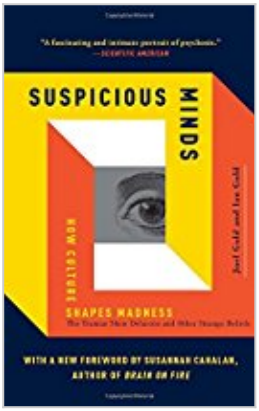

Suspicious Minds: How Culture Shapes Madness

By Joel Gold, Ian Gold

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In “a droll Oliver Sacksian tone” *(The Village Voice)*, the Golds reveal intriguing case studies*:* the man who was dead and in hell, the woman who could raise the dead at Ground Zero, the man who killed God, and the people who believed they were like the characters in the film *The Truman Show*. These “page-turning case studies” (*New Republic*) of delusion “offer a fascinating and intimate portrait of psychosis” (*Scientific American*). “They provide more proof that no fantasist can hope to match the wonders—and horrors—of the human mind” (*The Washington Post*).

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Suspicious Minds: How Culture Shapes Madness By Joel Gold, Ian Gold Bibliography

- Sales Rank: #319873 in Books
- Brand: Free Press
- Published on: 2015-07-21
- Released on: 2015-07-21
- Original language: English
- Number of items: 1
- Dimensions: 8.37" h x 1.10" w x 5.50" l, .75 pounds
- Binding: Paperback
- 352 pages

Editorial Review

Review
“This remarkable book isn’t just a crash course in delusions, which would be interesting enough. It’s a history of psychiatry, a thriller, an expose of dubious brain science, a collection of fascinating and heartbreaking mini-biographies, and a warning about the fragmentation of modern life.” (A.J. Jacobs, New York Times bestselling author of The Year of Living Biblically)

"A compulsively readable and unexpectedly entertaining book that stands as a needed corrective to a purely biological explanation for mental illness. By emphasizing the cultural vector for madness, the Gold brothers reveal their compassionate understanding of both the sick and the sane—and the surprisingly porous border between those two states." (John Colapinto, author of As Nature Made Him and a staff writer at The New Yorker)

“A powerful and engaging examination of how insanity is molded by culture. Pithy, insightful, and engrossing.” (Danielle Ofri, MD, PhD, author of What Doctors Feel: How Emotions Affect the Practice of Medicine)

"An excellent portrayal of delusions and madness, well written, well researched and exciting to read. Written by experts in the field, I highly recommend this book to all those who want a deeper understanding of the mind and how it works." (Benjamin Sadock, MD, Menas S Gregory Professor of Psychiatry, NYU School of Medicine)

"A provocative new perspective on the diagnosis, and therefore treatment, of mental illness." (*Kirkus Reviews*)

"Evidently, [the Gold brothers] hypothesize in a droll Oliver Sacksian tone, culture has a great deal of influence on trends in madness." (*The Village Voice*)

About the Author
Joel Gold, MD, is Clinical Associate Professor of Psychiatry at the New York University School of Medicine. He is in private practice in Manhattan.

Ian Gold, PhD, is Associate Professor of Philosophy and Psychiatry at McGill University.

Suspicious Minds

1

A SHORT HISTORY OF MADNESS

BEFORE PSYCHIATRY

Delusions are symptoms of a disease known, for most of human history, as madness, descriptions of which go back nearly as far as the written records of human civilization. The Papyrus Ebers, for example, an Egyptian medical text dating from 1550 BC, informs the aspiring physician that maniacal behavior is caused by possession, and five hundred years later the Indian Atharva-Veda reports that madness can be caused by "sin against the gods" or by a demon. A charm is provided to enable the sufferer to be "uncrazed." Among the curses to be visited on the Israelites who fail to obey the Lord is insanity, and Old Testament madmen—the envious King Saul who raves, or the bestial King Nebuchadnezzar condemned to eat grass for his pride—become deranged for their sins.


Figure 1: Nebuchadnezzar, William Blake, 1795. Tate Gallery, London.

The Babylonians and Mesopotamians understood madness as a punishment from the gods or demonic retribution, and insanity has a divine origin in Greek antiquity as well. When, in Homer's Odyssey, Penelope is told by her nurse that Odysseus has come back and killed her suitors, she says: "?'the gods have made you mad. They have that power, / putting lunacy into the clearest head around.'?" And, in Euripides's Bacchae, possessed by Dionysus, Agave rips the head off her own son, Pentheus. Long before even the earliest of these writings, our ancestors left us clues to their theories of madness. Archaeological evidence shows that boring holes in the skull ("trephining" or "trepanning") to release the devils inside is a practice that dates from at least 5,000 BC. Removing the imagined "stone of madness" by trephination was a medieval medical fantasy (see Figure 2).

Although madness is usually thought of as a disturbance, it has sometimes been conceived of as a gift. Plato, for example, distinguished four forms of madness: that of the prophet, the poet, the mystic, and the lover. The hero who is driven mad by unrequited love is a common trope in medieval literature, and the link between madness and poetry—or creativity more generally—continues to our day.


Figure 2: Extracting the Stone of Madness, Hieronymus Bosch, c. 1475. The painting is a satirical representation of the medieval belief that madness was caused by having a stone in one's head. © Madrid, Museo Nacional del Prado. Reproduced with permission.

With the coming of Christianity, Greek notions of madness were transfigured but not abandoned. Madness was seen to have its source in sin, in witchcraft, or in a battle between the Holy Ghost and the Devil for the soul of the madman. Although it might occasionally be a sign of holiness—in the Middle Ages in particular—the madman's loss of reason was thought to render him less like his rational God and was usually taken to be a sign of devilry or possession, as in the case of the Gadarene man healed by Jesus. Belief in possession continues into modern times, of course, and the incantations and charms used in some twentieth-century cultures are little different from those found in the ancient world. Even the familiar belief in the evil eye originates in the notion of possession and was already present in Greek culture.

Although the Greeks had a view of madness as divine, they were also the first to conceive of it as disease. In fact, Greek medicine, like our own, took madness to be a brain disorder. A Hippocratic text, for example, denies the divine origin of epilepsy in favor of a purely biological source, the brain: "from nothing else but thence come joys, delights, laughter and sports, and sorrows, griefs, despondency, and lamentations . . . And by the same organ we become mad and delirious, and fears and terrors assail us." The cause of madness, the author tells us, is a brain that is too hot or too moist.


Figure 3: Jesus Casting Out Devils, Julius Schnorr von Carolsfeld, 1860.

Greek medicine was founded on the theory of the “humors,” or bodily fluids, each of which performed distinct functions and, when in balance, maintained physical health. Some treatments for disease, therefore, sought to restore humoral equilibrium—by bloodletting, for instance, when an excess of blood was to blame. The cause of mental disturbances was thought to be a substance known as black bile (in Greek: melancholia), though just what the Greeks called by that name remains mysterious. (Some combination of coffee grounds in brown vomit, dark urine, and tarry stool, according to one historian.) Nevertheless, the view persisted for centuries: “the devil rejoices in the humor of black bile” was a medieval adage. Purgatives to expel black bile, as well as washing liquids that stimulated its excretion, were thus the treatment of choice for those suffering from madness. A good diet (low in black bile, of course), exercise, and proper hygiene were also advised.

Alongside the medical treatment of madness, the ancients developed psychological remedies as well. These included dream interpretation and “incubation”—the practice of sleeping at a holy site in order to bring about a dream of divine origin. Philosophy also had its share of recommendations. Plato believed that madness came about by the subordination of reason to the lower parts of the mind and so declared the treatment to be the dialectical method. And the Stoics and Epicureans thought that mental anguish could be overcome by the correct application of philosophical truths, although they did not believe that this early form of talk therapy could cure madness.

Medieval medicine followed the Greek model, in particular that of Galen, the Greek doctor whose views were central to medicine for fifteen hundred years. Before the sixteenth century, however, we find no books devoted exclusively to mental illness. One of the first of these, The Diseases Which Deprive Man of His Reason, was written by Paracelsus (who, before being given the brief moniker, rejoiced in the name Theophrastus Bombastus von Hohenheim) and published in 1567. Robert Burton’s monumental Anatomy of Melancholy, published a few years later in 1621, summarizes the treatments for melancholy known since the Greeks. If bloodletting and purgatives fail, Burton tells us, one can try diet, exercise, herbal remedies, travel, music, or marriage. Eighteenth-century treatments also included rotating and tranquilizer chairs, electric shock, and “ducking”—the practice of firing water at the head. To help evacuation on its way, moxibustion, cauterization, and blistering could also be used, but more useful perhaps was the available pharmacopeia, which included opium, henbane, belladonna, and camphor.

THE ASYLUM

The great nineteenth-century psychologist Hermann Ebbinghaus famously said that “psychology has a long past, yet its real history is short.” The same could be said about psychiatry. Human beings have probably wondered about madness ever since they could wonder about anything, but psychiatry as a profession is just over two hundred years old. It came into existence as the medical specialty devoted to treating the madmen that society had locked away.

Although we know very little about the history of attitudes toward the mad, those who were not looked after by their families probably lived wretched lives. Some would have been forced to wander from town to town or be housed in churches which, unlike domestic buildings, could stand up to violent behavior. Still, madmen were not always treated inhumanely. While medieval Christian law, for example, deprived the mad of their rights to be married or ordained, it did permit baptism and communion.

During the Middle Ages religious institutions began the charitable work of housing those with mental illness. The hospice founded in the sixth century by the monk Theodosius near Jerusalem is supposed to have had a ward for those suffering from madness, and institutions for the sick, including the mad, were established from the seventh century in the Islamic world, which had a particularly humane outlook on mental illness.

The grounds of the hospital for the mentally ill, built in the fifteenth century by the Sultan Bajazet II, were adorned with gardens and fountains, and treatment of the patients included a special diet, baths, perfumes, and concerts. Mental institutions were established in various parts of Europe from the twelfth century onward, the most famous of these being St. Mary of Bethlehem—later known as Bethlem or "Bedlam" (from which we get the synonym for "pandemonium"). Bethlem was founded in 1247 in London, and by the late fourteenth century, was housing the mad. Eventually madhouses became businesses as well as charitable institutions, and by the middle of the nineteenth century, the "trade in lunacy" had absorbed about half of those with mental illness.

In the nineteenth century, the asylums of Europe were revolutionized by reformers who were driven by both humane and medical motives. Reform was desperately needed because asylums were not hospitals; they housed the mad but didn't treat them, and the conditions in some asylums, especially those funded from the public purse, were horrific. Johann Reil, the nineteenth-century doctor from whom we get the term psychiatry, expressed outrage at the state of Germany's asylums: "Like criminals we lock these unfortunate creatures into mad-cages, into antiquated prisons, or put them next to the nesting holes of owls in desolate attics over the town gates or in the damp cellars of the jails, where the sympathetic gaze of a friend of mankind might never behold them; and we leave them there, gripped by chains, corrupting in their own filth." Elsewhere in Europe, conditions were as bad or worse. The Chantimoine tower in Caen, Normandy, for example, held a number of prisoners who were mad. In 1785 the tower was demolished, and the report of the demolition describes one of the inmates: "in the thickness of this tower's corner we found and pulled out . . . Jean Heude, called Bame, a tall and strong man incarcerated for twenty years, raving mad, naked and dangerous, whose door had not been opened for so long that the lock had to be knocked off with an iron bar." Symbolic of the inhumane state of Britain's asylums was the case of William Norris, an American marine who had been committed to Bethlem in 1801. An extremely violent man, he proved too dangerous to handle like an ordinary inmate. Bethlem's solution was to pin him to a wall with iron bars and put a chain around his neck that could be tightened from an adjacent room. When the Quaker reformer Edward Wakefield visited Bethlem in 1814, Norris had been shackled in this position for ten years.

In France, asylum reform was fueled in part by the revolutionary aspirations of liberty, equality, and fraternity. The political transformation of 1789 fed into a movement to storm, metaphorically, the Bastilles confining the mad. In 1793, as the story goes, in the spirit of the revolution, the asylum doctor Philippe Pinel liberated the inmates of the Salpêtrière Hospital from their chains, and with that act psychiatry was born. It was, in fact, Pinel's lay colleague at the Bicêtre, Jean Baptiste Pussin, who struck off the chains of the inmates, with Pinel following suit at the Salpêtrière, but Pinel remains the hero of the Whig history of psychiatry.

Crusaders such as Wakefield had been galvanized by moral outrage, whereas medical reformers believed that humane conditions would lead to better clinical outcomes. In 1813, Samuel Tuke, the grandson of the reformer William Tuke, published Description of the Retreat, which gave an account of a new form of asylum established by his grandfather in 1796. In contrast to the prison-like Bethlem and its ilk, the purpose of Tuke's asylum was to treat the mad rather than confine them. Advocates of the "therapeutic asylum"—Tuke and William Battie in England, Vincenzio Chiarugi in Italy, and Pinel in France—were Enlightenment men who were convinced of the power of reason and the possibility of cure by means of what Pinel called "moral (i.e., psychological) therapy" of patients, in which the doctor took "on an air of bonhomie and a tone of extreme frankness" in order to "penetrate into their most secret thoughts, clear up their anxieties, and deal with apparent contradictions by comparing their problems to those of others." By 1813, the idea of the therapeutic asylum had been around for more than sixty years, but Tuke's book marked a turning point.


Figure 4: A Rake's Progress, Plate 8: In the Madhouse, William Hogarth, 1735. The painting shows two women "of note and quallitie"—the sort of people who were encouraged by the Governors of Bethlem to visit the hospital to view the "poore Lunatiques" for the edification of both visitor and inmate. Charles Deering McCormick Library of Special Collections, Northwestern University Library.


Figure 5: Portrait of William Norris at Bedlam, George Arnald, 1814, Clements C. Fry Collection, Yale University, Harvey Cushing/John Hay Whitney Medical Library. Reproduced with permission.

One antecedent of moral therapy was new thinking about madness as a psychological phenomenon. From the time of Greek antiquity, as we've seen, madness had been understood to be either a disturbance of the soul or the body. By the nineteenth century, however, the debate about madness concerned whether it was a bodily disease or a mental one. The forerunner of the mentalist camp was John Locke, the great seventeenth-century empiricist philosopher. Locke (whose views laid the foundation for modern psychology) conceived of the mind as a storehouse of "ideas," and thinking as a matter of their recombination. The madman, Locke said, puts "wrong ideas together."

Locke's views entered psychiatry by way of the Scottish physician William Cullen, who worked at the University of Edinburgh, the preeminent medical school of the second half of the eighteenth century. A goal of psychiatry at that time was to produce a taxonomy of mental illnesses, and Cullen became the great classifier who did for psychiatry what Linnaeus had done for biology. Cullen believed that mental disorders were indeed diseases of the nervous system, and he coined the term neurosis to designate them. In a remarkably prescient way, he hypothesized that the "nerve fluid" by which the brain functioned might be electrical and that mental disorders might come about by nervous over- or under-excitation. But in the spirit of Locke, he claimed that the effect of these neuroses was a psychological one—a "hurried association of ideas" producing "false judgement"—and under the influence of Cullen's views, the mind of the mental patient came to the fore in medical thinking about insanity and its treatment. Until the advent of psychoanalysis, however, psychiatric research was overwhelmingly concerned with the brain rather than the patient. If the new asylum were to offer psychological therapy, there would have to be doctors to man them, and this new generation of asylum doctors were the first professional psychiatrists. Their concern was their patients. Understanding the root causes of mental illness would have to wait.

Unfortunately, clean sheets and fresh air can only do so much to treat mental illness, and while some patients improved with informal psychological therapy, it did little for most of them. Without the hoped-for clinical success of moral treatment, the new high-minded asylums gradually lost their idealistic zeal and returned to their former function as warehouses for the chronically ill, even as patient numbers soared in England from about ten thousand in 1800 to one hundred thousand a century later. Some seventy years after Pinel struck off the chains at the Salpêtrière, Enlightenment optimism had faded, and asylums had returned to their earlier condition as custodial institutions whose task was not to cure but to keep the sick sedated, out of sight, and (because madness was now thought to be hereditary) celibate. Conditions in many of the asylums were again simply dreadful. The chains had been replaced by straitjackets and, in Britain, the apparently illegal use of isolation cells. Montagu Lomax, a doctor who worked in a British asylum during the First World War, describes a patient in one of these cells: "It was after 7 p.m., and no attendant was within call. The patient was beating on the door with his fists and feet, and was shrieking out curses and imprecations. 'For God's sake let me out, doctor! for God's sake let me out! O Christ, they are killing me! for God's sake let me out!'?"

Things were no better elsewhere in Europe or in the New World. In the 1890s, "restraining sheets" were used to control patients. William Alanson White, a psychiatrist who had trained in New York, describes the sheets

used at the Binghamton State Hospital as “a perfectly hellish contrivance, literally speaking, in hot weather” and claimed that he had “seen at least one patient die from heat exhaustion as a result of it.” Not surprisingly, psychiatry as a profession was not attracting the best and brightest. The neurologist William Bullard derisively portrayed psychiatrists as good at the “heating of their buildings, the buying of coal and groceries, the making up of accounts,” but not, it seemed, of practicing medicine. What had begun with the breaking of the chains of the mad had ended with a whimper and an echo of the asylum doors clanging shut.

JAMES TILLY MATTHEWS: THE AIR LOOM

The most famous of the victims of the brutal British asylum was James Tilly Matthews, a Welsh tea broker living in London. In 1796, Matthews wrote a letter to the Earl of Liverpool, an important statesman and confidant of the king, which quickly turned impolitic: “I pronounce your Lordship to be in every sense of the word a most diabolical Traitor.” Matthews went on to enumerate in some detail the many grievous betrayals of Liver-pool and closed by saying: “I profess myself to be at open war with you my Lord, and with all those your partners or Apostles in craft and Treason. You may succeed in imposing upon the World that I am insane but I will persevere till I convince you and the World that I am perfectly otherwise.” It appears that Lord Liverpool had won the day. Less than two months later, in 1797, Matthews was committed to Bethlem, where he remained until the year before his death in 1815.

In 1809, Matthews’s family petitioned the hospital to release him on the grounds that he had recovered and was no longer mad. The hospital refused, and the family took their case to court. Two doctors, George Birkbeck and Henry Clutterbuck, testified that Matthews was sane, but Bethlem’s absentee psychiatrist, Thomas Monro, maintained that he was, in fact, a dangerous lunatic, and the hospital’s “apothecary” or junior physician, John Haslam, concurred. Shortly thereafter, Haslam published an account of James Tilly Matthews’s illness to exhibit Matthews’s state of mind, and, in the process, to defend his own professional reputation. Haslam’s Illustrations of Madness (1810) is the first extended case study in British psychiatry and perhaps the first clinical description in the psychiatric literature of what would come to be known as schizophrenia.

Haslam’s book revealed that, while in Bethlem, Matthews had told a frankly unbelievable story of political intrigue in which he played the central role. He had been, he said, a British emissary to the French revolutionary government, empowered to carry on secret negotiations to bring about an end to the war between them that had begun in 1793. Unbelievable it was, but it may very well have been true. Matthews certainly had set out to act as an intermediary between Britain and France but wound up in a French jail. After being released, he went back to Britain convinced (as his letter to Liverpool shows) of a betrayal by his government.

While in Paris in 1793, Matthews had heard reports about Franz Mesmer, the doctor who claimed to have discovered a new force that he called “animal magnetism,” which, when manipulated around the body of a sick person, could restore health. It could also be used to control minds. When Matthews returned to London, he became convinced that the betrayal of the British government had been effected by French spies using mesmeric techniques to pull the strings of the authorities, including the prime minister, William Pitt the Younger.

In the historical context, this idea wasn’t actually mad. Other, presumably sane, people also thought that mesmerism was being used in the French war effort. Where Matthews’s story veered away from reality was in his description of the details of the methods. Teams of spies, he said, had come to England with machines called “Air Looms” that could manipulate waves of animal magnetism and take control at a distance of the

minds of British officials. Air Looms had therefore been set up to do their sinister work at various crucial locations, including outside of the Parliament. Moreover, villains supporting the French war effort—or perhaps the British who had betrayed Matthews—had also set up an Air Loom outside the walls of Bethlem to control and torment him. The villains were a gang of seven, four men and three women: Bill the King, who never smiles and is skilled in working the machine; Jack the Schoolmaster, who keeps the records of the gang's doings; Sir Archy, who uses a magnet and may, in fact, be a woman in men's clothing; the Middleman, who builds the Air Looms; Augusta, who acts as a liaison with other gangs in the West End of London; Charlotte, who is kept nearly naked and poorly fed; and the Glove Woman, who never speaks and wears cotton mittens because she has "the itch." "At home," Matthews believed, "they lie together in promiscuous intercourse and filthy community."

The Air Loom itself operates on the principles of pneumatic chemistry, the chemistry of gases that was at the cutting edge of science in Matthews's day, and is fueled by "the vapours of vitriol and aqua fortis—ditto of nightshade and hellebore—effluvia of dogs—stinking human breath—putrid effluvia—ditto of mortification and of the plague—stench of the sesspool—gaz from the anus of the horse—human gaz—gaz of the horse's greasy heels." As depicted in Matthews's drawing of it—he was a gifted draftsman—the Air Loom is made up of pipes and levers, tubes and barrels, and something that looks rather like a windmill (see Figure 6).

In his case history, Haslam tells us that the persecution of Matthews takes different forms, among them "fluid locking," which immobilizes his tongue and prevents him from speaking; "kiteing," in which ideas are "lifted" into the brain; and "thigh-talking," which causes Matthews to hear through his thigh. His body is controlled and his thoughts manipulated by the Air Loom, and he lives under constant threat of torture or death by "stomach-skinning," "apoplexy-working with the nutmeg grater," "lobster-cracking," "bladder-filling," "gaz-plucking," "eye-screwing," "roof-stringing," "bomb-bursting," and other malevolent forms of magnetic voodoo.

In 1813, sixteen years after having been committed, Matthews was moved to London House, a private clinic run by Samuel Fox, where he died in 1815, probably of tuberculosis contracted in Bethlem. But he continued to haunt Haslam and the British asylum. The Quaker reformer Edward Wakefield had sought out Matthews in Fox's clinic and found him "a man of considerable accomplishments" and quite plainly sane. In the pursuit of reform, Wakefield persuaded the government to set up a House of Commons select committee to look into the state of the country's madhouses. In the course of its investigations, the case of James Tilly Matthews came to play a starring role. Matthews's nephew, Richard Staveley, called as a witness, testified that although Matthews had some clearly odd ideas, they didn't drive him to abnormal behavior; he was as sane as the next man, as many people (including other psychiatrists) had discovered firsthand. He also claimed that Haslam, who was effectively in charge at Bedlam, had had Matthews in chains for two years, not for any medical reason but because Matthews would not "submit" to Haslam's authority. Testimony given on a later occasion by James Simmonds, head keeper of Bethlem, confirmed Staveley's opinion: "The irons," he said, "were put on him to punish him for the use of his tongue."

Figure 6: Matthews's depiction of the Air Loom. Wellcome Library, London. And a recreation: The Air Loom, A Human Influencing Machine, Rod Dickinson, 2002. Reproduced by permission of the artist.

Haslam himself testified before the committee and was raked over the coals. All the crimes of the old asylum, it seems, were being laid at his door. When his position came up for renewal in 1816, the governors of Bethlem informed him that his services were no longer required.

THE DISEASED ORGAN

Although it was asylum psychiatry that had created the need for a professional class, the theory that dominated eighteenth- and nineteenth-century psychiatry was firmly rooted in medicine. The rise of modern science in the seventeenth century had been intertwined with the "mechanical philosophy" of nature, according to which natural objects were understood as machines. Because the explanation of madness was to be mechanistic, attention had to move away from the four humors to the putative mechanism of interest: the brain. Although there was a persistent "mentalist" tradition in thinking about insanity, by 1845, Wilhelm Griesinger—author of Mental Pathology and Therapeutics, the most important psychiatric textbook of his day—could express the orthodoxy by asking, "What organ must necessarily and invariably be diseased where there is madness? . . . Physiological and pathological facts show us that this organ can only be the brain." With this pronouncement, Griesinger planted psychiatry's flag in natural science and declared it a branch of biology.

If the road to madness ran through the brain, then the study of madness would have to adapt. Brain dissection and the microscope, therefore, became the state of the art in psychiatry as they had been in neurology, where they had delivered the goods. By the nineteenth century, it seemed clear that particular regions of the brain supported unique psychological functions, which postmortem examination of patients with brain damage had made it possible to identify. In 1874, for example, Carl Wernicke pinpointed a region of the brain that, when damaged, leads to difficulties in understanding spoken language—a disorder now known as Wernicke's aphasia. Wernicke and other leading neurologists like Griesinger, Theodor Meynert, Eduard Hitzig, and Paul Flechsig (of whom more shortly) believed that the signs of madness were etched into the substrate of the brain as they were in neurological illness. All that modern medicine had to do was learn to read them.

But the optimism of these early biological psychiatrists was premature. The brains of the mad were not visibly different from those of healthy people. The fault lay less in the theories of the neuropsychiatrists than in their technology: the brain disorders associated with madness were beyond the resolution of the anatomist's microscope. Clues to its biology would have to wait until the twentieth century, when the chemists got involved.

The failure of early biological psychiatry caused the theory of madness to drift from the structure of the brain to its function. Psychiatrists began to consider the possibility that mental illness might arise in a brain that was physically intact but functionally abnormal; this would certainly explain why microscopes and dissections could not reveal the underlying causes of madness. By the 1890s, Cullen's neuroses were distinguished, therefore, from the psychoneuroses and from psychosis, both of which designated the illnesses associated with a malfunctioning brain without anatomical pathology. The focus on "functional" illnesses rather than brain lesions remained largely unchanged for almost a century.

With the decline of the therapeutic asylum and the defeat of the biological method, psychiatry had come to dual dead ends. It was into this world of discouraged caregivers and theoretical impasse that Emil Kraepelin and Sigmund Freud burst like supernovas.

THE VARIETIES OF MADNESS

Popular culture takes Sigmund Freud to be the father of modern psychiatry, but Freud had an intellectual twin, Emil Kraepelin, born in Germany in the same year as Freud, and it is Kraepelin, not Freud, who is contemporary psychiatry's patron saint.

Kraepelin began his career as an assistant to the neuroanatomist Paul Flechsig but found working life with him to be so disagreeable that he left after three months. Part of the problem was Kraepelin himself; he had eye trouble and couldn't use a microscope. Still, this handicap didn't stop his progress, and by 1890 he was professor of psychiatry in Heidelberg. In his Heidelberg clinic, Kraepelin began to keep records of new patients. Every patient had a card on which he recorded his or her history and a provisional diagnosis. After a few weeks of observation, he and his colleagues would revise their diagnosis and add a description of the patient's state of mind on discharge. In this way, the change in the illness over time came into relief. Kraepelin's great contribution to psychiatry was thus to focus attention on the course of illness rather than on its fleeting symptoms.


Figure 7: Emil Kraepelin (1856–1926).

By observing how mental illness developed, Kraepelin saw something that we now take for granted: madness is not monolithic. There were, Kraepelin found, two forms of insanity. The first, which he called "manic-depressive psychosis," was characterized by symptoms of alternating euphoric and depressed moods. The second, "dementia praecox" (or "early dementia"), had no essential connection to mood but was marked, he thought, by a decline in cognitive function. For patients with dementia praecox, the prognosis was poor; for those with manic-depressive psychosis, it was surprisingly good.

Kraepelin's hypothesis about dementia praecox turned out to be incorrect. It became clear, in due course, that while those suffering from it showed abnormalities of thought, they were not undergoing cognitive decline. In 1908, the Swiss psychiatrist Eugen Bleuler proposed replacing Kraepelin's term with "schizophrenia," a reference to a bifurcation in the mind or in psychological function. The misconstruction of schizophrenia as a form of split personality has its roots in this term and (unfortunately) persists.

In emphasizing the course of illness rather than its symptoms, Kraepelin had moved psychiatric theory toward matters of description and classification, which, by the 1880s, had become common practice in other areas of pathology. Kraepelin published a textbook of psychiatry in 1883 that outlined his psychiatric taxonomy and spent the rest of his professional life on successive revisions. The sixth edition, in 1899, introduced the distinction between dementia praecox and manic-depressive psychosis, and provided the model for our modern classification.

Although his conception of schizophrenia turned out to be wrong, Kraepelin did more than any of his predecessors to make psychiatry a branch of medicine. In the absence of a demonstrable connection between the brain and mental illness, however, the medicalization of psychiatry had to move forward without a beachhead in a diseased organ. Mental illness was surely a brain disease, but at the turn of the twentieth century, that idea was of no practical use.

PSYCHOANALYSIS: FROM THE INTRAPSYCHIC TO THE INTERPERSONAL

Freud's intellectual development, like Kraepelin's, also began with a focus on the brain, and he had high hopes of understanding mental illness scientifically as brain disease. He had trained at the Salpêtrière with Jean-Martin Charcot, one of the preeminent neurologists of his time, who was interested in, among other things, the sexual origins of the disorder known then as "hysteria." ("It is always something genital," he is supposed to have whispered to Freud.) On the road away from the brain, Kraepelin headed toward medicine; Freud turned to the mind and its unconscious.

The bulk of Freud's theory developed out of his experience outside the hospital with patients suffering from

nonpsychotic illness—hysteria most famously—and he neither treated madness nor had much interest in it. This was partly a matter of personal predilection. In a letter to István Hollós, the analyst who first introduced hospital-based psychoanalytic treatment for psychotic patients, Freud writes that these patients “make me angry and I find myself irritated to experience them so distant from myself and from all that is human. This is an astonishing intolerance which brands me a poor psychiatrist.”

Freud first attempted to grapple with psychosis in 1896 when he published “Analysis of a Case of Paranoia.” In keeping with his theories of hysteria from that period, he hypothesizes that “paranoia, too, is a psychosis of defence; that is to say, that, like hysteria and obsessions, it proceeds from the repression of distressing memories and that its symptoms are determined in their form by the content of what has been repressed.” The case concerned a certain Frau P., who suffered from paranoia as well as visual and auditory hallucinations. She “complained that she was being watched” sometimes while undressing and that “people were reading her thoughts and knew everything that was going on in her house.” Her visual hallucinations were of naked women as well as male and female genitalia, and “these hallucinations,” Freud believed, “were nothing else than parts of the content of repressed childhood experiences, symptoms of the return of the repressed.” Freud hypothesized that the hallucinations had to do with Frau P. and her brother “showing each other naked before going to bed” as youngsters, and he concludes that Frau P. “was now making up for the shame which she had omitted to feel as a child.”

According to Freud, one’s sexual development begins in childhood with autoeroticism, then “oscillates all through his life between heterosexual and homosexual feelings, and any frustration or disappointment in the one direction is apt to drive him over into the other.” Freud claimed that when unconscious and (to the subject) unacceptable homosexual feelings begin to enter into awareness, paranoia—an illness he thought to be distinct from schizophrenia—might ensue. He believed a frustration might instead induce withdrawal of one’s libido—strictly speaking, sexual energy—from the outside world and direct it back onto the self. This profound psychological regression to the autoerotic, infantile state produces schizophrenia, which Freud believed was incurable. Of course, everyone experiences frustration in life, but because people respond to frustration in different ways, not everyone develops schizophrenia: “[n]eurosis is the result of a conflict between the ego and its id, whereas psychosis is the analogous outcome of a similar disturbance in the relations between the ego and the external world.”

Freud believed that psychotic patients “have turned away from outer reality; but for that very reason they know more about internal, psychical reality and can reveal a number of things to us that would otherwise be inaccessible to us.” Moreover, Freud came to see delusions as a consequence of the patient’s effort to repair the damage of the same psychological assault that drove the libido inward. He concluded that “delusion is found applied like a patch over the place where originally a rent had appeared in the ego’s relation to the external world.”

Despite Freud’s belief that studying psychosis could further our understanding of the mind, he had no illusions about the psychoanalytic treatment of psychotic patients. According to Freud, one could not treat psychosis with psychoanalysis, because a person who has withdrawn his or her libido from the world is incapable of entering into a transference relationship, the foundation of the analytic process. The transference that develops between patient and psychoanalyst allows the patient to play out unconscious conflicts with primal figures, which the analyst can then interpret. No libido, no transference; no transference, no interpretation; and without interpretation, treatment is impossible.

If Freud’s followers had heeded his instructions, the story might end there. But a number of psychoanalysts in Europe continued to theorize about psychosis, and a few took on the analytic treatment of schizophrenia, often with poor or even disastrous results. There were some successes. One analyst who had good outcomes

with patients was Paul Federn, a member of Freud's inner circle, who believed that some patients with schizophrenia could develop transference, have some insight that they are ill, and direct at least some of their attention to external reality. In opposition to Freud, Federn believed that psychotic patients had too little libido invested in themselves, not too much. As such, Federn was less interested in uncovering unconscious material from the mind of the psychotic patient than in strengthening the patient's weakened ego, and he insisted that psychoanalysts "must help the patient in the actual affairs of his life." In practice, then, Federn's method resembles what we now think of as supportive psychotherapy. Federn was also ahead of his time with respect to acknowledging the importance of the social environment in psychosis. Without support of the psychotic patient's family, successful treatment was, he thought, impossible. Federn urged practitioners to treat psychotic patients with respect and do everything possible to remain on good terms with them, so as to be in the best position to bolster their frail egos. William Sledge claims that Federn's theory of a weakened ego "ultimately has become the centerpiece of modern psychoanalytic conceptualizations of schizophrenia."

Another major figure in the psychoanalytic treatment of psychosis was the Hungarian analyst Sándor Ferenczi, who also believed that a therapeutic connection could be made between the schizophrenic patient and the analyst, and that if an analysis was not a success, the problem lay in the analyst's technique, not in the patient's inability to develop transference. Ferenczi was actively involved with his patients during sessions, and his technique embraced the use of countertransference, the unconscious feelings stirred up in the analyst by the patient, which could then be used to help the analyst better understand his patient. While regarded as a compassionate psychoanalyst, Ferenczi took his practice to unusual limits, engaging on one occasion in a "mutual analysis" with a disturbed patient, Elizabeth Severn, and concluding, after the two analyzed each another, that he was the one who was schizophrenic. In the words of Jay S. Kwawer, Ferenczi "was challenged by working with patients who had been dismissed as hopeless cases, or 'lost causes,' and admirably stretched the boundaries of the more timid approaches that colleagues were wedded to."

After World War I, the epicenter of psychoanalysis moved west to England and the United States. In London, Anna Freud further developed her father's ego psychology, which embraces the "structural" model of the mind (id, ego, superego), her most significant contribution being her study of the defenses (or defense mechanisms). Ego psychologists largely followed her father's advice to leave psychosis alone. The other dominant school of psychoanalysis grew out of "object relations theory," with Melanie Klein its foremost figure. Object is an unfortunate term signifying a person, often an important one from early childhood, who leaves powerful unconscious vestiges that continue to exert an influence into adulthood.

Klein theorized that in the first months of life, babies want to take in pleasure and expel pain. As a result, they split the outer world—which at this stage is made up exclusively of the mother—into two distinct representations, the "good breast," which feeds and gives pleasure, and the "bad breast," which withholds and causes pain. The infant feels persecuted by the bad breast, and in turn wants to destroy it. This is the "paranoid-schizoid" position. Not only is the external world split, but the self is split into good and bad elements as well. In normal development, the infant is later able to accept that there is only one loving, if imperfect, mother, and once the mental representations of other people are integrated, the infant can do the same for itself. This is the "depressive" position. However, if this developmental process is derailed somehow, the infant experiences overwhelming anxiety, and psychosis might be the eventual result.

Donald Winnicott, an English psychoanalyst (and pediatrician), was supervised by Klein. However, owing to his original ideas, he belonged to the so-called middle group of analysts, independent of both the Freudian and Kleinian schools. Winnicott famously wrote, "There is no such thing as an infant," meaning that the infant is an inextricable part of the mother-infant whole. He believed that failures in parenting—serious deficits of attunement and empathy—could block the development of the child's core identity and might thereby result in psychosis, which he described as "an environmental deficiency disease."

In the United States, the treatment of psychosis tended to take place in hospitals, rather than in consulting rooms. The Washington School of Psychiatry developed an approach called “interpersonal psychoanalysis,” which held that the cause of mental illness was difficulty in relationships with others. By extension, they thought that human relationships could help the mentally ill, including those suffering from psychosis.

Harry Stack Sullivan was the most influential figure among the interpersonalists. He worked first at St. Elizabeth’s Hospital in Washington, DC, then at Sheppard Pratt Hospital in Maryland. Though he was not formally trained as a psychoanalyst, he considered himself to be a Freudian, and his techniques held sway at Chestnut Lodge, another psychiatric hospital in Maryland renowned for its analytic treatments of psychotic patients.

Sullivan challenged Freud’s view of the importance of the child’s libido and put a greater emphasis on the formative role of culture and society. He was lauded, in particular, for his success in treating hospitalized patients with schizophrenia in a “therapeutic milieu,” an inpatient setting where patients and staff interacted and where the primary focus was on ordinary social interactions. In his posthumously published book, Schizophrenia as a Human Process, Sullivan described training his staff and the consequent benefits of the therapeutic milieu to both patients and staff:

[I]f we changed the attitudes of these sensitive, shy, and ordinarily considered handicapped employees so that they had some notion of the schizophrenic as a person—in other words, if they ceased to regard him as “insane,” but instead had stressed to them the many points of significant resemblance between the patient and the employee—we created a much more useful social situation . . . [T]hings which I cannot distinguish from genuine human friendships sprang up between patient and employee . . . and . . . the institutional recovery rate became high.

Other theorists tended to dismiss the content of the ideas of the patient with psychosis, but Sullivan believed there was meaning in his patients’ communications and that it was the difficulty with relationships—in particular, the effects of overly anxious parents—that contributed to the development of schizophrenia. The treatment, therefore, was the good relationship between the doctor and patient, and the central duty of the therapist was to do whatever was necessary to connect with his patients, and to become a “participant-observer,” a term borrowed from cultural anthropology to refer to the direct involvement required to understand other cultures. Writing about his time at Chestnut Lodge, John Kafka, an interpersonal analyst, recalled it as a place where the staff believed that there were healthy as well as psychotic aspects of their patients’ minds and that both required attention. Kafka invokes the ethos of the participant-observer: “In retrospect, I think that those of us interested in being therapists of psychotics in some way resembled a group of anthropologists who wanted to understand and to find a way of communicating with the inhabitants of psychosis-land.”

Like Federn’s practice, Sullivan’s more closely resembles treatment of hospitalized people with schizophrenia today (minus the medication) than it does classical psychoanalysis. By 1947, when he supervised the treatment of Jim, a young navy veteran, Sullivan had stopped using terms like the unconscious, id, ego, or superego. Instead, he talked about Jim’s relationships with his parents, sexual partners, boyhood friends—a particularly significant developmental relationship, according to Sullivan, is the “chum”—and, of course, with his therapist. Sullivan was also interested in the important events in Jim’s life, his self-esteem, and his loneliness. Sullivan was not particularly interested in Jim’s dreams, at least for the time being. Although he encouraged all psychiatrists to read Freud’s The Interpretation of Dreams, he warned doctors to avoid searching for the “latent” material in the dreams of people with schizophrenia and instead suggested that they “[s]ee if there is some way of making a succinct statement of the manifest dramatic story told in the dream.” As for interpretations, they are primarily evidence that the psychiatrist

isn't sure "what the hell he is trying to do." "People come to me," he said, "to have difficulties in living untangled." Though his approach may have seemed radical, it was adopted by many later practitioners, and Sullivan has been called "the most influential native-born figure in American psychiatry."

Sullivan and the other interpersonalists challenged strict Freudian theory by taking the environment to be an important factor in development, healthy or otherwise. Schizophrenia was the result of deficient family relationships or dynamics, though analysts differed in their views about what sort of deficiency was most toxic. The central villain, however, was usually—in the infamous words of Frieda Fromm-Reichmann—the "schizophrenogenic mother," who is both overprotective and rejecting. Over the course of sixty or seventy years, psychoanalysis moved outward from a focus on internal psychological conflicts to distortions arising in the developing child's social environment as the cause of psychosis. The cost of this shift was laid at the feet of parents, who were told that they were responsible for the fact that their child had developed schizophrenia.

Looking back at the first half of the twentieth century, psychoanalysis appears like a reasonable form of therapy when compared to other treatments for psychosis available at the time, like frontal lobotomy. But times and treatments were changing. Psychoanalysis dominated psychiatry until the 1970s, when it was attacked for deficiencies of all kinds, including its views about psychosis. In 1984, Thomas McGlashan, a psychiatrist at Chestnut Lodge, published a follow-up study of the patients who had been treated there approximately fifteen years earlier. The results were discouraging, to say the least: two-thirds of the patients treated at Chestnut Lodge were ill or only marginally functional. "The data are in," McGlashan said. "The experiment failed."

If that weren't enough, in the 1980s, Raphael Osheroff, a physician, was treated at Chestnut Lodge for what was diagnosed as narcissistic personality disorder with an accompanying manic-depressive illness. He was given months of psychotherapy to no effect and was not offered any medication. He was subsequently transferred to Silver Hill Hospital in Connecticut, where he was successfully treated with medication for what was diagnosed as psychotic depression. After Osheroff recovered, he sued Chestnut Lodge for malpractice, and the case was settled out of court. McGlashan's study and the Osheroff suit had a chilling effect on any psychoanalyst contemplating treating severe mental illness with talk therapy. In due course, psychoanalysis came to see the wisdom of Freud's warning and left psychosis to the psychiatrists.

DONALD: DEPRESSION AND DAMNATION

Donald called his friend Leon to say good-bye. He apologized for what he had done. He had been waiting for God to punish him, but was now tired of waiting and was taking matters into his own hands through suicide. Leon wisely played for time by suggesting that he would come by Donald's apartment to say good-bye. When Donald hesitantly agreed, Leon hung up and called 911 immediately. Donald was brought to Bellevue.

Donald was a fifty-nine-year-old white man with no previous psychiatric history. He had worked in a number of sales jobs over the years and had been happily married for thirty-five years until his wife, Delia, had passed away three years earlier. Since that time, according to Leon, Donald had become more reclusive, no longer coming over to watch Giants games on Sundays and often going days without leaving his apartment. He had no children and few friends.

Simply looking at Donald, one would suspect he was depressed—slumped in his chair, tearful, his face hollowed, his brow furrowed—and talking with him removed all doubt. He had a number of classic symptoms: poor appetite with weight loss, insomnia, low energy, the inability to enjoy anything, and, most

seriously, the desire to die.

But Donald didn't simply want to die to relieve the pain of his depression. He needed to pay for his sins. Donald said that he had cursed the planet for eternity and had to be punished. Worse, he came to believe that since God had not killed him for his sins, Donald, through his sinning, had in fact killed God.

And what had he done to kill God and curse the planet? His sin was fornication. Not only had Donald had a sexual encounter after his wife died, but he was also plagued by the fact that it happened on Easter, and for this he could not be forgiven.

Donald was placed on one-to-one suicide watch: a health worker at Bellevue stayed with him day and night, ensuring he would not attempt suicide while in the hospital. He refused all medication and food. He wouldn't talk to members of the treatment team or receive a visit from the hospital clergy. Transfer to a medical unit was ordered, and a court hearing to have him fed over his objection was the likely next step. But where his psychiatrists, social workers, one-to-ones, and the rest of us were unable to reach Donald, his fellow inpatients did. Though Donald was too depressed to talk, much less socialize, his roommate and others on the unit continued to cajole, plead with, even tease Donald to join the group and, mostly, to eat. We were relieved when Donald's new associates told him the staff were morons; that we didn't know the first thing about helping him, but that he could trust them. It worked. Donald grudgingly began to eat. In time, he accepted medication.

After his fellow patients saved him from starvation, Donald began to talk to the staff. He was so ashamed of what he'd done. He had loved Delia with all his heart, and he'd sullied their marriage after her death by sleeping with another woman. Donald was not very religious, but Delia was. She observed Easter, and Donald went along to mass. But after her death he stopped. He hadn't even realized that his tryst had happened on Easter weekend until days later. And that was when the guilt began to torment him. It was difficult to determine if his guilt had precipitated his depression or if his depression predated his guilt. Certainly he was suffering from a full-blown major depressive episode when he developed his delusions.

As Donald's depression slowly lifted, his delusions abated: he no longer believed that he had cursed the world or killed God. When his mood improved, he no longer sought self-punitive annihilation. He was thankful to his friends on the unit for what they had done for him. He told them how much they would have loved Delia.—JG

BIOLOGICAL PSYCHIATRY RETURNS

The biological psychiatry of the nineteenth century—exemplified by the work of Wernicke, Flechsig, and others—had failed to break the neural code of mental illness, and by the end of the Great War, it was clear that it had nothing to offer patients. As a result, psychoanalysis continued to dominate academic psychiatry into the 1970s. A number of factors conspired to bring the psychoanalytic era to a close, including the inauguration of a new form of biological psychiatry and the move toward a Kraepelinian model of disease classification. These two themes are the topics of this section and the next.

After languishing for decades, biological psychiatry made a spectacular comeback in the years after the Second World War, fueled in large part by the discovery of drugs to treat mental illness, including psychosis. The first of the great discoveries was made by an Australian doctor, John Cade, who, observing that lithium salts had a calming effect on guinea pigs, tried it on psychiatric patients. In patients with mania, in particular, it had remarkable effects. All of the patients improved, and half got well enough to be discharged from the

hospital. Despite its monumental importance, however, the discovery of lithium was slow to make its mark on psychiatry. Cade was, as he put it, “an unknown psychiatrist, working alone in a small chronic hospital with no research training, primitive techniques and negligible equipment.” Working in a small town in Australia wouldn’t have helped either. The first shot of the psychopharmacological revolution that was heard came from Europe.

Psychopharmacology developed by accident, as a by-product of textile production. In the second half of the nineteenth century, organic chemists got interested in how to make new compounds, a pursuit stimulated to a large extent by the textile industry. Natural dyes were expensive, and textile makers were badly in need of methods to create synthetic versions. In 1856, the chemist William Perkin formulated “aniline purple,” or mauve, the first synthetic dye, and its financial success led to a host of new ones: fuchsin, Bismarck brown, imperial blue, quinoline blue.

In the early days, synthetic dyes were made by trial and error, but as chemistry began to understand the molecular structure of organic compounds, new substances could be made by applying theory rather than guesswork. German chemistry led the way. In 1868, Carl Graebe and Carl Libermann synthesized the natural red dye alizarin, which was then produced commercially by the Badische Anilin und Soda-Fabrik (BASF) under the direction of the chemist Heinrich Caro. In 1876, Caro produced a new dye, methylene blue, and hired August Bernthsen to investigate its chemical structure. The core of the compound, Bernthsen discovered, was the molecule phenothiazine.

It was at this point that industrial chemistry and medicine collided in the figure of Paul Ehrlich. Born in 1854 in Germany, Ehrlich studied medicine but was not much of a student because he spent all of his time staining tissue. (“That is little Ehrlich,” one of his medical teachers is supposed to have said. “He is very good at staining, but he will never pass his examinations.”) But there was a big idea behind Ehrlich’s obsession. He theorized that if a substance stains tissue, it must be because there is a strong chemical affinity between the two that could be put to medical use. A compound that stains—and therefore bonds selectively to—a disease-causing organism could potentially be used to destroy it without damaging the healthy cells of the host. Successful staining, therefore, could identify what Ehrlich dubbed “magic bullets,” and he hoped that methylene blue was going to be the first of them. Early on, Ehrlich had discovered that methylene blue stained the malarial parasite. In 1891, in what was to be the founding event of the field of chemotherapy, Ehrlich gave methylene blue to two patients with malaria and cured them.

In the years that followed, a number of researchers experimented with chemical variants of methylene blue in search of more powerful antimalarial drugs. Among them was Paul Charpentier, a chemist working at the French pharmaceutical company Rhône-Poulenc after World War II. Although these compounds proved largely ineffective against malaria, they were found to have antihistamine properties. The first antihistamine had been formulated in 1937, and this class of drugs was thought to have enormous medical promise. Phenothiazine compounds were suddenly important.

In 1949, a third train of events intersected with the phenothiazine drugs. Henri Laborit, a French navy surgeon, reported his use of antihistamines to treat postoperative shock. Shock is an abnormality in the circulatory system (with low blood pressure, rapid heart rate, and cold sweat among its signs), and it can be life-threatening. It is a common feature of battlefield injuries and a serious problem in surgery. Histamine, the immune molecule that antihistamines target, is a central player in shock—anaphylaxis, for example, is a histamine process—and Laborit thought that antihistamines could be useful in treating it. He also thought that the sleep-inducing qualities of antihistamines, familiar to many allergy sufferers, made them valuable for use in surgical anesthesia. He started experimenting with promethazine, the first phenothiazine-based commercial antihistamine (marketed as Phenergan), and found that it not only made patients sleepy but also

worked as a painkiller. And antihistamines didn't just sedate patients but led to a "euphoric quietude." Laborit also thought that there might be a second use for antihistamines in surgery. One way of lessening the risk of postoperative shock, he believed, would be to use less anesthetic by reducing the patient's basal metabolism before administering it. He formulated a mixture of drugs that he called the "lytic cocktail" for this purpose, and antihistamines were among the ingredients.

By 1950, Pierre Koetschet, assistant scientific director at Rhône-Poulenc, decided that there was enough preliminary data (from Laborit and others) on the phenothiazine compounds to merit more systematic research into their use in anesthesia, and he initiated a research program for that purpose. New compounds were synthesized by Paul Charpentier, and Simone Courvoisier, also at Rhône-Poulenc, carried out animal studies on the behavioral effects of the new compounds. One of Charpentier's new compounds was 4560 RP, or chlorpromazine, and it was immediately clear that chlorpromazine affected behavior in a big way. Courvoi-sier and her colleagues found that although it was not an antihistamine, chlorpromazine enhanced anesthesia considerably, lowered metabolism, and brought about "psychic disorientation." Human trials were carried out, and Rhône-Poulenc concluded that chlorpromazine might indeed have useful applications in surgery, obstetrics, and psychiatry.

In the meantime, Laborit had moved to Paris from Tunisia, where his early studies had been carried out, and began working with the anesthesiologist Pierre Huguenard on "artificial hibernation," a process of lowering body temperature, and thereby metabolism, as yet another means of reducing the risk of surgical shock. The technique wasn't new, but Laborit and Huguenard modified it by adding the lytic cocktail to the procedure: the patient was given the drugs, and body temperature was lowered by applying icepacks. Given Rhône-Poulenc's results with chlorpromazine, it seemed the obvious drug to try in combination with body cooling. Laborit and Huguenard began using chlorpromazine as part of artificial hibernation therapy and found that it was effective enough to allow them to dispense with many of the other drugs in the lytic cocktail. Remarkably, they noticed that chlorpromazine made it possible to carry out some surgeries without the kind of anesthesia that rendered patients unconscious. In 1948, Huguenard had had to anesthetize one of his nurses, who needed an operation on her nose. Since he couldn't administer anesthesia with a mask, he gave her a combination of pethidene and promethazine and found that during the surgery she was almost entirely indifferent to what was going on. Given this dramatic psychological effect, applications in psychiatry seemed even more clearly indicated, and Laborit began urging his colleagues to explore the possibilities.

A number of trials with the drug were carried out in 1951 and 1952. Jean Sigwald and Daniel Bouttier, for example, gave chlorpromazine to a fifty-seven-year-old woman, who heard voices and had paranoid thoughts. After the woman spent some months on the drug, the doctors reported that she "no longer talks about herself or her hallucinations; she is gay, works, and reads; sleep is normal. When questioned, she says she hears voices as before, but she does not interpret them to herself; there is no disappearance of the hallucinations, but their interpretation has become very imprecise, and there is no longer any complaint or threat of vengeance."

The work that ignited the chlorpromazine explosion, however, was done by two French psychiatrists, Jean Delay and Pierre Deniker, at St. Anne's Psychiatric Hospital in Paris. Deniker had by chance heard about the use of chlorpromazine in Laborit's hibernation therapy from his brother-in-law, an anesthetist. Unlike many of his colleagues, Delay believed that mental disorders could be treated by drugs and was interested in exploring new compounds. Having tried chlorpromazine in concert with hibernation therapy, Deniker and Delay quickly decided that it was too risky for their patients and moved on to trying chlorpromazine alone across a wide range of symptoms. They got the best response in delirious patients who, after being given chlorpromazine, quickly became reoriented. Patients with schizophrenia also improved dramatically, as did those suffering from depression. By 1953, Delay and Deniker claimed that treatment with chlorpromazine

was so effective that it had “brought about a transformation in the atmosphere of the locked wards and definitely relegated the old means of restraint.” They dubbed chlorpromazine a “neuroleptic” (literally “nerve-seizing”)—a substance that reduces nervous system activity.

The typically sober professional reports of chlorpromazine’s effectiveness almost certainly understate the amazement this new drug must have occasioned in the doctors who administered it. Chlorpromazine wasn’t a typical sedative, so it didn’t just dampen raging psychosis. Psychotic patients who had been stuporous and uncommunicative became responsive, and the voices they had been hearing often disappeared. A barber from Lyon who had been in a stupor for years “woke up” after being given chlorpromazine and said that he wanted to go home and get back to work. His doctor, Jean Perrin, suggested the patient give him a shave to prove he was up to it. Cutthroat razor in hand, he did the job as if he had never left the barbershop.

Ironically, it was chlorpromazine’s astounding success that slowed its progress in psychiatry. Doctors simply did not believe that there could be anything like it—“a drug,” as Deniker later put it, that “could truly modify a mental disorder, which is such a complex neurologic, biochemical, and social phenomenon.” For us today, awash in a sea of psychopharmaceuticals, it is hard to imagine how deep the skepticism must have run; to anyone who hadn’t seen its effects firsthand, chlorpromazine must have sounded like science fiction. Nonetheless, the cumulative reports of its effects couldn’t be denied, and in 1952, Rhône-Poulenc decided to market it commercially. Introducing it under the name Largactil, the company identified chlorpromazine’s applications as anesthesia, acute mania, and vomiting, in that order. The revolution was just getting going.

The new drug entered North America through Canada. Rhône-Poulenc had an office in French-speaking Montreal, and a company rep visited the Verdun Hospital (now called the Douglas Institute of McGill University) and left Deniker and Delay’s papers on chlorpromazine with the psychiatrist Heinz Lehmann, a German immigrant who read French. “About three to four weeks later,” Lehmann recalled, “I was catching up on my reading in the bathtub on Sunday morning and got to the Rhône-Poulenc materials . . . I couldn’t quite believe it, but thought, if it’s true, it offers an entirely new treatment concept.” Lehmann and one of his medical residents, T. E. Hanrahan, gave the drug to seventy-one patients and got the same results as Deniker and Delay had. “At the time,” Lehmann said,

we thought we were just treating excited states with CPZ [chlorpromazine] and attributed the improvement that the schizophrenics showed to that effect of the drug. But then, about three months after the trial had ended, we discovered that some of the chronic, back-ward schizophrenics had been accidentally left on large doses of CPZ. And incredibly, to us, four or five of these back-ward patients were getting better. No one believed that a pill could cause remission in schizophrenia, and we seemed to be getting the best results with chronic paranoids, the group most refractory to treatment.

Lehmann did a second study with patients diagnosed with chronic schizophrenia, and “[a]t the end of four or five weeks,” he said, “there were a lot of symptom-free patients. By this, I mean that a lot of hallucinations, delusions, and thought disorder had disappeared. In 1953, there just wasn’t anything that ever produced something like this—a remission from schizophrenia in weeks.”

Lehmann published the first papers in English on the use of chlorpromazine and made the drug known in North America. Rhône-Poulenc offered the license for chlorpromazine to the American pharmaceutical company Smith Kline & French, which released it in 1954 under the trade name Thorazine for use in nausea and vomiting, as well as psychiatry. But American psychiatrists were reluctant to take it up. Apart from their skepticism about the possibility of a wonder drug for madness, the dominant psychoanalytic model could not countenance the notion that mental illness could be treated biologically. “At the time,” Lehmann said, “no one in his right mind in psychiatry was working with drugs.”

Nonetheless, by 1955, many psychiatrists had at last begun to understand that chlorpromazine could treat schizophrenia, and they used it because it worked. What had started out as a way of making cheap textiles had wound up—after an astonishingly improbable series of chance discoveries, bold conjecture, and good luck—as the first effective treatment for madness in history.

But how did chlorpromazine work? No one knew. The theory of its action, and of the many antipsychotic drugs that followed, was developed to a large extent by the Swedish Nobel laureate Arvid Carlsson, Solomon Snyder in the United States, and Philip Seeman in Canada. Their research showed that antipsychotic drugs targeted dopamine receptors—molecules on the surface of certain brain cells that form chemical bonds with the neurotransmitter dopamine—thereby preventing dopamine itself from doing so. When dopamine is blocked in this way, the symptoms of schizophrenia wane. This finding led to the formulation of the "dopamine hypothesis" of schizophrenia, first articulated by J. M. van Rossum, according to which schizophrenia is caused by dopamine overactivity.

In recent years, it has become clear that the dopamine hypothesis is simplistic at best, not least because not all of the antipsychotic drugs currently in use are powerful dopamine blockers. Indeed, the gold standard, clozapine, binds to receptors other than dopamine and only weakly to the dopamine "D2" receptor, initially thought to be the crucial target in schizophrenia. Although researchers still think that dopamine is a factor in psychosis, it's by no means the whole story.

The efficacy of antipsychotic drugs proved beyond doubt that schizophrenia was a biological disorder. A second line of evidence supporting the biological reality of schizophrenia came from genetic research. Psychiatry had always believed (without much evidence) that chronic psychosis was heritable. But in 1960, Seymour Kety, a leading neuroscientist, waded into the politically risky waters of genetics—still tainted in the postwar years by Nazi eugenics—and came back with research to support this claim. Kety's idea was to explore the inheritance patterns in schizophrenia by looking at adopted children. He had two adopted children himself and, as he later said, "I'd noticed an interesting characteristic of the parents of adopted children . . . If the kid does something that you're proud of, you say, 'See, that's the effect of a good environment.' And if he does things that you're not so proud of, then you say, 'Well, it's in the genes.'?" By asking whether schizophrenia runs in biological or adoptive families, one could disentangle the effects of nature and nurture. Kety's study showed that it was biology that mattered. A child's risk of schizophrenia depended on whether the biological parents, but not the adoptive ones, were ill.

The discovery of antipsychotic drugs and the new genetics of schizophrenia marked a turning point in psychiatry. As psychoanalysis faded from the scene, it began to seem likely that "there can be no twisted thought without a twisted molecule."

IN SEARCH OF DISORDERS

The second current that eroded the foundations of psychoanalysis came from the frontline of psychiatric diagnosis. Identifying and classifying disease is part of the core business of any medical specialty. This was what had motivated Kraepelin to look at the course of illness rather than at symptoms. Diagnosis is difficult in many parts of medicine, and, as too many patients discover, a second opinion (or a third) won't always get to the bottom of a complaint. Psychoanalysis for its part had never been much concerned with diagnosis. Although it developed a detailed and sophisticated theory of mental illness and the mind, psychoanalysis conceived of every patient as unique. Since the whole point of diagnosis is to see past the unique to the general, psychoanalysts took it to be largely irrelevant. Nonetheless, for a discipline wanting to think of itself as a branch of medicine, the uncertainty of psychiatric diagnosis became increasingly embarrassing. In a 1971 study, for example, experienced American and British psychiatrists were shown videos of clinical

interviews with eight patients and asked to provide a diagnosis. Considerable discrepancies appeared. One patient, “Patient F,” was given a diagnosis of schizophrenia by 69 percent of the Americans but by only 2 percent of the British doctors. Diagnosis is an art, but this was intolerable.

In 1952, the American Psychiatric Association published a classificatory scheme, the Diagnostic and Statistical Manual of Mental Disorders. DSM-I, as it came to be known, was revised and replaced in 1968 with DSM-II. Although it advertised diagnosis as a central topic, the DSM didn’t provide much in the way of specifics about how to actually make one. When the time came for the third edition in 1980, things changed. The revision was led by Robert Spitzer, who, with the collaboration of a number of like-minded psychiatrists, left behind the psychoanalytic framework of DSM-II and grounded DSM-III in what they took to be more serious science.

DSM-III was based on the classification of disorders found in the sixth edition of Kraepelin’s textbook. A draft was given to five hundred psychiatrists, who then diagnosed twelve thousand patients according to the new classification, and the results were used to establish diagnostic consistency. The impact of DSM-III was immediate. The improvement in diagnosis was such that nowadays, reports of schizophrenia published before 1980 have to be taken with a grain of salt.

DSM-III was explicitly designed to be nontheoretical. Its purpose was solely to provide psychiatrists with explicit guidelines for making an accurate diagnosis. In the service of specificity and detail (and at nearly five hundred pages), it listed 265 psychiatric disorders; the 134-page DSM-II had listed only 180. DSM-IV, published in 1994 (with a text revision in 2000—DSM-IV-TR), grew to around nine hundred pages and listed 297 disorders. The expansion of the categories of illness is due in part to the psychoanalytic view that there is more psychopathology outside the asylum than in it, with madness only the most severe end of a broad spectrum. The latest revision of the DSM, DSM-5, has simplified as well as altered the older classification. The number of pages and disorders, however, have remained roughly the same.

DSM-5 recognizes twenty-two categories of disorder: of development, mood, trauma, sex and gender, sleep, drug abuse, and personality, among others. The primary category of psychosis is “schizophrenia spectrum and other psychotic disorders,” which breaks down into (a) delusional disorder, characterized by the presence of delusions alone; (b) brief psychotic disorder, lasting between a day and a month only; (c) schizophreniform disorder, lasting between one month and six; (d) schizophrenia, lasting six months or more; (e) schizoaffective disorder, in which there are both psychotic and mood-related symptoms; (f) substance/medication-induced psychotic disorder; (g) psychotic disorder due to another medical condition; and (h) schizotypal personality disorder, characterized by a reduced capacity for close relationships. (Personality disorders are quite different in their manifestations from psychotic disorders; in DSM-IV, personality disorders constituted a separate “axis.” Schizotypal personality disorder is classified as a form of psychosis because it is marked by delusion-like thoughts, such as a belief in clairvoyance or telepathy, as well as paranoid thinking.)

DSM-5 lists five characteristic features of psychotic disorders: (i) hallucinations—usually hearing voices; (ii) disorganized thinking manifesting in disorganized speech; (iii) grossly disorganized or abnormal motor behavior, such as bodily agitation and trouble with goal-directed movement; and (iv) negative symptoms, particularly salient in schizophrenia, which include avolition (a failure to initiate behavior), alogia (reduced speech), asociality (a loss of interest in social interaction), and diminished emotional expression. (v) The fifth characteristic is the presence of the strange beliefs known as delusions.

UNFINISHED BUSINESS

The discoveries made in psychiatry during the second half of the twentieth century laid the foundation for what is now called the “biological” model, and DSM-III (and the subsequent revisions) instituted a “medical” model of psychiatric diagnosis. One now finds an optimism among psychiatrists, akin to that of the founders of the therapeutic asylum, that a deep understanding of mental disorder is coming into view, with remediation and even cures on the horizon. The American psychiatrist Nancy Andreasen puts it this way:

We live in an era when biology and biomedical science have matured to a point where we can expect pivotal discoveries to occur . . . Earlier medical achievements such as the discovery of insulin, which redeemed people with juvenile-onset diabetes from an inevitable death sentence, are likely to pale in comparison with future accomplishments in the treatment and prevention of mental illness . . . We live in an era when two large knowledge bases will meet and mingle: the map of the human genome and the map of the human brain. . . . The synthesis of these two knowledge bases will give us the power to understand the mechanisms that cause major mental illnesses and to use this knowledge to relieve the pain of the millions of people who at present suffer from them. The time when we can realistically declare a war on mental illnesses, with some hope of eventually achieving a victory, has finally come.

Thomas Insel, director of the National Institute of Mental Health (NIMH), and the Canadian psychiatrist Remi Quirion express the feeling of much of the profession: “psychiatry’s impact on public health will require that mental disorders be understood and treated as brain disorders.”

And yet there are reasons for disquiet. Although the treatment of mental disorder has improved out of sight, the great advances of biological psychiatry were all made accidentally or, at any rate, not on the basis of theory. Sixty years after the discovery of chlorpromazine, we still don’t know how antipsychotic drugs work, nor do we understand how electroconvulsive therapy (ECT)—the gold standard for the treatment of severe depression—improves mood. The latest wave of drug successes, selective serotonin reuptake inhibitors (SSRIs), were developed on the basis of an idea about brain chemistry that’s simplistic at best. Despite the tremendous advances that neuroscience and psychiatry have seen, we still don’t have anything like a theory of mental illness that is good enough even to be wrong.

When we look at schizophrenia, for example, we find no theoretical consensus. The dopamine hypothesis—the great success of biological psychiatry—remains inadequate. The genetic story is also very much unfinished. Once it was established that schizophrenia runs in biological families, the search for particular genes could begin. A good deal of genetic research has been carried out, and some twenty-two regions of the human genome are associated with schizophrenia. But we still know very little about how genetic processes contribute to the development of psychosis.

The DSM was never intended as a theory but only as a useful checklist. It remains, however, the only conceptual framework psychiatry has, and it is widely believed to have flaws that run deep. The primary one is that its taxonomy of disease is based on the signs and symptoms of mental illness—disordered behavior, pathological feelings, aberrant thought—and not on the biological reality that grounds our understanding of physical disease. Take diabetes as a contrast. Diabetes results from a biological disorder of the pancreas that explains why the disease manifests the way it does. Diagnosis can be made by testing for that biological disorder, and a cure will have to correct it. At the moment, psychiatric disorders aren’t like that. Although there are some hopeful leads, we still have no biological markers associated with schizophrenia that can confirm a diagnosis. Instead, the clinician must depend on symptoms such as delusions or hallucinations,

which the patient himself must report.

Furthermore, there are lots of symptoms of a disorder like schizophrenia, and you don't have to have all of them to get the diagnosis. What this means in practice is that two people who look like they should be on different hospital wards—the patient who hardly moves or speaks, and the patient who is fulminating against the CIA—apparently have the same disorder. Conversely, the biological processes in patients who look similar may in fact be different, so we can't be sure that what we refer to as schizophrenia is a single entity (and it quite possibly isn't).

Without a theory of the biology of mental illness, all we can do is piece together a pattern of symptoms and hope that it carves biological reality at the joints. The fact that the diagnostic categories of psychiatry are called "disorders" rather than "diseases" or "illnesses" is a reflection of our lack of confidence that we've got it right. The biological model predicts that this will change in the future and that psychiatric disorders will eventually be characterized and diagnosed on the basis of their biological manifestations. But until then, the categories have to be fudged. In an interview following the publication of DSM-5, Michael First, a major figure in the development of the DSM, expressed disappointment about just this state of affairs: "We were hoping and imagining that research would advance at a pace that laboratory tests would have come out. And here we are twenty years later [after DSM-IV], and we still unfortunately rely primarily on symptoms to make our diagnoses."

Our uncertainty about the underlying biology is one of the reasons mental illness continues to be so controversial. Indeed, it is so deeply contested that leading figures such as the philosopher Michel Foucault and the psychiatrist Thomas Szasz could claim, within the past forty years, that there was no such thing as mental illness but only (at best) life problems dressed up as disease or (at worst) a monumental con to aggrandize psychiatrists and control those who threaten the social fabric. Such iconoclasm is possible, however poorly it comports with the facts, because the biology of mental illness remains elusive. Like murder, it's hard to prosecute a science of madness without the bodily evidence.

LOUIS: HELL ON EARTH

Louis is a twenty-three-year-old man from Toronto with a master's degree in computer science who works as a software engineer at a large tech company in New York City. He has a family history of depression and was briefly treated for depression himself on two occasions. When we met, Louis noted that both depressive episodes were precipitated by change, namely his move from middle school to high school and, later on, his leaving home to pursue an undergraduate degree in mathematics in Western Canada.

For Louis, the transition to his job in New York was smooth at first. He enjoyed his work, had several friends who had already relocated to the city, and had begun dating a woman. Several months after the move, Louis and his friends were celebrating 4/20, the April twentieth festival of cannabis. Louis was not a regular pot user and didn't take other drugs. While his roommate and friends were feeling good, Louis experienced an episode of extreme paranoia, considerably more frightening than the brief feelings of paranoia or panic that many pot users have.

After eating the same pot brownies his friends ate, Louis suddenly thought that his roommate was the Devil and was keeping him in the apartment against his will. Louis took refuge in the bathroom and had a vision of dying by being shot. It occurred to him that he might already be dead and in Hell, suffering. Was he having a premonition or remembering his past? When a girl Louis knew only casually entered the apartment, he was convinced that he was in Hell because he had raped her. Louis kept asking her, "What did I do to you?" She

had no idea what he was talking about. Louis returned to the upstairs bathroom, and when his Devil roommate called him back downstairs, Louis resisted, thinking that the torture chamber was below. After spending hours in the bathroom, he made his way back to his bed. The next morning, Louis woke up feeling better and had no distressing thoughts.

About a week later, Louis started to think that he was the subject of an artificial intelligence experiment and that his team of coprogrammers at work was using his brain as a network on which to run software programs. Louis imagined that the everyday terminology his team used (e.g., "processors" and "servers") was actually code for different parts of his brain. Moreover, if his coworkers discovered that he knew about the secret experiment, he would be killed, because the software wouldn't run on a brain that was aware it was the hardware. Louis found it "meta" that he was working on a project whose subject matter was his own brain. Yet the project would fail if his brain knew that it was on both sides of the research. To make matters worse, Louis knew that the others could read his mind, so he had to stop himself from thinking about knowing what was going on.

Whenever Louis felt that things were "out of place or nothing was real," he would review a number of possibilities that could explain his experience. One possibility Louis considered was that his coworkers were actors who were trying to convince him that nothing had changed. He wondered, "Is this like The Truman Show?" If Louis watched a movie he had seen before, perhaps The Truman Show or The Matrix, he thought it was "something that actually does represent my life, but they're showing it to me as an idea . . . to see how I'd react to it." Louis would ask himself if the movie he was watching wasn't in fact the movie he was in. In these moments, Louis's delusion of being dead and in Hell would recede, to be replaced by the Truman Show delusion. He also considered the possibility that he was living in a simulation, but ultimately "it would always eventually get down to me being in Hell, and me being dead and being tortured in some way."

A friend, Gord, visited from Toronto. At this point Louis thought he was in Hell. The two walked into a grocery store, and Louis had a strong experience of déjà vu that this was the store where he had already been killed. In his mind's eye, he saw himself arguing with the store owner about the price of an item, then Gord stepping between them, and the owner shooting Louis. He also considered the possibility that his murder had not already occurred but was about to. If it was a postmortem memory, Louis was being shown why he was in Hell—for losing his temper with the grocery store owner. Either way, their presence in that store would end in his being dead. They left the store. Later, in a restaurant, Louis said the other patrons were all looking at him with red eyes, a sign that they were demons and he was once again in Hell. This thought was always followed by two questions, "How did I die?" and "Why am I in Hell?" Louis now felt he had been hit by a bus while riding his bike. When driving back to the apartment from the restaurant in a taxi, Louis pointed out the window and asked Gord, "Is this where it happened? Is this where I got hit?" Louis determined that he was in Hell simply for being a bad person, that he had never done anything genuinely nice, and that he was self-interested.

It became clear to Gord that his friend was not well, and he took him to the hospital. In the subway car, Louis felt everyone's eyes on him. They knew him. He thought, "I'm the meme." Louis explained to me that, as memes like "Scumbag Steve," "Bad-Luck Brian," and "Annoying Facebook Girl" have text overlaid on their images, he imagined that his meme would be accompanied by something like "Gets good job. Goes crazy." But unlike the other memes, which were just photos, Louis was a live, three-dimensional meme that would be used by others to signify wild scenarios.

Since he was in Hell, Louis wondered where all the flames were. He decided that either Hell was not how it had been portrayed to be or that he had not yet reached that particular level of Hell. In fact, Louis had been feeling cold all evening, and as he grew colder, he thought that he would never be warm again. Being cold,

he realized, was another form of hellish torture. Hell didn't have to be hot; it just had to be painful. When they arrived at the hospital, Louis thought that upon entering its doors, the real world would fall away and the true nature of Hell would be revealed. When entering did not expose the inferno, Louis noticed that several of the hospital employees had their hair dyed red, indicating that they too were demons.

In the ER, Louis developed another theory. He was, and always had been, a robot that had been programmed not to know he was a robot, but who was now becoming self-aware. Now that he had achieved consciousness, he would be destroyed by humans. He felt that Gord—who was not a robot himself but aware that Louis was one—had tried to signal to Louis to behave in ways that would not betray his newfound self-knowledge, in order to save him from destruction.

When Louis was placed on a gurney and asked to change into hospital pajamas, he believed the next torture would be eternal rape. When he wasn't attacked but instead told that he had to wait to see the doctor, Louis determined that "Hell was so crowded" that he would have to wait to be tortured. The anticipation, he thought, was another form of torture.

When I asked Louis about the apparent contradiction between his belief that he was dead and other beliefs that suggested he was still alive, Louis explained that all of his other beliefs were ultimately founded on the primary one that he was dead and in Hell. "It has to feel so real, or else I would know I'm in Hell and I would get used to it . . . The only way to keep my mind feeling like it was in Hell was to create all these fake scenarios." So the beliefs that he was a robot or a piece of software or in a simulation were all simply demonic ideas used to keep Louis in a continual state of torment. These thoughts would come to Louis, terrify him, and disappear, leaving him to realize once again that he was eternally damned. He would never know anything for certain again.

Louis was fixated on the theme of Hell as a place where pain would always be a surprise and would always get worse. As an example, Louis suggested that if a nail were hammered into his stomach for eternity, he would eventually get used to the pain. That wouldn't do, so Hell would mix it up. If something good happened to him, he knew it was only a setup so that the next misery heaped upon him would feel that much worse. The notion of Hell having only seven levels had to be wrong; once Louis or anyone else hit level seven, he would eventually become inured to its anguish. Louis stopped counting levels, believing they had to be infinite.

Louis was hospitalized and treated with Haldol, an antipsychotic. His parents arrived from Toronto, and Louis was discharged into their care—prematurely, it turned out. On the plane back to Canada, Louis was struck by a memory or premonition of getting into an altercation on the plane and it crashing.

He soon returned to New York. Louis was not referred to me because he had experienced a form of Truman Show delusion; it was mere happenstance. Our work together was fruitful. Louis did well with a combination of an antidepressant, a newer antipsychotic, and focused talk therapy. After about six months, Louis had to switch to a psychiatrist who accepted his insurance. He brought me a list of providers in his plan, and I directed him to colleagues I respected. I have not seen him since.—JG

Users Review

From reader reviews:

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