that early vision took the form that coalesced behind the most personal and focused exploration of mind and substances that has ever occurred.

Here is a statement of Sasha's motivating passion[4]:

> These tools, the psychedelic drugs and plants—offer a much faster method than most of the classic alternatives for the accomplishment of the goals we seek: conscious awareness of our interior workings and greater clarity as to our responsibilities towards our own species and all others with whom we share this planet.

Sasha's accomplishment was to link, non-causally, mind and the impact of substances on mind and body. He did this by creating chemical substitutions in the mind-altering constituents of known and recently discovered psychedelic plants. Carefully working upwards in dosage by imbibing these substances himself, he was able to separate inactive compounds from actives and to recognize specific effects. Over time, based on his increasing experience, he became able to discern relationships and patterns between chemical structures and his mind. This has led to concepts of endogenous receptors and psychoactive substances in brain, relationships to neurotransmitters, particular chemical-sensory relationships, and sophistication with potential structurally designed molecular creations. His personal experiences — his heroic path — are the basis for much of what has come into scientific and public use. When we seek the psychedelic — the mind manifesting — we are of him.

Long ago, Sasha grasped that rats and other animals were different than humans; they had different responses to potential psychoactives, and — obviously — were unable to comment subjectively on their altered experiences in the labs of the world. To understand and to be capable of describing and sharing what would occur in humans, humans themselves would have to do the exploring. They would have to take the risks and create the benefits — and suffer the consequences as well. For Sasha, this lay at the heart of his concept of personal freedom. To paraphrase: Do unto myself as I would have myself do unto me — that is my fundamental right — the consequences are mine to reap — and I will not make others responsible for my choices.

The organizationally brilliant second step in evaluating a potential new psychoactive was to present the substance to his research group, comprising a consistent group of volunteers (a chemist and two psychologists among them) who, by experiencing the substance, would validate and add to knowledge of the substance — its safety, effects, and variability — by their "sample size" and idiosyncratic reactions.

All of this research was documented meticulously in notebooks that became the reference sources for articles that included descriptions of chemical procedures for the synthesis of new substances as well as personal and group reactions. A language for describing experiences emerged that was adopted at large by psychonauts who followed the Shulgin publications. And all was for public knowledge and dissemination — no secrets, no kowtowing to repressive interests or government pressures, no money undermining the path of research. Funds sufficient to keep the work going were contributed by friends — no strings attached, no compromises for fame or fortune. Throughout, Sasha would work in outside labs to support himself, his family, and his abiding interest.

And Sasha was far from shy. Passionate about his work and the vast expanses of the journeys that his creations offered, convinced of the positive vector of psychedelic experience for consciousness and connection, Sasha held forth. He would entertain with filthy limericks interspersed between chemistry discourses and a profound interest in the experiences of those who thronged to his side. Never deliberately seeking publicity, but accepting it carefully and with knowledge of the pitfalls and distortions of the press and its too-frequent attempts to suggest criminality and misbehavior, Sasha persevered and developed — and we with him.

There are rare role models in life. Too often, those we revere are found with clay feet and we can reduce them to our own mere mortal forms — disappointed and cynical from the effort. Sasha had his share of the derogatory; there were enemies. To remain staunch in the maw of the war on drugs is no small achievement. Search Sasha Shulgin for flaws and discover the minor ones that come with being human. Emulate Sasha Shulgin as a remarkable and dedicated explorer of mind, soul, and matter, and you will go far. HG

—Philip E. Wolfson, MD
San Francisco and San Rafael, California

With biographical information added by Hannah Bauman, and with acknowledgements to David Presti, PhD, Dennis McKenna, PhD, and Wendy Tucker.

References

1. Weber B. Alexander Shulgin, psychedelia researcher, dies at 88. *The New York Times.* June 7, 2014. Available at: www.nytimes.com/2014/06/08/us/alexander-shulgin-psychedelia-researcher-dies-at-88.html?hpw&rref=obituaries&_r=0. Accessed June 8, 2014.
2. Weil A, Rosen W. *From Chocolate to Morphine.* Boston, MA: Houghton Mifflin, 1983.
3. Shulgin A, Perry W. *The Simple Plant Isoquinolines.* Berkeley, CA: Transform Press, 2002.
4. Shulgin A, Shulgin A. *TiHKAL—The Continuation.* Berkeley, CA: Transform Press, 1997.