

## Montague

L. Smithson Montague was a very wealthy man. He had inherited millions from his father's biotech ventures in the late 20th century, and had invested shrewdly for seventy-five years, growing an initial few millions into several hundred billions. Although in his later years billions weren't what they used to be, he was certainly among the top few dozen richest men in the world.

As Montague's fortunes grew, his health slowly worsened. Consequently, he spent more and more of his resources on ways to prolong his own life. Some years ago, after decades of treatment and research, it became apparent that age wasn't his only problem—he also had several genetic deficiencies that would inevitably result in one or another fatal infirmity within the next few years.

Galvanized by the immediacy of his own mortality, L. Smithson Montague redoubled his efforts to find a way out. As a man who had always gotten everything he wanted, he couldn't conceive of succumbing to ordinary diseases of the flesh. There must be something he could do to escape the inevitable.

One fateful day, while waiting for a table in a restaurant in Southampton, Montague met an electronics research engineer named Clark Geary. This extraordinary young genius claimed to have an escape route for Mr. Montague, provided that a few hundred million could be applied to the challenge. Within six months, the Montague Institute for Brain Electronics (MIBE) was established, and Clark Geary was its director of research.

Work proceeded swiftly while the Montague fortunes were poured

lavishly into the Institute. Dr. Geary had discovered a promising technique for transferring the entire contents of the human brain into an artificial neural network, and the hope was to use this procedure to protect the brain's contents during the long and complex transplant of Mr. Montague's brain into the skull of an otherwise healthy, but recently-deceased cadaver. Brain transplant would be an unprecedented and desperate solution to Montague's health problems, but as his various medical conditions gradually worsened, his interest in extreme solutions became increasingly obsessive.

Dr. Geary was obsessive in his own way; the two men made a synergistic team. Within a few years, to their mutual delight, an extraordinary neural network complex, capable of fully containing one entire human personality, had become operational. All that remained was to confirm that the "true person" had really been recreated inside the machine. The challenge of testing the viability of the entity stored in the neural net was enthusiastically met by Montague himself, who insisted on immediate transcription of the contents of his brain into the computer.

The exact nature of the stored entity was not easy to define, since it comprised digital reconstructions of Montague's personality, mind, memory, ego, and myriad other aspects of individuality, integrated into a vast, multi-dimensional database. A new word was coined, a gender-neutral third-declension variant on the Latin word for mask (*persona*) since future digitized individuals could be of either sex. Thus the sum total of a human being, stored in digital form, henceforth came to be known as a "personum."

Since the data representing Montague's personum, though of course vast (on the scale of many exabytes), was only a copy, no harm would be done to Montague himself by loading it into the neural net machine. Once the copy was complete, Montague could converse with his electronic doppelganger and verify—certainly more accurately than anyone else—the accuracy of the copy.

The transfer itself took several days, during which Montague was held in a light chemically-induced coma to minimize the chance that brain activity might conflict with data packaging and transmission algorithms. After the transfer, and a few days to recover from the anaesthesia,

Montague began a lengthy period of dialog with the machine version of himself.

To everyone's great relief, the electronic L. Smithson Montague was indistinguishable from the real one, at least as far as the living Montague could determine. Although interaction with the personum was somewhat limited by current speech synthesis and recognition software, not only did the real Montague find the experience invigorating, but the machine version also seemed to share in the excitement. The experiment also encouraged Montague to dump a few billion into bio-interface development so that future personums could interact in a more natural way. The age of android engineering was at hand, but more importantly for Montague, so was the feasibility of a successful brain transplant.

This was fortunate, for Montague's condition had continued to worsen, and drastic measures might not be far off. MIBE's brain transplant research had progressed with surprisingly few setbacks, and with only the most obvious reservations, Dr. Geary began preparation. The body donor was an almost perfect 22-year old athlete whose head had suffered repeated extreme traumata in his brief professional football career.

As the surgical facilities and procedures were swiftly finalized, however, systems analysis uncertainties arose, as they so often do. There were concerns about "data integrity" in the neural network. As powerful as the newest computers had become, the engineering team argued at length about "referential integrity" issues that might compromise aspects of personality and self-knowledge, or even delete portions of the elaborate library of memories from nearly a century of individual life.

Montague was deeply troubled at this prospect, and the whole team got cold feet. The traumatized football player's cadaver was sent back for conventional organ recycling. Montague spent weeks in a severe depression, while Dr. Geary continued his research with new urgency. In the end, although not until more than a year of further research was done, during which Montague's health continued its steady deterioration, the requisite progress was made in the heuristics of maintaining such a vast and elaborate data store. The brain transplant project was back on track.

More importantly, during this year, Geary made another major breakthrough. The brain itself no longer had to be physically transplanted—instead, Geary had devised a way to download a personum

from digital storage into a destination brain, in realtime. The only significant wrinkle was that the brain receiving the download had to be alive and fully functional.

Money does eventually buy almost anything. With some difficulty, Montague's global organization managed to locate a healthy young man whose outlook on life was so suicidally depressed that he would gladly trade his individuality for a few hundred millions to support his poverty-stricken parents and siblings. The young man signed up, and again the operation was prepared, although this time no major surgery would be required, other than the implanting of various interface devices in the brain-stems of both patients, with suitable connections to the managing super-computer.

The operation was scheduled for July 4th, not that many years ago. Mr. Montague, now visibly weakened by more than one familial infirmity, and increasingly stressed out by the constant delays, was relieved to submit to the procedure. He entered the neural transfer laboratory at dawn, and fully expected to emerge late that evening as a strapping young man again, having finally conquered life's ultimate challenge.

Of course, things never go quite as expected.

The primary obstacle appeared mid-day on July 4th, in the form of six burly police officers, the point men of an imposing contingent of SWAT vehicles suddenly parked outside the Institute. A staffer had discussed the project with a friend, who had immediately reported it to the police. Since it constituted the psychic annihilation of one person for the convenience of another, no amount of money, or declarations of voluntary submission, could justify it. The personum transplant project was tantamount to murder, even though, paradoxically, after the procedure there would still be two living beings. The police were not even slightly interested in the existential conundrum implicit in both bodies now housing, in some sense, the same person. To them, the project was a ghoulish capital crime and had to be stopped.

The second glitch in the procedure occurred when the police insisted that the allegedly suicidal young man be removed from the premises, arguably for his own safety. At its face, this was not a significant issue, except that it finalized the situation for Mr. Montague.

By the time the police intervened, Montague's personum had been

fully loaded into the neural network, and now had no place to go. In the ensuing confusion, Mr. Montague's light anaesthesia was inadvertently allowed to lighten just enough more for him to sense the agitation and excitement in his environment, and this triggered stressful autonomic responses. Coupled with his general anxiety concerning the transfer, which had already become a matter of life and death, his sympathetic nervous system became hyperaroused, escalated to sheer panic, and he went into cardiac arrest.

When the crash cart arrived to restart Mr. Montague's heart, an alert technician pointed out that the high-voltage paddles would completely destroy the delicate interface connecting the patient to the neural network hardware. Furthermore, disconnecting was not a simple matter—there was no single plug to pull, but instead myriad fine connections had to be disengaged from both patients' brainstems in a complex and delicate procedure that would take hours.

As Mr. Montague expired on the operating table, the same technician, in a bold effort to protect his patient and his patriarch, switched off the neural net, effectively putting Montague's newly stored personum on indefinite hold. This fortuitous move saved the digital Montague from almost certain damage, which would be impossible to repair, since the source of all that data was now dead.

Months later, when the biological Montague had been buried in his family's mausoleum and the Institute had regained legal control of all systems involved in the alleged crime against the depressed young man, the digital Montague was switched back on. In short order, it was clear that Mr. Montague, as everyone now knows, was alive and well, at least electronically, inside the computer.

The world was stunned by this brilliant achievement, and for several months the Montague personum was a featured guest on talk shows in every country. His personality had never been charismatic, however, especially to people he habitually referred to as "those non-engineering types," and his abiding interest remained deep in the technical aspects of the experiment he now embodied, in a disembodied sort of way. Thus the popularity of televised interviews with a talking front panel (or a series of still photographs of Montague at different stages of life) quickly waned. But of course research continued.

Soon after the successful activation of the Montague personum, a backup copy of the original database, which resided at MIBE, was installed in a parallel super-computing facility at Stanford University in California. After a few months, however, “issues” emerged with the backup copy, and it came to light that for the first several weeks at Stanford, local scientists had been unable to resist the temptation to activate the personum and study, or at least converse a little, with the stored entity. This led to divergence in personality evolution, so that in short order the backup was no longer a bit-image of the original J. Smithson Montague, and measurable differences were increasingly evident in the two geographically separated personality profiles.

The Stanford backup was shut down immediately, and a temporary “safety” installation was created in special MIBE neural net machine, whose peripherals—all the apparatus for interacting with the world—had been removed. This, of course, left the personum in the equivalent of absolute sensory deprivation. Unfortunately, in less than a day, the machine’s central processing array overheated—the isolated image of Montague had gone utterly insane (“barking mad,” as one technician put it). The system was hastily shut down; the project was hushed up, and later became a major embarrassment for the Institute.

The only viable backup option was the simplest: create a mirror image of the “original” Montague, but never activate it. If a catastrophe did occur, the mirror Montague would be activated and become the new “original” personum. This new digital Montague would of course have missed all intervening experience since the mirror image was made. It wasn’t ideal, but it was no worse than a case of partial amnesia.



The first significant snafu emerged several years later, when a second mirror of the Montague digitization was transferred for testing to a MIBE personum machine in Ft. Collins. By this time, data storage systems, ever compliant with Moore’s Law, had doubled, and then doubled again, three or four times, and it was now possible to store a personum-sized database on equipment costing only a few thousand dollars. As a casual personal experiment, one of the managers at the Ft. Collins facility decided to see if his son, a true computer whiz of the next generation, could demonstrate

his expertise by making a temporary copy of the personum on his elaborate personal computer. The copy was successfully made, and then dutifully deleted, with no-one the wiser.

That is, until three weeks later, when the manager's son realized his own redundant storage system had in fact backed up a copy of Montague's personum on the large array he was running in his father's basement. This, in turn, was deleted, but although all parties insisted no mirrors had survived, it soon became evident that a bootleg copy of Mr. Montague had gone viral, and within a few days an unspecified number of copies were at loose in the wild.

With the continuing rapid evolution of hardware platforms, it is now estimated that by January 1 of this year at least several hundred full instantiations of Mr. Montague had become operational in the U.S. and abroad. There is significant additional concern among experts that recreational models of Mr. Montague, now appearing in underground game markets, are not fakes, but in fact are seriously truncated or distorted versions of the original.

Not surprisingly, the unregulated internet user population has continued replicating Montagues, which we now know as Monties, while bands of open-source programmers take great delight in creating Monty simulacra, modified Monties, Monty simulations and spoofs, and many other variations (some admittedly quite whimsical and creative). In short order, it has now become a technical challenge merely to identify one of the continuously diverging original Monties from all the flawed copies and distorted variations.

Before the full import of Monty proliferation was understood, however, important legal issues of person-hood had become pressing. Since the first digital Montague was indistinguishable from the original biological Montague, it was eventually adjudicated that this electronic embodiment deserved full legal status as a person. Given the superficial technical savvy of legislators, no consideration was given to the legal status of any other instantiations of Mr. Montague. Remember, when the first Montague personum system was created, it required an extremely expensive specialized data center. Montague personum advocates argued that, "Certainly this human-origin personum deserves greater legitimacy than corporations, whose person-hood is still in question for many reasons." A

flurry of court cases ensured that the new Montague, and by extension any future personum, would be guaranteed full person-hood.

This reasoning seemed viable for a few years, but with the relentless advance of computing capabilities at a reasonable price, the proliferation of Mr. Montague's digital image has by now expanded exponentially. Just a few months ago, the number of instances detectable by Google's web crawlers already exceeded one million. Although legal constraints have been put in place by several of the more technological states, and U.S. federal guidelines for personum storage has morphed into today's highly restrictive laws, and by now everyone knows it is illegal to store, reproduce, or transmit a digitized personum in any form, or to tamper with any personum already stored in a digital medium, whatever its origin—nevertheless, the internet never sleeps.

Today, coordinated phalanxes of Montague instances are already functioning as a voting block for the Democratic Party. This summer, an election year, the Montague block will represent more than 18% of all registered voters. Current projections estimate that the population of Monties will exceed that of biological American citizenry well before election day. All of them are expected to vote, and write-in ballots are already appearing with names like Bonty, Tonty, Schlonty, Gronky, and the like.