believe that a man as gifted as Heard could speak so favorably of a drug, mentioning Huxley's positive experiences as an example. Although Stolaroff remained skeptical, his curiosity was piqued because he too was looking for deeper meaning in life. Upon Heard's advice, he wrote Hubbard and mentioned his spiritual quest, asking for more information about the promising substance. Hubbard called Stolaroff shortly thereafter and a few weeks later, gave him exactly 66 micrograms of LSD in Hubbard's apartment in Vancouver. He experienced his first trip as life-altering religious moments that granted him deeper insight into his mind. (Stolaroff 1994) Impressed and highly motivated, he returned to California and now knew where his future calling lay: "In one day I learned more about reality and who we are as human beings than I had ever imagined before. I considered it the most important discovery I would ever make and that there was nothing more important for me to do than to realize the entire potential LSD offered."[166]

Myron Stolaroff quit his job and founded the International Foundation for Advanced Study (IFAS) in March 1961 where, with Al Hubbard, he dedicated himself to investigating the creativity-enhancing properties of LSD. During the next five years, until LSD was made illegal in California, nearly 350 people participated in their experiments. The results of an initial study with 153 subjects excited them. A remarkable 83% of subjects found the psychedelic experience to positively influence their personal development. Improved capacity to love and be loved was noted by 78% and 69% experienced more profound communication with others. The same percentage felt better able to understand themselves and others, while 71% experienced greater self-confidence, and 83% developed a broader view of the world. (Markoff 2005, 60) Stolaroff remained as director and president of IFAS until 1970; during that time he and his colleagues conducted a total of six studies with LSD. His letter to Albert Hofmann of February 26, 1963, reports: "Al Hubbard has told me of his very interesting visit with you and your firm last fall in Switzerland. The other night, having dinner with Gordon Wasson in New York, I also had the opportunity to hear of some of your adventures in Mexico." He then introduced his IFAS foundation and requested help in filling out a new FDA form authorizing his LSD orders with the American branch of Sandoz.

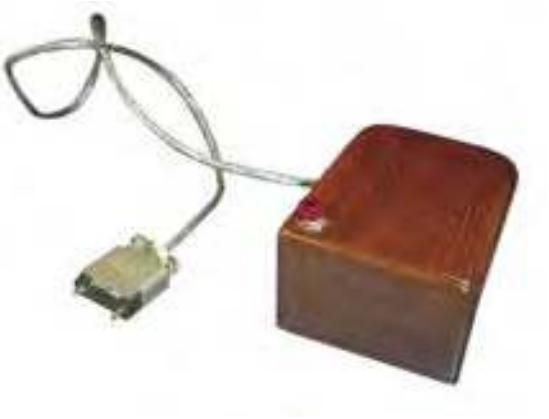
## Open Minds, Open Systems

The first computers appeared in the late 1950s. Some considered them to be merely equipment for large companies to automate the management of cash flow and other administrative tasks. Others soon recognized the possibility that digital machines could simulate the human brain. Among those who were interested in artificial intelligence and were attempting to imitate the human mind with mainframe computers were the "mechanists," in contrast to "humanists" who strove to extend the range of human intelligence with smaller personal computers. They developed

> Any sufficiently advanced technology is indistinguishable from magic.
> *Arthur C. Clarke*

the Arpanet, precursor to the Internet, which was, at the time, primarily used by the military. Many engineers and technicians, brilliant and shrewd inventors, had heard of LSD and were interested in the possibility of using it to increase their cognitive abilities.

James Fadiman



Engineer Doug Engelbart's first computer mouse

Charles Savage, a physician who had been carrying out LSD studies since the early 1950s, joined the Hubbard and Stolaroff IFAS team. James Fadiman, the youngest employee, who joined in 1962, soon became an important member of the Advanced Study Group. He had studied psychology at Harvard where Richard Alpert was his advisor. The two met in 1961 in Paris as Alpert was en route to a conference in Copenhagen with Leary and Huxley. On that occasion, Alpert confided to Fadiman that "the biggest thing in the world has happened, and I would like to share that with you," whereupon he pulled out a small vial and sent Fadiman on his first LSD trip. (Markoff 2005)

One of the first IFAS subjects looked after by James Fadiman was Douglas Engelbart, the inventor of the computer mouse, who was born in 1925. He is one of many engineers who enhanced their creativity using guided LSD sessions. Engelbart described his "copy and paste" process as a major step forward of "collective intelligence;" his group was instrumental in the development of electronic word processing. It is an irony of history that the psychedelically inspired humanists were mainly financed by the Pentagon and NASA, two branches of a federal government that in a short few years later would make every effort to try to destroy a movement that, in its eyes, had gotten out of control.

> In the 1960s the idea was to transform civilization according to our ideas and to transform IBM mainframes into personal computers.... We had the money and the time to do it, and we took LSD, which gave us the crazy idea of trying it all out.
>
> *Stewart Brand*

The IFAS experiments helped Kevin Herbert, a programmer and software developer, assume more responsibility and make important decisions. His job at Cisco Systems, a company that specialized in developing computer networks, was demanding and stretched his abilities. Time and again, LSD helped him solve intricate technical problems: "I think that LSD can help you out of these problems you've been wrapping your mind around for weeks. It can give you a fresh perspective on a problem that's so complex that it's not good enough to try to explain it to a coworker."[167] In January 2006, Herbert arrived in Basel from the USA to participate in the LSD Symposium. He wanted to personally congratulate Albert Hofmann on

his birthday and on his discovery of LSD which had so changed the Californian's life and work and led to smarter programs and software for our computers. He told a journalist: "LSD must be changing something in the internal communication of my brain. Whatever my inner process is that lets me solve problems, it works differently, or maybe different parts of my brain are used," and LSD "takes me to another world and into another brain state where I stop thinking and start knowing."[168]

Michael Gosney, the initiator of the Digital Be-In and head of a multimedia company, was clear about the relationship between the Internet and drugs: "The vanguard of the computer industry consists of creative people, who, like any creative community, are more inclined to experiment culturally. It's been unspoken for many years that the crown jewel of the U.S. economy has been so influenced by 'soft' drugs like marijuana and LSD."[169] Bill Gates unabashedly responded to an interviewer's question whether he had ever taken LSD: "My errant youth ended a long time ago." When the journalist persisted and asked what that meant, Gates answered: "It means that there were things I did under the age of twenty-five that I ended up not doing subsequently."[170] One of the first employees at Microsoft was Bob Wallace. He wrote the program for QuickSoft and introduced the concept and reality of Shareware, the sharing of software by many users. He was known as an "online drug guru" and, shortly before his death in the summer of 2002, he bequeathed a large share of his assets for psychedelic research.

Steve Jobs (1955–2011), broke off his study of art after only one semester. He became interested in Eastern philosophy, had his first experiences with LSD, let his hair grow and traveled to India during the early 1970s. Back in California, he met a young engineer, Steve Wozniak, who worked for Hewlett-Packard and also was acquainted with LSD. On April 1, 1976, the two hippies founded a company they called Apple in Los Altos and produced one of the first personal computers in Jobs' garage. It was empty because Jobs had sold his old VW bus to raise start-up capital; together with the sale of Wozniak's pocket calculator, they had one thousand seven hundred and fifty dollars. Vegetarian and Buddhist Steve Jobs enthused about his youthful experiences and counted his LSD trips and the journey to India as the "two or three most important things I ever did in my life."

When he was conceiving of the iTunes Player, which displayed dancing patterns in color on the monitor in time with the beat of the music, he recollected and grinned: "That takes me back to my youth." (Markoff 2005) In 2010 he praised the iPad as the "most advanced technology in one magical and revolutionary device." Jobs, the unconventional thinker, became an agile business man and a billionaire. Apple's slogan, "Think different" from the year 1997 could just as well have come thirty years earlier from the counterculture of the 1960s.

"Computers are coming to the people," said Stewart Brand in

There were things about [Jobs] that people who had not tried psychedelics – even people who knew him well, including his wife – could never understand.

*Steve Jobs obituary,* **NY Times**

The personal computer is the LSD of the 1990s.

*Timothy Leary*

an article about the developing computer scene around San Francisco in 1972 and "That's good news, maybe the best since psychedelics."[171] For Brand as for Leary, the computer is the new LSD, a new technology for opening the mind, changing society, and creating open systems. The information age had begun.

## All is One

As a new IFAS staffer in December 1962, twenty-four year old James Fadiman was responsible for guiding Stewart Brand during his first LSD experience. Brand was one of 153 subjects in the first study and received two doses of LSD within an hour. He was then asked to meditate on a large yin-yang symbol painted on a wall while he listened to classical music through head phones. Although Brand was slightly annoyed by the arranged procedure, he not only liked the experience of altered perception, it decided the course of his life. He met Ken Kesey and joined the Merry Pranksters where he encountered Richard Alpert, Allen Ginsberg, Jerry Garcia and other artists and writers who had gathered around the "tripping" troupe.

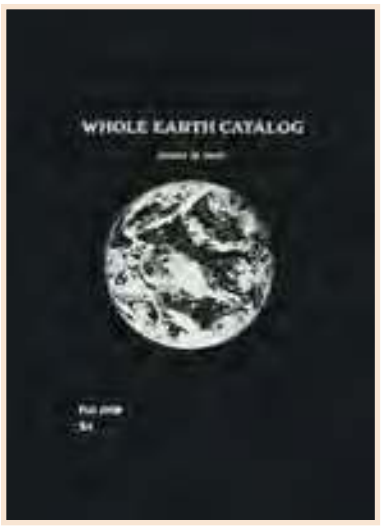
Stewart Brand

> The discovery that one's own deepest being is one with the All frees a person from the burden of time, from fears, and cares. It liberates from the chains of alienation and isolated existence.
>
> *Ken Wilber*

One day, Stewart Brand began to produce imprinted buttons which could be pinned onto collars and the front of jeans jackets, showing which causes the wearer supported or opposed by means of the symbols depicted. He described the motive for this: "One afternoon, probably in March in 1966, dropping a little bit of LSD, I went up onto the roof and sat shivering in a blanket sort of looking and thinking.... And so I'm watching the buildings, looking out at San Francisco, thinking about Buckminster Fuller's notion that people think of the earth's resources as unlimited because they think of the earth as flat. I'm looking at San Francisco from 300 feet and 200 micrograms up and thinking that I can see from here that the earth is curved. I had the idea that the higher you go the more you can see earth as round. There were no public photographs of the whole earth at that time, despite the fact that we were in the space program for about ten years. I started scheming within the trip. How can I make this photograph happen? Because I had now persuaded myself that it will change everything if we have this photograph looking at the earth from space."[172]

One week later Brand stood in the middle of campus at the University of California at Berkeley with a box of buttons which said: "Why Haven't We Seen a Photograph of the Whole Earth yet?" The very next day after the *San Francisco Chronicle* reported Brand's action, NASA released a satellite image showing the earth as it rose behind the moon. In the fall of 1968, Brand published the first edition of his

John Perry Barlow




*Whole Earth Catalog* of 64 pages, which sold for five dollars and offered "Access to Tools," clothing, books, implements, seed, machines, all products for self sufficient hippies and their communes. The products had to satisfy certain criteria: Tools and equipment had to be useful, easy to employ, of high quality or economical, not widely known, and easy to order by mail. The catalog was conceived as a practical source for holistic thinking and acting people. From 1974 to 1985 Brand published the periodical *CoEvolution Quarterly*. In 1984 the *Whole Earth Software Catalog 1.0* appeared and in 1989 the *Electronic Whole Earth Catalog* as a CD-ROM; *Whole Earth* has been on the Internet since the spring of 2010. In a speech at Stanford University in 2005, Apple founder and CEO Steve Jobs compared the *Whole Earth Catalog* with the Internet: "It was a sort of like Google in paperback form, 35 years before Google came along."

## Legal, Illegal, Digital

The first two generations of computer hackers to gain ill repute in the 1960s and early 1970s came out of the newly created university departments for computer science. They transformed centrally-controlled mainframes into virtual small computers and introduced multi-user systems which allowed greater access to the computers. The third generation emerged in the late 1970s, non-academic hackers and long-haired hippies who ultimately created the personal computer. In his article in *TIME* of March 1, 1995, "We

> Hence, everything is bound up together. Heaven and earth, air and water. All these are only one thing: not four, not two, and not three, but one. Where any are lacking, there is incompleteness.
>
> *Paracelsus*

> LSD induces a profound state. The ego vanishes and one feels part of a whole, is at home both in heaven and on earth; one feels oneself to be secure in the universe and to merge into a general consciousness.
>
> *Albert Hofmann*