The Man Who Mistook His Wife for a Hat

INTRODUCTION

BRIEF BIOGRAPHY OF OLIVER SACKS

Oliver Sacks was born in England, and received his medical degree from Oxford in 1960. Afterwards, he interned at Mount Zion Hospital in San Francisco, followed by UCLA. He worked as a neurologist at a hospital in the Bronx, where he came across a group of patients who had been comatose ever since the 1920s "sleepy-sickness" epidemic. Sacks's research on these patients, culminating in his use of the L-Dopa drug to revive them from their comas, formed the basis for his book *Awakenings* (1973). Since the seventies, Sacks has written books on a large number of medical topics, including *Migraine* (1970), *An Anthropologist on Mars* (1995), *Hallucinations* (2012), and two memoirs—*Uncle Tungsten* (2001) and *On the Move* (2015). Sacks was known for being a brilliant but often painfully shy man. It wasn't until well into middle age that Sacks realized that he suffered from face blindness, a condition that left him unable to recognize his own face in the mirror. In his final book, *On the Move*, Sacks addressed the subject of his homosexuality, which he'd previously concealed from all but his closest friends. He died of a tumor in August 2015, one of the most respected and beloved science writers of the twentieth century.

HISTORICAL CONTEXT

Sacks alludes to several important historical events, including the end of World War Two in 1945, the sleepy-sickness epidemic on the East Coast of the United States in 1920, and the election of Ronald Reagan as president in the 1980s.

RELATED LITERARY WORKS

Sacks was an erudite, well-read man, and *The Man Who Mistook His Wife for a Hat* alludes to many masterpieces of Western literature, often as a way of clarifying or expanding upon a complex medical concept. One particularly noteworthy book to which Sacks alludes is the philosophical text *On Certainty* by Ludwig Wittgenstein (first published in 1969). Although Wittgenstein's writing is often regarded as being highly complicated, *On Certainty* has gained attention not just for the sophistication of its ideas but for the beauty of its prose, and especially for its spare, enigmatic composition, consisting almost entirely of unanswered questions. In the book, Wittgenstein examines the question of what it would mean to question everything in one's life—even something as basic as the existence of one's own hand. Sacks studies patients who have lost their sense of proprioception, meaning that they came to live in a world much like the one Wittgenstein describes, in which even the possession of one's own hand becomes mysterious. (It's possible that Sacks identified with Wittgenstein's intense shyness, as well as his closeted homosexuality.) Sacks's book also devotes a chapter to the writings of Hildegard of Bingen, a 12th century Christian mystic, whose descriptions of religious ecstasy have often been celebrated for their literary merits as well as their phenomenological insights.

KEY FACTS

- **Full Title:** The Man Who Mistook His Wife for a Hat and Other Clinical Tales
- **When Written:** Most of the chapters in the book were originally published in journals and magazines during the 1970s and 1980s, particularly the *New York Review of Books* and the *London Review of Books*. However, twelve of the chapters in the book were originally written for the book, between autumn and winter of 1984.
- **Where Written:** New York and San Francisco
- **When Published:** Fall 1985
- **Genre:** Nonfiction, neurological case history
- **Setting:** Many of the case studies take place at St. Dunstan's Hospital, where Sacks worked for many years; however, the book moves between many different places between the 1960s and the 1980s.
- **Point of View:** First person (Oliver Sacks)

EXTRA CREDIT

Mr. Hollywood. There aren't many folks less likely to have a Hollywood career than the notoriously shy Oliver Sacks. Nevertheless, his 1973 book *Awakenings* was adapted into an award-winning film of the same name in 1990. Stranger still, Sacks was played by the notoriously *un*-shy Robin Williams!

And he found time to exercise, too? In spite of his prolific literary career and long tenure as a medical doctor, Oliver Sacks went swimming almost every day of his life, and, when he lived in the Bronx, liked to swim around City Island.

PLOT SUMMARY

Oliver Sacks's *The Man Who Mistook His Wife for a Hat* is divided into four parts, each of which consists of a series of brief case studies centered around some aspect of neurology, the field of science that deals with the nervous system.

In Part One, Sacks discusses neurological disorders that can be construed as deficits in an ordinary function of the brain. He

argues that the medical community tends to define almost all neurological disorders as deficits of some kind. But Sacks claims that the paradigm of mental illness as a deficit is too narrow—first, because it marginalizes disorders of the right hemisphere of the brain, which can't easily be understood as a deficit in a specific brain function, and second, because the paradigm underestimates subjects' abilities to find ways of compensating for mental illness and making up for the "deficit."

Patients discussed in Part One include Dr. P., who has a rare form of face blindness that leaves him unable to distinguish between his wife's face and his own hat; Jimmie G., who has Korsakov's Syndrome, meaning that he can't remember anything for more than a few seconds; Christina, who loses her sense of proprioception, meaning that she can't feel her own body; Madeline J., who has cerebral palsy and claims to be unable to control her own hands; Mr. MacGregor, who walks with a tilt because Parkinson's has prevented his mind from integrating information from the vestibular system; and Mrs. S., who lost the ability to conceive of "left" after having a stroke.

Throughout Part One, Sacks shows how patients find ways of compensating for their deficiencies, whether unconsciously or consciously. With Sacks's help, Christina, Mr. MacGregor, Mrs. S., and Madeline J. train themselves to work around their neurological problems, so that they can live relatively normal lives.

In Part Two, Sacks discusses kinds of neurological illness that can be conceived of as abundances of a certain mental process (excesses rather than deficits). In so doing, he talks about action and the effects of a neurological abundance on a patient's day-to-day life, rather than talking strictly about the afflicted portion of the brain, as is too often the case in ordinary neurology.

In Part Two, Sacks discusses several patients who've suffered from Tourette's Syndrome. Until the middle of the 1970s, Tourette's was a relatively unknown disorder, and was thought to be incredibly rare. During that decade, however, the medical establishment gradually came to realize that Tourette's was very common. Sacks attributes doctors' low comprehension of Tourette's to the overly clinical, mechanical formats of most of the tests that neurologists use to examine patients. Sacks also discusses examples of illnesses that could be construed as benefits—in certain cases, patients have reported that bouts of syphilis left them feeling lively and energetic. Sacks also discusses patients who react to their disorders by "equalizing" themselves with the world—in other words, compensating for their sense of confusion or chaos by adopting a new attitude or behavior. One such patient, William Thompson, who, like Jimmie G., couldn't remember anything for long, equalized his condition by improvising endless, contradictory identities for himself, so that he would have some sense of a "self" despite having no memory.

In Part Three, Sacks turns to cases in which a neurological condition alters a patient's perception of the world in a way that could be construed as visionary, otherworldly, or euphoric. He discusses two women who reported hearing loud, beautiful music in their heads, and guesses that these women were experiencing recurring seizures in the temporal lobes of their brains. He also writes about a young Indian girl, Bhagawhandi P., who, after developing a terminal tumor, became nostalgic and euphoric, as if she were having a strange kind of seizure. Another patient whom Sacks once examined, named Donald, murdered his child while high on PCP, but later claimed to forget the act altogether. Later, after sustaining a head trauma, Donald reported experiencing the act of killing again and again in almost photographic detail. Donald eventually learned how to live with his new condition—he couldn't make the visions go away, but he developed strategies for coping with them. The final person that Sacks discusses in Part Three is Hildegard of Bingen, the famous 12th century Christian mystic. Sacks guesses that Hildegard may have had recurring seizures that allowed her to have vivid hallucinations, which she interpreted as divine visions. In light of the full medical information, one could dismiss Hildegard's visions as "merely" physiological in origin, Sacks acknowledges, but one could continue to respect her imagination, her intelligence, and her religious piety.

In the fourth and final part of the book, Sacks discusses his work with patients who are mentally challenged in some significant way. At the beginning of his career, Sacks found the prospect of working with intellectually disabled patients to be depressing, but over time, he's come to recognize the beauty of intellectually disabled patients' views of the world. The guiding theme of Part Four is concreteness—the worldview that conceives of reality as a set of material *things*, rather than a set of abstract concepts.

Many of the intellectually disabled patients that Sacks discusses in Part Four have a special sense of connection with the concrete world, almost as if their minds compensate for the lack of abstract thought. One such patient, Rebecca, had a very low IQ, but also an impressive gift for poetry and poetic imagery—she could describe her feelings in intricate material terms, and found ways of using words to render complex emotions in tangible, concrete ways. Another intellectually disabled patient, Martin A., had an almost perfect knowledge of Western musical history, as well as a sophisticated appreciation for the music of Johan Sebastian Bach. Sacks also discusses "the twins," John and Michael, who, in spite of their mental deficiencies, had profound mathematical gifts. Sacks ends his chapter on the twins by noting bitterly that John and Michael were later separated, and thereafter lost their powers of mathematical calculation, the one great source of joy in their lives.

In the final chapter of Part Four, Sacks discusses his work with José, an autistic child who excelled at drawing. Sacks realized that, even though José was closed off and didn't talk much with

other people, he used **drawing** to forge a connection with the external world. Sacks argues that society needs to learn how to help autistic people develop their unique gifts, rather than marginalizing them and treating them as social outcasts.

CHARACTERS

MAJOR CHARACTERS

Oliver Sacks – The author and narrator of *The Man Who Mistook His Wife for a Hat*, Oliver Sacks spent many years working with patients with rare neurological disorders, and his research formed the basis for the book (each chapter is structured around a different patient). Although Sacks's primary role in the book is that of an observer and a dispassionate scientific researcher, we gradually get a distinct sense of his personality. Sacks is an erudite man (sometimes comically so) whose knowledge of music, literature, and history matches his knowledge of neurology. He's interested in investigating people with rare neurological conditions, not simply because of his duties as a doctor, but because he wants to understand how human beings live with their conditions and adapt accordingly. At times, particularly in the fourth part of the book, Sacks can barely conceal his contempt for the way society treats people with mental illnesses, shunning them and dismissing their unique gifts. Sacks's role, in a way, is that of a translator and an interpreter, who uses medical knowledge, philosophy, and basic human decency to de-stigmatize mental illness and show readers how his patients maintain their spirit and dignity. Sacks's writing has gained poignancy since 1985, as Sacks himself later discovered that he, just like the title character of his book, had face blindness—further emphasizing the close empathetic bond between Sacks and his subjects.

A. R. Luria – A. R. Luria was a Russian neuropsychologist whose research had a major influence on the career of Oliver Sacks. Like Sacks, Luria regarded it as a scientist's duty to study a subject holistically, rather than reducing the subject's entire existence to numbers and figures. Furthermore, Luria, like Sacks, was often praised for the high literary quality of his medical writings. Toward the end of his life, Luria corresponded with Sacks, encouraging his studies of neurological disorders.

Sigmund Freud – Important 19th-century Viennese psychologist whose writings formed the basis for the practice of psychoanalysis, and whose theory of the unconscious is often regarded as one of the greatest milestones in the history of psychology. Although many of Freud's ideas have since been dismissed as pseudoscience, his influence on the field of psychology is undeniable.

MINOR CHARACTERS

Purdon Martin – Neurologist who pioneered the theory that the brain integrates sensory data from the visual, proprioceptive, and vestibular systems.

Hughlings Jackson – A famous 20th century neurologist.

Kurt Goldstein – A neurologist who defined human beings by their ability to reason abstractly.

James Parkinson – The 19th century doctor who researched and later named Parkinson's disease.

Wilder Penfield – Neurologist who researched seizures and hallucinations.

Doctor C. C. Park – A doctor who has researched ways of teaching gifted autistic children to become artists.

Martin A. – An intellectually disabled man who nonetheless has a near-perfect memory for musical history, and a deep, sophisticated appreciation for the music of Johann Sebastian Bach.

Mrs. B. – A patient with a cerebral tumor, who maintains an attitude of constant, maddening nonchalance, illustrating the concept of equalization.

Christina – A computer programmer who loses her proprioception.

Charles D. – A patient who suffers from *tabes*, and cannot walk without feeling dizzy.

Emily D. – A patient with tonal agnosia, meaning that she can't understand emotional inflections in speech.

Stephen D. – A medical student who briefly reported a heightened sense of smell after using lots of cocaine and other drugs.

Donald – A patient who killed his child while high on PCP, and later became haunted by constant, vivid hallucinations of the act.

Jimmie G. – A patient who suffers from Korsakov's Syndrome, meaning that he has virtually no long-term memory.

Madeline J. – A woman with cerebral palsy who reports that her hands feel "lifeless."

John – One of "the twins," who have phenomenal mathematical powers.

Michael – One of "the twins," who have phenomenal mathematical powers.

Israel Rosenfield – The medical researcher who studied John and Michael in the 1960s.

José – A young autistic man who possesses an incredible talent for **drawing**.

Natasha K. – An elderly patient whose syphilis had the effect of making her feel younger and more energetic.

Simon K. – A patient who, like Madeline J., feeels that he can't control his hands.

Mr. MacGregor – A Parkinson's patient who walks with a significant lean in his body.

Miguel O. – A patient with syphilis who took Haldol to control his symptoms, sacrificing some of his energy and creativity in the process.

Mrs. O'C. – A woman whose seizures give her the ability to hear music in her head.

Mrs. O'M. – A woman whose seizures give her the ability to hear music in her head.

Bhagawhandi P. – A young Indian patient with a terminal tumor, who developed a state of eerie, nostalgic calm as she approached her death.

Dr. P. – A music teacher who suffers from a form of face blindness, meaning that he can't even identify the faces of his oldest friends.

Stephen R. – A Patient who suffers from Korsakov's Syndrome.

Ray – A patient with Tourette's Syndrome who has learned to control his symptoms with the help of the drug Haldol.

Rebecca – An intellectually disabled woman who possesses a rare gift for poetic expression.

Mrs. S. – A patient who lost the ability to understand the concept of "left."

William Thompson – A patient with Korsakov's Syndrome, who compensates for his disorder by improvising new identities for himself.

Bob Thompson – A brother of William Thompson.

George Thompson – The brother of William Thompson and Bob Thompson.

Hildegard of Bingen – 12th century European mystic who may have had seizures that allowed her to experience visions.

Kurt Gödel – 20th century mathematician who posited that prime numbers could be used as markers for cities and even ideas.

Harry Truman – President of the United States from 1945 to 1953.

Johann Sebastian Bach – Famous Baroque composer whose music is often regarded as some of the greatest ever composed.

Dmitry Shostakovich – 20th century Russian composer who claimed to be able to hear music in his head, perhaps because of a piece of shrapnel that was lodged in his brain.

Ludwig Wittgenstein – Great 20th century philosopher whose treatise *On Certainty* Oliver Sacks cites while discussing the concept of proprioception.

THEMES

In LitCharts literature guides, each theme gets its own color-coded icon. These icons make it easy to track where the themes occur most prominently throughout the work. If you don't have a color printer, you can still use the icons to track themes in black and white.

NEUROLOGY

Oliver Sacks's book *The Man Who Mistook His Wife for a Hat* is about neurology: the science that deals with disorders of the nervous system in general and the brain in particular. (Sacks also discusses neuropsychology, a field that, like neurology, deals with the nervous system, but which is more exclusively focused on observing patient behavior. Nevertheless, Sacks is, first and foremost, a neurologist.) Over the course of the book, Sacks discusses twenty-four different case studies, each of which corresponds to a rare neurological disorder. In the process, Sacks not only communicates a lot of information about his various patients; he gives lay readers a sense for how good neurological research should be conducted.

In part, Sacks suggests, good neurological research hinges upon the study and close observation of the brain itself—in a sense, an internal approach to studying the nervous system. Throughout his research into patients' neurological disorders, Sacks makes use of technologies such as the electroencephalogram, or EEG, which measures brain wave patterns, and the Computerized Topography, or CT scan (which, as of the book's publishing, was only a decade old). By using technology to analyze the internal structure of the human brain, Sacks can, in some cases, trace a disorder back to a specific area of the brain, and therefore make a better diagnosis for how to treat the disorder.

Nevertheless, Sacks doesn't exclusively use the internal approach to studying the nervous system; indeed, in the majority of the case studies in the book, he makes no mention of either EEG or CT scans, and focuses instead on descriptions of his patients' mannerisms and their day-to-day behaviors. One potential reason that Sacks doesn't dwell on descriptions of elaborate tests or on the precise areas of the brain that might trigger neurological disorders is that he's writing for a lay audience for which such information wouldn't necessarily make sense. But at the same time, the relatively little detail about tests and brain waves is indicative of Sacks's approach to neurology itself, not just his approach to *writing* about neurology. Sacks argues that neurologists rely too exclusively on scans and other internal measures of the nervous system (see "The Neurological Community" theme). *The Man Who Mistook His Wife for a Hat* suggests that an internal approach to studying the nervous system is an invaluable tool for neurologists, but one that's most useful when paired with observation of a patient's behavior.

In diagnosing and treating his patients, Sacks relies upon an unusually holistic, and even empathetic, approach to observing

his patients—in a sense, an external approach to studying the nervous system, emphasizing the ways in which internal neurological problems influence a person's behavior. Sacks spends long hours interviewing his patients and getting a feeling for how they live their lives. Furthermore—and, according to Sacks, unlike most neurologists—he prefers to study patients in their "natural habitats," rather than in a clinical, scientific setting. When studying Tourette's Syndrome, for example, Sacks makes some of his most important insights while observing patients with Tourette's as they walk through the streets of New York City, rather than while talking to them in a hospital. By relying so extensively on observation of patients' day-to-day behavior—and, in a way, their lives—Sacks is able to understand their disorders to a degree that wouldn't be possible had he relied purely on EEGs, or even if he'd relied on in-hospital interviews. Sacks succeeds as a neurologist because he understands how to combine an internal approach to studying the nervous system with an external approach. For example, when working with a man with Tourette's Syndrome named Ray, Sacks prescribes a drug called Haldol to treat the disorder, based on the brain scans and other internal tests that his colleagues have conducted. However, when he realizes that Haldol makes Ray sluggish and depressed, Sacks spends three months working with Ray to show him how to adjust his behavior to his new neurological state. Put another way, Sacks uses Haldol to remedy Ray's internal disorder—the precise chemical deficiencies in his brain—but *also* uses empathetic, one-on-one therapy to help Ray adjust his external actions accordingly. In all, *The Man Who Mistook His Wife for a Hat* suggests that neurology must blend rigorous study of the nervous system itself with careful observation of how a patient behaves in the world.

CONCEPTIONS OF MENTAL ILLNESS

In addition to describing the practice of neurology, *The Man Who Mistook His Wife for a Hat* studies some of the different ways of conceiving of neurological disorders. In a sense, the question of how one should conceptualize mental illness is not itself a neurological question, and, as Sacks shows, scientists' paradigms (frameworks of agreed-upon assumptions) for mental illnesses are often determined by prejudice, tradition, or convenience, rather than rigorous science. For example, in the first part of the book, Sacks discusses the strong tendency for neurologists to conceive of disorders as kinds of absences, or deficits. For example, aphasia, the inability to speak in words, can be defined as a deficit in Broca's area, the region of the brain that controls speech. One reason that neurologists prefer to discuss diseases as deficits, Sacks argues, is that deficits in parts of the brain are easier to identify; indeed, neurology arose from scientists' attempts to trace strange behaviors to deficits in specific areas of the brain.

While the tendency to think of neurological disorders as deficits of some kind can be useful, it creates major weaknesses in the discipline of neurology. For example, as a consequence of the "deficit paradigm," neurologists are far more comfortable analyzing disorders associated with the left hemisphere of the brain, where it's easier to trace behaviors to specific areas of the brain, than they are analyzing right-hemisphere disorders. Another consequence of the deficit paradigm is that there is relatively little scholarship on neurological disorders that can be most easily conceived of as abundances. In this way, an arbitrary model for how one should conceive of disorders results in concrete weaknesses in the science of neurology.

If existing ways of talking about mental illness are weak and unnecessarily narrow, Sacks asks, how should doctors conceive of mental illness? In part, the book suggests, scientists should acknowledge the diversity and multiplicity of different conceptions of mental illness, rather than tethering themselves to any single one. *The Man Who Mistook His Wife for a Hat* conveys the diversity of mental illnesses: the book is divided up into four parts, each one of which is structured around a different conception of mental illness. The first part is structured around the notion that illness is a deficit; the second part is structured around the notion that illness is an abundance of some kind, etc. It's important to recognize that Sacks *isn't* saying that any single paradigm for discussing mental illness is the right one, or even that some paradigms are more correct than others. There are many different ways of defining and classifying mental illness, each of which has its own strengths and weaknesses. Ultimately, the book suggests, neurologists should embrace many different definitions of mental illness, so that their research will explore different kinds of mental illness.

THE NEUROLOGICAL COMMUNITY

The Man Who Mistook His Wife for a Hat does more than study neurology; it also critiques the state of the contemporary medical community. Throughout the book, Oliver Sacks contrasts his approach to studying patients with neurological disorders with the methods and assumptions of other neurologists. In doing so, he suggests that the neurological community—and, perhaps, the entire medical community—has become overly focused on quantifying its patient research and reducing complex phenomena to simplified, overly mechanical processes.

The Man Who Mistook His Wife for a Hat critiques the neurological community on the grounds that it has in itself become too "left-brained"—in other words, too concerned with understanding patients in abstract, mathematical, or overly mechanical terms. The left-brained-ness of the neurological community can be detected in the way it evaluates patients' medical conditions. Instead of studying patients in the course of the patients' ordinary lives, neurologists tend to subject their

patients to a series of tests that reduces their lives to quantifiable information. In the case of intellectually disabled patients, for example, neurologists tend to rely too heavily on numerical information, such as IQ, and not enough on other, harder-to-quantify aspects of their patients' minds.

Another sign of the neurological community's left-brained tendency is neurologists' strong desire to schematize neurological disorders as discrete, clearly understood processes. For example, Sacks describes how neurologists focus primarily on disorders that can be traced back to the left hemisphere of the brain, because left-hemisphere disorders can be identified more precisely, and traced back to specific parts of the brain more easily than can right-hemisphere disorders. In short, Sacks claims that the neurological community wants to make neurology as much of a hard science as possible, using rigorous quantitative data whenever possible.

The neurological community's left-brained emphasis on the quantitative and the mechanistic, Sacks argues, leads to some major problems. One such problem is that neurologists ignore many important neurological disorders, simply because they can't be reduced to quantitative data or to any clearly delineated cause. In Part One of *The Man Who Mistook His Wife for a Hat*, Sacks argues that neurologists have mostly neglected disorders that originate in the right hemisphere of the brain, such as face blindness, or Korsakov's Syndrome. Even when neurologists publish important information about right-hemisphere disorders, he suggests, the results aren't always widely discussed. In part, this is the case because right-hemisphere disorders are harder to represent quantitatively or trace back to a single isolated part of the brain. Additionally, neurologists neglected important disorders such as Tourette's Syndrome, because these disorders couldn't easily be studied in a clinical setting, and their causes weren't always easy to isolate.

Sacks also argues that the neurological community is largely unable to see or acknowledge the unique virtues of people with neurological disorders (see "Illness as a Gift" theme). In the case of intellectual impairment, for example, neurologists too often conclude that patients have low IQs, but seem not to notice their patients' creativity, insightfulness, or other right-brained talents. In all, Sacks argues that the neurological community has erred in trying to become as rigorously mathematical as possible, ignoring many of the unquantifiable aspects of the human condition. In order to understand patients fully, he suggests, neurologists need to supplement their quantifiable findings with qualitative observation, using some of the methods more commonly associated with the social sciences.

EQUALIZATION AND ADAPTATION

On of the most important insights in *The Man Who Mistook His Wife for a Hat* is the idea that people with neurological disorders adapt to their conditions. Often, people have a tendency to think of mental illness as a static phenomenon—something that alters the "normal" human mind, leaving it permanently fragmented or impaired. However, many of the case studies in Sacks's book suggest a subtly different perspective: although neurological disorders alter human beings' minds and behavior, people also *react* to their disorders, consciously or unconsciously, to recreate a sense of stability that most people take for granted. Oliver Sacks's mentor, the neurologist A. R. Luria, used the term "equalization" to refer to this way of compensating for a neurological disorder. On many occasions, Sacks uses Luria's term, while also alluding to a more general process by which patients adapt to their conditions in order to preserve their dignity or self-control.

In many of the episodes from *The Man Who Mistook His Wife for a Hat*, patients with rare neurological disorders lose their knowledge of themselves—something that most human beings take for granted. In response, many of these patients find unique ways to recreate some form of "self." In some cases, patients who lose a major aspect of their self must consciously train themselves to compensate for their loss. For instance, when a woman named Christina loses her sense of proprioception—the intuitive awareness of one's own body—she learns how to rely upon her five senses to maintain awareness of her own body. Most human beings, thanks to the power of proprioception, intuitively know where their arms are without needing to look—Christina, however, trains herself to use her eyes to locate her arm, consciously recreating her sense of self.

In many other cases—particularly cases that revolve around a memory disorder—patients recreate a sense of self unconsciously. One patient, William Thompson, suffers from Korsakov's Syndrome, meaning that he's unable to remember anything that happened more than a few seconds ago, and he has only the vaguest sense of who he is. However, Thompson seems to compensate for his self-ignorance unconsciously by improvising elaborate identities and often inventing different contradictory life stories for himself in the course of the same conversation. The fact that Thompson could improvise entire identities for himself, without being consciously aware of his own condition, suggests that the human brain unconsciously "craves" self-understanding. While most people are more or less aware of their own selves—their personalities, their pasts, etc.—people with certain neurological conditions adapt to their situations by rediscovering, or even inventing, a stable "self."

Another important kind of adaptation that the book discusses is the need to create some kind of connection between the self and the world. It is not enough, Sacks suggests, to feel self-

awareness—one must also feel some connection with other people, or, at the very least, some connection with the external world. Many of the patients in the book struggle to make ordinary human connections, but find ways to adapt to their circumstances. Some patients, particularly those with Tourette's Syndrome, learn to control their symptoms and build fulfilling relationships with other people. Interestingly, though, many other patients in the book turn to art, religion, and ceremony to forge a connection with the world. Jimmie G., a patient who, like William Thompson, lacks almost any memory, finds peace and comfort in Catholicism and the rituals of mass; somewhat similarly, José, a gifted autistic man, is happiest when **drawing** pictures, particularly pictures of the natural world.

Sacks interprets Jimmie and José's behavior as two different manifestations of the same instinct: the instinct to connect with something larger and longer-lasting than the self (religion or nature). In so connecting, Jimmie and José find ways of making sense of their own chaotic existences, and find a kind of relief from their disorders. Too often, people think of those with mental illnesses as living in a permanent state of madness or disorientation. However, as *The Man Who Mistook His Wife for a Hat* shows, many patients find ingenious, triumphant ways of compensating for their disorders—reminding us that people with mental illness, no less than any other human beings, are masters of adaptation, change, and survival.

ILLNESS AS A GIFT

Another important point that *The Man Who Mistook His Wife for a Hat* makes about neurological disorders is that not all disorders are uniformly "bad." To classify something as an illness—much like conceiving of a mental illness as a deficit (see "Conceptions of Mental Illness" theme)—is not itself a scientific procedure, but rather an arbitrary decision. Notions of what is and isn't bad or normal are subject to cultural forces, and therefore change over time (to cite one notorious example, the medical community classified homosexuality as a disease until the 1970s). Throughout his book, Sacks questions and complicates the very definition of the word "illness," suggesting that some so-called mental illnesses could be construed as valuable gifts, rather than conditions to be abhorred. (For the sake of convenience, Sacks uses the words "illness," "disability," and "disorder" throughout the book, although he seems to disagree with the purely negative stigma they imply.)

In several of the case studies in *The Man Who Mistook His Wife for a Hat*, patients "suffer" from diseases that not only don't cause them significant problems, but which seem to enhance their lives in surprising ways. Particularly in Part Three of the book, Sacks shows how so-called neurological disorders can provide patients with a new sense of enlightenment, inspiration, or euphoria. Sacks brings up two famous historical figures, Dmitry Shostakovich and Hildegard of Bingen, who, in all probability, had neurological conditions that allowed them to experience vivid hallucinations, triggered by seizures in the temporal lobes of the brain. In the strictest sense, Shostakovich and Hildegard probably had mental illnesses, but their illnesses seem to have helped them find enlightenment and inspiration far more than they impaired their lives. Too often, the medical community ignores the talents of mentally disabled people or acknowledges these talents in only the narrowest sense, treating them as mere party tricks, instead of signs of sophisticated, mature cognitive ability.

Although mental disorders could sometimes be conceptualized as an across-the-board benefit, Sacks discusses other, more ambiguous cases, in which the neurological disorder could be construed as having some positive and some negative effects, almost as if the mind compensates for certain deficits. Particularly in Part Four of the book, Sacks shows how mental disabilities, such as intellectual impairment, sometimes coincide with prodigious gifts in another mental departments. In one case study, we meet a man named Martin A., who, despite—or, quite possibly, because of—his intellectual impairment, has become a leading expert on the music of Johann Sebastian Bach. In another case study, Sacks describes an intellectually disabled woman named Rebecca who possesses a tremendous talent for poetic imagery. Although most medical researchers interpret such patients' mental gifts as existing independent of their intellectual impairment, Sacks hypothesizes that their gifts are, in fact, a product of intellectual impairment. Perhaps, in being incapable of abstract, categorical thought, a mentally disabled person can focus on the concrete and the particular, and attain powers of concentration or attention that the average person could never hope for.

Sacks stresses that he's not trying to fetishize mental illness, and readily acknowledges that, in many, many cases—perhaps the majority—mental illness is a tragic phenomenon that causes the patient distress and pain. Nevertheless, he argues, society, and even the medical community, is too hasty in stigmatizing mental abnormalities as "illnesses." Some mental abnormalities have benefits as well as drawbacks, others could even be considered special gifts, and—perhaps most importantly—all should be treated as a mark of the individual's humanity.

SYMBOLS

Symbols appear in **teal text** throughout the Summary and Analysis sections of this LitChart.

JOSÉ'S DRAWINGS

Throughout *The Man Who Mistook His Wife for a Hat*, Oliver Sacks discusses the ways that patients with serious neurological conditions adapt to their unusual circumstances by creating a new identity for themselves, or by

finding a way of connecting to the external world. The drawings that José, an autistic hospital patient, creates in the final chapter of the book could be said to symbolize all the attempts to connect with the external world that Sacks's patients have made.

QUOTES

Note: all page numbers for the quotes below refer to the Simon & Schuster edition of *The Man Who Mistook his Wife for a Hat* published in 1998.

Part 1, Introduction Quotes

It is, then, less deficits, in the traditional sense, which have engaged my interest than neurological disorders affecting the self. Such disorders may be of many kinds—and may arise from excesses, no less than impairments, of function—and it seems reasonable to consider these two categories separately. But it must be said from the outset that a disease is never a mere loss or excess—that there is always a reaction, on the part of the affected organism or individual, to restore, to replace, to compensate for and to preserve its identity, however strange the means may be: and to study or influence these means, no less than the primary insult to the nervous system, is an essential part of our role as physicians.

Related Characters: Oliver Sacks (speaker)

Related Themes:

Page Number: 6

Explanation and Analysis

In the Introduction to Part One of his book, Oliver Sacks describes a paradigm (conceptual framework) that many neurologists have used to understand mental disorders: deficit. Sacks acknowledges that the "deficit" paradigm can be useful at times—it's convenient, for instance, to define certain disorders, especially disorders of the left hemisphere of the brain, in terms of the absence of a specific brain function. However, Sacks also acknowledges that the *overuse* of the deficit paradigm can be harmful to neurology, because it pushes neurologists into conceptual corners. For example, when neurologists grow too accustomed to conceiving of every disorder as an absence, they ignore the complicated processes by which patients with mental disorders *compensate* for their deficits, whether consciously or unconsciously.

Put another way, the neurological community, as a consequence of its tendency to think of disorders as absences of some kind, neglects the process of adaptation by which patients respond to their conditions. It is this process that Sacks intends to study throughout his book. Sacks will not throw out the deficit paradigm altogether—indeed, he admits that such a paradigm can be very useful. However, he tries to modify and revise this paradigm, and use other paradigms, so that he keeps an open mind when discussing different neurological conditions.

Part 1, Chapter 1 Quotes

'Well, Dr. Sacks,' he said to me. 'You find me an interesting case, I perceive. Can you tell me what you find wrong, make recommendations?'

'I can't tell you what I find wrong,' I replied, 'but I'll say what I find right. You are a wonderful musician, and music is your life. What I would prescribe, in a case such as yours, is a life which consists entirely of music. Music has been the center, now make it the whole, of your life.'

Related Characters: Dr. P., Oliver Sacks (speaker)

Related Themes:

Page Number: 18

Explanation and Analysis

In this chapter, Sacks investigates a patient named Dr. P., who seems to suffer from a kind of "face blindness." Dr. P. is a talented musician, and a charming, intelligent man; however, he lacks the ability to recognize people's faces, and also cannot describe different expressions, except in the most reductionist, fragmentary ways. Sacks studies Dr. P. for several weeks, but offers no neurological treatments for Dr. P.'s condition—no drugs or therapy. His only advice for the doctor is to immerse himself in music, as he's been doing for most of his life already.

It's worth asking why Sacks chooses to begin his book with a case study in which he doesn't "cure" the patient, Dr. P., of his ailment. Perhaps the answer is that, in this book, Sacks is more interested in studying the ways that neurological patients live with their disorders and find ways to adapt and work around their disabilities. The duty of a good neurologist, Sacks further suggests, is to train patients to survive with their conditions and find emotional and spiritual meaning in their lives—thus, Sacks fulfills his duties by advising Dr. P. to continue embracing music. (And indeed, art, seen as a form of therapy and even religious worship, will be one of the key themes of the book.)

Part 1, Chapter 2 Quotes

What could we do? What should we do? 'There are no prescriptions,' Luria wrote, 'in a case like this. Do whatever your ingenuity and your heart suggest. There is little or no hope of any recovery in his memory. But a man does not consist of memory alone. He has feeling, will, sensibilities, moral being—matters of which neuropsychology cannot speak. And it is here, beyond the realm of an impersonal psychology, that you may find ways to touch him, and change him.'

Related Characters: Oliver Sacks, A. R. Luria (speaker), Jimmie G.

Related Themes:

Page Number: 34

Explanation and Analysis

In this chapter, Sacks examines a patient named Jimmie G. who suffers from a rare disorder called Korsakov's Syndrome, which renders him incapable of remembering anything for longer than a few minutes. Sacks recognizes that, in spite of his training, there is very little he can do for Jimmie: Jimmie's brain has already been so damaged by alcohol that he'll never regain his memory. Sacks turns to his friend and mentor, A. R. Luria, for advice about how to proceed with Jimmie, and Luria tells Sacks that he should try to show Jimmie how to preserve his dignity, will, and morality—in other words, how to live with his condition, rather than curing his condition.

Luria's advice for Sacks could be taken as a kind of thesis statement for the book itself. Sacks is interested in how patients with rare neurological disorders preserve their dignity and their humanity, even after their conditions alienate them from the rest of their species. In a way, Sacks's book is less a neurological treatise than it is a profound, philosophical examination of what it means to be human, and how we struggle to preserve our humanity in the face of adversity.

If Jimmie was briefly 'held' by a task or puzzle or game or calculation, held in the purely mental challenge of these, he would fall apart as soon as they were done, into the abyss of his nothingness, his amnesia. But if he was held in emotional and spiritual attention—in the contemplation of nature or art, in listening to music, in taking part in the Mass in chapel—the attention, its 'mood', its quietude, would persist for a while, and there would be in him a pensiveness and peace we rarely, if ever, saw during the rest of his life at the Home.

Related Characters: Oliver Sacks (speaker), Jimmie G.

Related Themes:

Page Number: 38-39

Explanation and Analysis

At the conclusion of Chapter Two, we learn what becomes of Jimmie G., a patient afflicted with a rare case of Korsakov's Syndrome, which leaves him incapable of forming new memories. Sacks argues that Jimmie learns how to preserve his dignity and sense of self, using the institutions of the Catholic Church to do so. In loving detail, Sacks describes how Jimmie immerses himself in Mass, praying, taking communion, etc. His lack of memory prevents him from forming close friendships with other people, but not from forming a close worshipful bond with Catholicism itself. Sacks further concludes that Jimmie achieves a state of lingering inner peace, thanks to his religion.

One of Sacks's most provocative theses in the book is that human beings need to form connections with the external world, or with other people, in order to feel fully human—if not, they become lost in a constant state of flux. Patients like Jimmie, whose conditions prevent them from forming close bonds with other people, must learn how to connect with the world in some other way, or risk losing their sense of self and their humanity.

Part 1, Chapter 3 Quotes

This unquestionability of the body, its certainty, is, for Wittgenstein, the start and basis of all knowledge and certainty. Thus, in his last book (*On Certainty*), he opens by saying: 'If you do know that here is one hand, we'll grant you all the rest.' But then, in the same breath, on the same opening page: 'What we can ask is whether it can make sense to doubt it'; and, a little later, 'Can I doubt its grounds for doubt are lacking!'

Related Characters: Oliver Sacks, Ludwig Wittgenstein (speaker)

Related Themes:

Page Number: 44

Explanation and Analysis

At the beginning of this chapter, Sacks brings up the work of the great 20th-century philosopher Ludwig Wittgenstein. Toward the end of his life, Wittgenstein wrote an unpublished treatise on certainty and doubt, usually known

by the title "On Certainty." The book has been influential among philosophers—but Sacks believes that he's found an interesting connection between Wittgenstein's abstract, theoretical ideas, and the real world of neurology. Wittgenstein begins his book by studying the possibility that a human being could examine his own hand and conclude that the hand doesn't belong to him; while Wittgenstein was speaking theoretically, Sacks argues that patients who lose their innate sense of proprioception (i.e., their ability to feel a sense of ownership and control over their own bodies) would be thrust into a situation not unlike the one Wittgenstein described—they'd always have to doubt and question their own bodies' orientations and positions.

The passage is a great example of how Sacks enlivens his neurological discussions with vivid examples taken from art, history, literature, and philosophy. Sacks's book is much broader and far-reaching than a work strictly concerned with neurology. Although it's full of rigorous science and insightful medical research, the book is often more interested in *using* neurology (and philosophy, among other intellectual disciplines) to understand concepts like human nature, the self, and existence.

Part 1, Chapter 4 Quotes

❝ 'Easy!' I said. 'Be calm! Take it easy! I wouldn't punch that leg like that.'

'And why not?' he asked, irritably, belligerently.

'Because it's your leg,' I answered. 'Don't you know your own leg?'

He gazed at me with a look compounded of stupefaction, incredulity, terror and amusement, not unmixed with a jocular sort of suspicion, 'Ah Doc!' he said. 'You're fooling me! You're in cahoots with that nurse—you shouldn't kid patients like this!'

'I'm not kidding,' I said. 'That's your own leg.'

He saw from my face that I was perfectly serious—and a look of utter terror came over him. 'You say it's my leg, Doc? Wouldn't you say that a man should know his own leg?'

Related Characters: Oliver Sacks (speaker)

Related Themes:

Page Number: 56

Explanation and Analysis

In this chapter, Oliver Sacks meets with a patient who claims that doctors have removed his real leg and attached a rotting leg to his body. Sacks chooses to deal with the patient by reasoning with him: he asks the patient why he thinks that the leg attached to his body isn't "his" leg.

The passage is an interesting example of the conversational, one-on-one approach that Sacks often adopts when dealing with patients. While many neurologists take a clinical, quantitative approach to their patients, and prefer running impersonal tests, Sacks believes that part of the job of the neurologist is to interview the patient directly and get a good sense for the patient's personality. The passage is also interesting because it's an example of one case in which Sacks disrupts the patients "illusions." As a scholar of rare neurological conditions, Sacks is often put in a situation in which he must choose whether or not to break the truth to his patients (for example, when he meets with Jimmie G., he has the opportunity to tell Jimmie that, contrary to what he may think, it's not 1945). In this case, Sacks chooses to communicate the truth to his patient, perhaps recognizing that, sooner or later, his patient needs to accept that his leg is, in fact, *his* leg.

Part 1, Chapter 5 Quotes

❝ What wonderful possibilities of late learning, and learning for the handicapped, this opened up. And who could have dreamed that in this blind, palsied woman, hidden away, inactivated, over-protected all her life, there lay the germ of an astonishing artistic sensibility (unsuspected by her, as by others) that would germinate and blossom into a rare and beautiful reality, after remaining dormant, blighted, for sixty years?

Related Characters: Oliver Sacks (speaker), Madeline J.

Related Themes:

Page Number: 63

Explanation and Analysis

In this chapter, Sacks works with an elderly blind patient named Madeline J., who suffers from cerebral palsy and lacks the ability to use her hands normally. However, somewhat surprisingly, Madeline's inability to use her hands is, in effect, unrelated to her palsy—and with Sacks's coaching, she gradually discovers how to use her hands normally, a skill that's been lying dormant within her for six decades.

The passage is an especially moving example of how patients can adapt to their situations, and how the job of a good neurologist is to help patients adapt in the healthiest, most manageable way possible. Sacks can't always train his patients to live fruitful, happy lives, but at times—with Madeline J., certainly—he succeeds by using a compassionate yet scientifically rigorous approach.

Part 1, Chapter 7 Quotes

❝ Mr. MacGregor's homely symbol applies not just to the labyrinth but also to the complex integration of the three secret senses: the labyrinthine, the proprioceptive, and the visual. It is this synthesis that is impaired in Parkinsonism.

Related Characters: Oliver Sacks (speaker), Mr. MacGregor

Related Themes:

Page Number: 73

Explanation and Analysis

In Chapter Seven, Oliver Sacks work one-on-one with a man named Mr. MacGregor, who, as a result of his Parkinson's disease, is unable to synthesize information from his vestibular, visual, and proprioceptive systems—meaning that, in short, he walks with a significant lean. During the course of his interview with Mr. MacGregor, MacGregor compares the vestibular system (located in the inner ear) with a carpenter's level, whose purpose is to determine what is and isn't straight. As Sacks explains, the problem with Mr. MacGregor's mind isn't that his "carpenter's level" isn't working; rather, it's that his brain doesn't know how to translate signals from his vestibular system. In the passage, Sacks makes an important distinction between sensation and perception. MacGregor's sensations are perfectly ordinary—his senses work just find—but his mind can no longer translate sense into perception, thanks to the effects of Parkinson's.

Part 1, Chapter 9 Quotes

❝ Here then was the paradox of the President's speech. We normals—aided, doubtless, by our wish to be fooled, were indeed well and truly fooled ('*Populus vult decipi, ergo decipiatur*'). And so cunningly was deceptive word-use combined with deceptive tone, that only the brain-damaged remained intact, undeceived.

Related Characters: Oliver Sacks (speaker)

Related Themes:

Page Number: 84

Explanation and Analysis

In this chapter, Sacks makes a rare political statement: he's in the hospital, observing his patients, many of whom lack the ability to interpret words, mannerisms, or speech inflections, as they watch a televised speech by "the president" (presumably, President Ronald Reagan). As the patients watch the president's speech, they laugh and grimace with confusion and distaste—from their perspective, Reagan is a fake, utterly unconvincing speaker. Some of them find Reagan's vocabulary childish (since they can't respond to his vocal inflections) while others find his delivery and inflection stodgy and insincere.

Sacks, we can deduce, was no fan of Reagan, and so, in a way, he admires his patients for "seeing through" the political pageantry and recognizing the truth: Reagan is an actor, whose job is to seduce people into believing him. (The Latin phrase in this passage roughly translates to, "The people want to be deceived, so let them be deceived.") Unlike the bulk of the American population, the patients in Sacks's hospital see through Reagan's act. Thus, the passage is the first of many examples of how a neurological "disorder" can actually be an advantage in some parts of life.

Part 2, Introduction Quotes

❝ We might imagine, from a case of amnesia or agnosia, that there is merely a function or competence impaired—but we see from patients with hypermnesias and hypergnosias that mnesis and gnosis are inherently active, and generative, at all times; inherently, and—potentially—monstrously as well. Thus we are forced to move from a neurology of function to a neurology of action, of life. This crucial step is forced upon us by the diseases of excess—and without it we cannot begin to explore the 'life of the mind'. Traditional neurology, by its mechanicalness, its emphasis on deficits, conceals from us the actual life which is instinct in all cerebral functions—at least higher functions such as those of imagination, memory and perception. It conceals from us the very life of the mind.

Related Characters: Oliver Sacks (speaker)

Related Themes:

Page Number: 89

Explanation and Analysis

In Part Two of the book, Sacks shifts from discussions of neurological disorders that can be most conveniently conceived of as "deficits" in some way to disorders that can more easily be thought of as abundances of a particular neurological function. One consequence of Sacks's emphasis on the paradigm of overabundance is that Sacks is necessarily forced to write about the effects of overabundance on his patients' lives (whereas, when writing about a deficit of some kind, it was less necessary for him to talk about real-world effects).

The passage provides another important argument for why neurological paradigms (such as deficit) inhibit the practice of neurology as much as they help it. When neurologists become too accustomed to speaking of disorder as a kind of deficit, they neglect real-life examples of how the deficit impacts patients' lives, and concentrate their efforts on the problem with a literal part of the human brain. Sacks's solution to such a problem isn't to throw out the idea of deficit, or of neurological paradigms altogether, but rather to balance out such a paradigm with others, including but not limited to the paradigm of superabundance.

Part 2, Chapter 10 Quotes

❝ There followed three months of deep and patient exploration, in which (often against much resistance and spite and lack of faith in self and life) all sorts of healthy and human potentials came to light: potentials which had somehow survived twenty years of severe Tourette's and 'Touretty' life, hidden in the deepest and strongest core of the personality. This deep exploration was exciting and encouraging in itself and gave us, at least, a limited hope. What in fact happened exceeded all our expectations and showed itself to be no mere flash in the pan, but an enduring and permanent transformation of reactivity. For when I again tried Ray on Haldol, in the same minute dose as before, he now found himself tic-free, but without significant ill-effects—and he has remained this way for the past nine years.

Related Characters: Oliver Sacks (speaker), Ray

Related Themes:

Page Number: 99

Explanation and Analysis

In this chapter, Sacks works with a patient named Ray who has a bad case of Tourette's Syndrome, a neurological disorder that gives him constant tics, limited motor control, and an inability to concentrate on anything for very long. At first, Sacks tries to "cure" Ray's Tourette's by prescribing him a drug called Haldol, which limited Ray's symptoms but also leaves Ray weak, tired, and depressed. Only later, when Sacks works with Ray to adjust to his new drug treatment and calibrate his behavior accordingly, does Ray begin to warm to his new life.

The passage provides an especially clear example of what distinguishes Sacks's methods from those of many of his fellow neurologists. Sacks sees it as his duty to diagnose his patients and provide the appropriate treatment, but also to help his patients adjust to their new ways of life. Sacks's approach is consistent with his philosophy that neurological disorders should be conceptualized not simply as impairments of the brain, but as external, real-world manifestations of those impairments. Put another way, Tourette's Syndrome isn't considered a disorder simply because it's an abnormality of the nervous system; it's a disorder because it effects the way people behave from day to day. Therefore, it's Sacks's duty to help Ray adjust his behavior after ingesting Haldol.

❝ As this pattern became clear to him, and after discussing it with me, Ray made a momentous decision: he would take Haldol 'dutifully' throughout the working week, but would take himself off it, and 'let fly', at weekends. This he has done for the past three years. So now there are two Rays—on and off Haldol. There is the sober citizen, the calm deliberator, from Monday to Friday; and there is 'witty ticcy Ray', frivolous, frenetic, inspired, at week- ends.

Related Characters: Oliver Sacks (speaker), Ray

Related Themes:

Page Number: 101

Explanation and Analysis

At the end of the chapter, Oliver Sacks adds a surprising coda: his patient, Ray, who suffers from Tourette's Syndrome, has accepted the drug Haldol, which he takes regularly. As a result of ingesting Haldol, Ray has made a new, functional life for himself—he has a good job and a loving wife (where previously he struggled to form friendships or relationships with others). However, Ray isn't entirely happy with his new life—although he didn't always like having Tourette's, he's nostalgic for the heightened awareness and quick thinking that Tourette's provided him. Therefore, on weekends Ray refuses to take his Haldol, and

savors the liveliness and energy of Tourette's Syndrome.

Throughout the book Sacks suggests that, in spite of the connotations of the word "*dis*-order," not all neurological disorders are purely malicious; indeed, some disorders could be construed as rare gifts. Tourette's impairs Ray's life in many ways, but it also makes him feel happy and alive at times. In the end, Ray chooses to split the difference and move back and forth between his sedated, "normal" existence and his Tourette's existence.

Part 2, Chapter 12 Quotes

❝ Such a frenzy may call forth quite brilliant powers of invention and fancy—a veritable confabulatory genius—for such a patient must literally make himself (and his world) up every moment. We have, each of us, a life-story, an inner narrative—whose continuity, whose sense, is our lives. It might be said that each of us constructs and lives, a 'narrative', and that this narrative *is* us, our identities.

Related Characters: Oliver Sacks (speaker), William Thompson

Related Themes:

Page Number: 110

Explanation and Analysis

In this chapter, we're introduced to a man named William Thompson, who, like Jimmie G., lacks the ability to remember anything for longer than a few seconds. Unlike Jimmie, however, Thompson compensates for his condition by constantly improvising new identities. In the course of a conversation, Thompson might pretend to be as many as a dozen different people, and then identify other people in a variety of contradictory ways.

As Sacks sees it, Thompson's condition is emblematic of the struggle for identity that's integral to human nature. Human beings feel a natural desire to have a stable identity, and most humans take such an identity for granted. William Thompson, however, has no significant powers of memory, and therefore, no sense of who he is. In the absence of a memory—and, therefore, identity—he simply improvises identities for himself, creating elaborate narratives about his life, and the lives of others.

Part 2, Chapter 13 Quotes

❝ In all these states—'funny' and often ingenious as they appear—the world is taken apart, undermined, reduced to anarchy and chaos. There ceases to be any 'center' to the mind, though its formal intellectual powers may be perfectly preserved. The end point of such states is an unfathomable 'silliness', an abyss of superficiality, in which all is ungrounded and afloat and comes apart. Luria once spoke of the mind as reduced, in such states, to 'mere Brownian movement'.

Related Characters: Oliver Sacks (speaker), A. R. Luria

Related Themes:

Page Number: 118

Explanation and Analysis

In Chapter 13, Sacks devotes some time to discussing the principle of equalization. Equalization, a concept found in the writings of A. R. Luria, describes a set of behaviors often found in people with serious neurological conditions. Often people who lack powers of memory will adopt a certain attitude of nonchalance, as if to compensate for their confusion about who they are and about what's going on in the rest of the world. As Sacks puts it, patients of this variety live in a constant state of "Brownian motion" (a reference to the rapid molecular motion one can observe under a microscope). In a constant flux state, people with neurological disorders try to gain a measure of control over their own situations by affecting an indifferent attitude. Equalization is only one of the many ways that, according to Sacks, patients adapt to their disorders.

Part 2, Chapter 14 Quotes

❝ The super-Touretter, then, is compelled to fight, as no one else is, simply to survive—to become an individual, and survive as one, in face of constant impulse. He may be faced, from earliest childhood, with extraordinary barriers to individuation, to becoming a real person. The miracle is that, in most cases, he succeeds—for the powers of survival, of the will to survive, and to survive as a unique inalienable individual, are, absolutely, the strongest in our being: stronger than any impulses, stronger than disease. Health, health militant, is usually the victor.

Related Characters: Oliver Sacks (speaker)

Related Themes:

Page Number: 124-125

Explanation and Analysis

In Chapter 14, Sacks returns to discussing Tourette's Syndrome, a disorder that, during the course of his career (and largely because of his research) became much more commonly discussed, both in the medical community and in the general public. There are certain patients with Tourette's whose symptoms are so severe that they can barely control their own bodies. Sacks describes one such patient—an elderly woman who stands in the street, seemingly mocking other people. Sacks is amazed by the woman, because he realizes that, although she can barely control her body, she's caricaturing the people who walk by her throughout the day. As Sacks interprets it, the woman is trying to maintain a semblance of control over her self and her body, using humor and satire to distance herself from her neurological condition. In this sense, Sacks believes, the woman's behavior is representative of the struggle to maintain a sense of order and meaning. The woman's behavior is heroic, because she's actively fighting for her individuality—and, at least according to Sacks, winning.

Part 3, Introduction Quotes

All the transports described in this section do have more or less clear organic determinants (though it was not evident to begin with, but required careful investigation to bring out). This does not detract in the least from their psychological or spiritual significance.

Related Characters: Oliver Sacks (speaker)

Related Themes:

Page Number: 130

Explanation and Analysis

In Part Three of the book, Oliver Sacks turns to discussing neurological "disorders" that, in spite of their misleading name, aren't necessarily negative at all. Sacks is interested in neurological abnormalities that alter the patient's perception of the external world. Furthermore, he argues that throughout history people who've claimed to experience religious visions or achieve divine inspiration may have had a rare neurological condition, such as a seizure of the temporal lobes, that altered their perception of reality. Sacks isn't trying to suggest that there is anything disingenuous about mystics' claims of divine inspiration; as he says here, finding a concrete, neurological explanation for a vision does nothing to interfere with the legitimacy or significance of that vision.

Part Three of the book is especially interesting insofar as it challenges the dogma that neurological disorders exemplify "something wrong" with the brain. Sacks instead argues that, at times, neurological disorders give the patient a rare form of inspiration.

Part 3, Chapter 17 Quotes

Another week passed, and now Bhagawhandi no longer responded to external stimuli, but seemed wholly enveloped in a world of her own, and, though her eyes were closed, her face still bore its faint, happy smile. 'She's on the return journey,' the staff said. 'She'll soon be there.' Three days later she died—or should we say she 'arrived', having completed her passage to India?

Related Characters: Oliver Sacks (speaker), Bhagawhandi P.

Related Themes:

Page Number: 155

Explanation and Analysis

In Chapter 17, one of the most moving in the book, Sacks describes a likeable young woman named Bhagawhandi, who had a terminal tumor and had only a few months left to life. As her tumor grew, however, Bhagawhandi began to experience strange visions, during which she felt that she was traveling back to her old village in India. While Sacks speculated that these visions originated as seizures in her temporal lobes, he was unable to account for the vividness and complexity of the visions.

Sacks describes Bhagawhandi's eventual death as a return—the completing of her "passage to India" (an allusion to the famous E. M. Foster novel *A Passage To India*). In doing so, he reminds us that not all neurological abnormalities are necessarily bad—in Bhagawhandi's case, for example, her hallucinations put her in a calm, peaceful state of mind and relaxed her as she approached death. Furthermore, Sacks reminds his readers that he's not writing a strictly scientific book—here, as in other parts of the book, Sacks raises philosophical, religious, and even mystical themes that other neurologists might dismiss as "unscientific."

Part 3, Chapter 19 Quotes

❝ Donald has not forgotten, or re-repressed, anything of the murder—if, indeed, repression was operative in the first place—but he is no longer obsessed by it: a physiological and moral balance has been struck.

But what of the status of the first lost, then recovered, memory? Why the amnesia—and the explosive return? Why the total black-out and then the lurid flashbacks? What actually happened in this strange, half-neurological drama? All these questions remain a mystery to this day.

Related Characters: Oliver Sacks (speaker), Donald

Related Themes:

Page Number: 164-165

Explanation and Analysis

In Chapter 19, Sacks discusses a man named Donald who committed a murder while he was high on PCP, claimed to have no memory of the murder, pled insane, and ended up in a mental institution. Later, after a bicycle accident, Donald sustained an injury that caused him to re-experience the act of killing in vivid, almost photographic detail, again and again. Like many of the patients in Sacks's book, Donald eventually learns to live with his condition by adapting—he goes to therapy and receives training on how to cope with the constant barrage of painful memories.

However, in this passage at the end of the chapter, Sacks acknowledges how little neurologists know about Donald's condition: they don't understand how (or why) he blacked out the initial memory of the murder, or how those memories returned in such a vivid way. In a way, Sacks's observations remind us *why* it's so important for neurological patients to learn to adapt and live with their conditions: quite frequently, neurologists have no convenient cure for their disorders.

Part 3, Chapter 20 Quotes

❝ Invested with this sense of ecstasy, burning with profound theophorous and philosophical significance, Hildegard's visions were instrumental in directing her towards a life of holiness and mysticism. They provide a unique example of the manner in which a physiological event, banal, hateful or meaningless to the vast majority of people, can become, in a privileged consciousness, the substrate of a supreme ecstatic inspiration.

Related Characters: Oliver Sacks (speaker), Hildegard of Bingen

Related Themes:

Page Number: 169

Explanation and Analysis

In Chapter 20, Sacks discusses the life of Hildegard of Bingen, a famous Christian mystic who claimed to have experienced divine visions. Hildegard, Sacks speculates, had a neurological condition that allowed her to experience frequent seizures and vivid hallucinations. One could argue that a medical explanation of Hildegard's visions interferes with her claims of divine inspiration. But, as Sacks argues here, the "banality" of a neurological explanation says nothing about the true source of the visions—one could conceivably argue that Hildegard really *was* receiving divine inspiration, and that God chose to communicate with her by giving her a seizure of the temporal lobes. And, of course, even if one disputes the divine nature of Hildegard's visions, one can respect the sophistication of her writing, the sincerity of her piety, etc. In all, Sacks uses the life of Hildegard to emphasize his point that studying the physiological sources of inspiration do nothing to trivialize inspiration itself.

Part 4, Introduction Quotes

❝ But of much greater interest, much more human, much more moving, much more 'real'—yet scarcely even recognized in scientific studies of the simple (though immediately seen by sympathetic parents and teachers)—is the proper use and development of the concrete.

The concrete, equally, may become a vehicle of mystery, beauty and depth, a path into the emotions, the imagination, the spirit.

Related Characters: Oliver Sacks (speaker)

Related Themes:

Page Number: 176

Explanation and Analysis

The final quarter of Sacks's book begins with an extended discussion of the concept of the "concrete." Like the concepts of deficit or abundance, concreteness is not in itself a scientific phenomenon—rather, it's a conceptual tool, with its own unique strengths and weaknesses, that helps neurologists get a better sense for their patients' conditions. When applied to cases of mental disability,

however, Sacks has found that the concept of concreteness is a good way to understand his patients' worldview. Sacks argues that many patients with mental disabilities have a special connection with the concrete world, almost as if, in the absence of the ability to conceive of abstract concepts, their minds focus on the physical, tangible realm.

It's important to keep two things in mind, however: first, Sacks isn't necessarily saying that all mentally disabled people compensate for their conditions by focusing on the concrete realm; second, Sack's isn't trying to fetishize or condescend to intellectual disabilities. Rather, he's trying to complicate traditional understandings of mental illness by showing how, in some cases, a deficit in some cognitive faculties may be accompanied with an overabundance of others.

Part 4, Chapter 21 Quotes

❝ 'I'm like a sort of living carpet. I need a pattern, a design, like you have on that carpet. I come apart, I unravel, unless there's a design.'

Related Characters: Rebecca (speaker)

Related Themes:

Page Number: 184-185

Explanation and Analysis

In Chapter 21, we meet Rebecca, a mentally disabled woman who possesses a phenomenal ability to speak in poetic, metaphorical phrases. After the death of her beloved grandmother, for example, Rebecca describes her emotions as wintry, and confesses to Sacks that she thinks of her life as a carpet, requiring intricate patterns and designs to give it order and meaning.

Sacks's characterization of Rebecca as a great poet and metaphorical thinker might seem counterintuitive, given his emphasis on the concrete in the Introduction to Part Four—one could reasonably argue that poetry is the exact opposite of the concrete (literal versus non-literal). However, as Sacks sees it, Rebecca's talent lies in her ability to represent challenging, abstract concepts such as grief, change, and nostalgia in immediately accessible, concrete terms. The passage is notable, furthermore, in conveying the sophistication and dignity with which Rebecca conducts herself after her grandmother's death. Contrary to what many in both the medical community and the public might think, there is nothing immature or "deficient" about Rebecca's emotional response to her experience with grief and depression.

Part 4, Chapter 22 Quotes

❝ His innate, hereditary musical gift had clearly survived the ravages of meningitis and brain-damage—or had it? Would he have been a Caruso if undamaged? Or was his musical development, to some extent, a 'compensation' for brain-damage and intellectual limitations?

Related Characters: Oliver Sacks (speaker), Martin A.

Related Themes:

Page Number: 187

Explanation and Analysis

In this chapter, the subject is a patient named Martin A., who, in spite of—or perhaps because of—his mental disabilities, possesses a phenomenal memory and appreciation for music. Martin A. has little to no knowledge of the world, but he knows almost everything there is to know about classical music, especially Bach. Too often, people think of Martin A.'s talents as a mere "echo" of his father's (Martin's father was a great opera singer). However, Sacks wonders if, in a sense, Martin's mind has compensated for its mental impairments with a greater focus on music—in other words, certain deficits in Martin's mind brought about his great abilities in other cognitive departments.

Martin, then, is exemplary of Sacks's concept of adaptation. In this case, Martin doesn't consciously adapt to his mental condition; however, Sacks hypothesizes that his mind has been unconsciously compensating for his mental condition, leaving him with a world-class knowledge and appreciation of Bach.

❝ One speaks of 'idiot savants' as if they had an odd 'knack' or talent of a mechanical sort, with no real intelligence or understanding. This, indeed, was what I first thought with Martin—and continued to think until I brought in the *Magnificat*. Only then did it finally become clear to me that Martin could grasp the full complexity of such a work, and that it was not just a knack, or a remarkable rote memory at work, but a genuine and powerful musical intelligence.

Related Characters: Oliver Sacks (speaker), Johann Sebastian Bach, Martin A.

Related Themes:

Page Number: 193

Explanation and Analysis

In this passage, Sacks describes some of the stereotypes about the mentally disabled. One common stereotype is that mentally disabled people who exhibit profound talent in some other cognitive area—"idiot savants" as they're often known—aren't *truly* gifted at all. In other words, many people—including both doctors and lay people—think of "idiot savants'" mental abilities as mere party tricks or mechanical processes, demonstrating no profound ability or sophistication. Sacks shows that, in fact, people with both significant mental talents and mental impairments *can* make sophisticated, mature judgments—they're more than just parrots. In the case of Martin A., for example, Martin's judgments about the music of J. S. Bach show deep understanding of Bach's music. His opinions about music are no less valid than those of any other music expert—his mental impairment is, in this case, a *non sequitur*.

Part 4, Chapter 23 Quotes

❝ This is the positive side—but there is a negative side too (not mentioned in their charts, because it was never recognized in the first place). Deprived of their numerical 'communion' with each other, and of time and opportunity for any 'contemplation' or 'communion' at all—they are always being hurried and jostled from one job to another—they seem to have lost their strange numerical power, and with this the chief joy and sense of their lives. But this is considered a small price to pay, no doubt, for their having become quasi-independent and 'socially acceptable'.

Related Characters: Oliver Sacks (speaker), Michael, John

Related Themes:

Page Number: 209-210

Explanation and Analysis

In this moving chapter, Sacks describes the lives of "the twins," John and Michael, who had phenomenal mathematical talents. John and Michael could remember long numbers and calculate the day of the week for any date in history. However, later in their lives, John and Michael were split apart and forced to work in menial jobs. As a result, they lost their ability to do complex math—which, previously, had been a source of tremendous joy and comfort for them both.

The passage is particularly noteworthy because one can sense Sacks's bitterness and disillusionment with society. He's shown that John and Michael are talented, if idiosyncratic mathematicians—and instead of nurturing their gifts and encouraging them to put their talents to use, society has first treated John and Michael's genius like a mere party trick, and then rejected it altogether in favor of making them "socially acceptable." In this chapter, and particularly the next one, Sacks suggests that society needs to rethink the way it conceives of neurological disorders and find better ways of encouraging neurodivergent people to develop their unique gifts, rather than marginalizing them and forcing them to conform to lifestyles that aren't meant for them.

Part 4, Chapter 24 Quotes

❝ Could he, with his fine eye, and great love of plants, make illustrations for botanical works or herbals? Be an illustrator for zoology or anatomy texts? (See the drawing overleaf he made for me when I showed him a textbook illustration of the layered tissue called 'ciliated epithelium'.) Could he accompany scientific expeditions, and make drawings (he paints and makes models with equal facility) of rare species? [...] He could do all of these—but, alas, he will do none, unless someone very understanding, and with opportunities and means, can guide and employ him. For, as the stars stand, he will probably do nothing, and spend a useless, fruitless life, as so many other autistic people do, overlooked, unconsidered, in the back ward of a state hospital.

Related Characters: Oliver Sacks (speaker), José

Related Themes:

Related Symbols:

Page Number: 231-232

Explanation and Analysis

In the final chapter of the book, Sacks discusses an autistic patient named José. For most of his life, José has been treated like a waste of space—he's regularly called "hopelessly retarded." And yet, Sacks discovers, he's a very gifted artist. In short, because of society's ignorance of neurological disorders, José, a great artist with a lot of talent to offer the world, has been placed in a hospital and forced to live a "useless, fruitless life." As with the previous passage, you can almost feel Sacks's quiet fury.

In the thirty years since Sacks's book was published, Western society has indeed become more understanding of

autism. Autistic people have achieved success in many walks of life, rather than living out their lives in hospitals. However, people continue to have many misconceptions about autism and mental illness in general. In the end, Sacks seems to be making a plea for understanding: if people would only take the time to recognize the talent and ingenuity of people like José, he seems to be saying, people with neurological disorders could live more fulfilling, productive lives, and the world would be a happier place for everyone.

SUMMARY AND ANALYSIS

The color-coded icons under each analysis entry make it easy to track where the themes occur most prominently throughout the work. Each icon corresponds to one of the themes explained in the Themes section of this LitChart.

PART 1, INTRODUCTION

In the field of neurology, Sacks says, the key word is "deficit." In large part, neurologists have learned about the mind by studying the brains of patients who *lack* basic mental faculties. In 1861, for example, scientists identified the area of the brain that controls speech by studying patients who couldn't form words. Later, the great psychologist Sigmund Freud argued that, in order to study patients who lacked perceptive abilities, scientists needed to study deficits in the mind—not necessarily problems with specific areas of the brain, but rather with the brain's overall structure. Freud's arguments led to the growth of "neuropsychology," a field closely related to neurology.

In the introduction to Part One, Sacks begins by discussing deficit—not exactly a scientific theory or phenomenon (which can be proven and measured) so much as a paradigm or a way of conceiving *of a host of different scientific phenomena. By using the concept of deficits, neurologists—scientists who study the nervous system—have a convenient way of organizing and classifying their ideas and observations, and indeed, Sacks will use the concept of a deficit to organize the case studies in the first quarter of his book.*

For the most part, neurology and neuropsychology focus on deficits in the left hemisphere of the brain. One reason for this is that the left hemisphere is sometimes considered to be the more specialized, sophisticated half of the brain. Certain neurologists did explore mental problems caused by deficits in the right hemisphere, but the medical establishment often neglected such studies. Right-hemisphere deficits are often more difficult for doctors to understand, and yet right-hemisphere deficits are just as common as left-hemisphere deficits.

Here, we see how the specific paradigm (the framework of working assumptions or beliefs) of mental illness as deficit has resulted in a tangible bias in neurology. Because scientists are perhaps overly committed to the deficit paradigm, they neglect right-hemisphere diseases (partly because such diseases are much harder to conceive of as a deficit in a specific way).

Toward the end of his life, the great neuropsychologist A. R. Luria wrote a letter to Oliver Sacks, the author, in which he urged Sacks to research right-hemisphere disorders. Sack's strategy for studying right-hemisphere disorders has been markedly different from that adopted by earlier neuropsychologists. Often, neuropsychologists have characterized disorders in terms of the precise deficit in the brain that causes the disorder. Sacks, however, will instead analyze brain disorders by studying both the physical deficits in the brain and also the holistic effect of the deficit on his subjects' lives. Sacks offers a new way to conceive of mental disorders: mental disorders represent the mind's attempts to "preserve identity in adverse circumstances." In the first part of his book, Sacks will discuss cases of patients who lack a certain part of the mind, and who compensate for the absence. In taking such an approach, Sacks will challenge the conventional neurological wisdom.

A. R. Luria was an important figure in Oliver Sacks's career; just as Sacks was starting out as a doctor, Luria acted as his mentor and adviser. Sacks lays out this section's project: analyzing brain disorders that could be classified as types of deficits, but which, due to their right-hemisphere origins, have been largely neglected by the neurological community. Sacks also alludes to the important idea of equalization—in other words, the notion that patients with neurological impairments find ways of compensating for their problems and adapting to their new situations. This principle is important because it corrects for the tendency to conceive of mental illness as static and unchanging.

PART 1, CHAPTER 1: THE MAN WHO MISTOOK HIS WIFE FOR A HAT

The chapter revolves around a subject Sacks will refer to as Dr. P. Dr. P. was a singer and a music teacher. During his time as a teacher, Dr. P. developed a strange condition, whereby he was unable to recognize his students' faces, and instead recognized them purely by their voices. Dr. P. would also mistakenly see faces where there were none.

Dr. P.'s neurological condition has become popularly known as face blindness. This chapter has become more poignant since Sacks originally wrote it, since, later in life, Sacks learned that he *had face blindness.*

After consulting with a few doctors, Dr. P. came to see Oliver Sacks. Sacks quickly realized that Dr. P. was a man of great charm and sophistication. Yet when he spoke to Sacks, Dr. P. didn't look at Sacks in an ordinary way—even though he faced Sacks, he seemed to "scan" Sacks, as if breaking Sacks's face down into its constituent parts. Sacks gave Dr. P. a brief examination, during which Dr. P. took off his shoe, then mistakenly claimed that his shoe was his foot. Dr. P. also failed to identify basic pictures. He could describe the components of the picture, but not the overall scene. At the end of the examination, Dr. P. walked over to his wife, and tried to pick up her head—he'd mistaken his wife's head for his own hat.

When he first meets with Dr. P., Sacks takes a casual, conversational approach to his patient. His goal isn't simply to determine what's wrong with Dr. P., but also to get a sense for Dr. P.'s personality. In this sense, Sacks is different from many neurologists, who would prefer to get to the tests as soon as possible. (And it's surprising that Sacks places so much emphasis on conversation and getting to know the subject, since he was famously shy.) Dr. P.'s condition enables him to see, but not assemble what he sees into holistic pictures—he can see the trees, but not the forest. He mistakes his wife for a hat because, without a holistic sense of his wife as a person, he confuses his sensory data all too easily.

Perplexed, Oliver Sacks decided to visit Dr. P. at his school. At school, Dr. P. greeted Sacks, but again seemed distant when he shook Sacks's hand. Sacks tested Dr. P. to see if he could identify face cards—Dr. P. could do so. However, he found it impossible to describe the expressions of actors on television. He couldn't even recognize a famous photograph of Albert Einstein. Dr. P. could recognize photographs of his friends—however, when asked how he recognized these images, he described individual parts of the faces, such as their teeth. Finally, Dr. P. could recognize objects, but only by feeling them carefully. Sacks then performed another test on Dr. P.—he asked him to list the buildings he walked by in the course of a day. Dr. P. could name only the buildings on his right side. Sacks wondered what, exactly, Dr. P. saw when he stared at the world. When he asked Dr. P. to describe the plots of books, Dr. P. was able to describe the plots in minute detail, but only in terms of plot, rather than visual narrative or the appearance of certain places.

It may be difficult to understand how Dr. P. could be capable of seeing things, and yet not understanding when he sees a face. To understand, we need to remember the difference between sensation (i.e., the ability of collecting sensory data from the external world) and perception (assembling that data into concepts, and things). Dr. P.'s senses seem to be fine (he's not blind), but his perception is impaired in such a way that he can't complete the final step and translate sensation into faces, emotions, and objects. The fact that Dr. P. has trouble with the concept of left might suggest that there is a problem in the right hemisphere of his brain (since the right half of the visual cortex processes sensations from the left visual field).

From Dr. P.'s wife, Oliver Sacks learned that Dr. P. was once a talented painter. His early paintings were finely detailed, but over time his work became less realistic until, in the end, his canvases were "blotches of paint." Sacks realized that Dr. P.'s paintings marked the development of his visual agnosia (inability to interpret visual sensations) over time: his sense of the concrete visual world slowly disappeared. When Dr. P. asked Sacks what he recommended, Sacks said that although he couldn't entirely explain what's wrong with Dr. P., he encouraged Dr. P. to continue teaching music, since that was what brought him joy. Although Sacks never saw Dr. P. again, he knows that Dr. P. taught music until the very end of his life.

Sacks doesn't recommend a surgery or even a specific treatment for Dr. P.; indeed, his only advice is that Dr. P. immerse himself in music. Sacks's advice is emblematic of his approach to patients throughout the book: because, for the most part, there is no outright "cure" for the neurological disorders described in the book, Sacks seems most concerned with helping patients adapt to their conditions, especially with the help of the arts, and go on to live fulfilling lives.

In a postscript, Oliver Sacks tries to interpret Dr. P.'s inability to identify objects. He offers two hypotheses: 1) Dr. P.'s brain couldn't receive the visual information necessary for making visual judgments (e.g., "This is a glove."); 2) Dr. P.'s brain received the proper visual information, but couldn't translate this raw information into a holistic judgment about the object. To understand these hypotheses fully, Sacks says, we need to understand what is meant by "judgment." Judgment is one of the quintessential human behaviors, and yet neurology mostly ignores it. Sacks argues that the brain doesn't just process information in an abstract, mechanical way, but also in a personal way; in other words, it imbues raw sensory data with personal significance. In a way, the current state of neurology is like Dr. P.'s mind: it's too focused on the "left"—the abstract, mechanical side of neurology.

Sacks's interpretation of Dr. P.'s condition isn't overly technical or characterized by jargon. He's writing for a lay audience, so he tries to keep his scientific writing simple and accessible. Again, Sacks's theories about Dr. P. hinge upon the distinction between sensation and perception. Humans perceive the world not simply by "translating" visual data into vision; they imbue the visual data with highly personal, idiosyncratic associations that may originate in the right hemisphere of the brain. Sacks critiques the neurological community for conceiving of perception as an overly mechanistic, left-brained process—a critique that Sacks will reiterate throughout the book.

Sacks was never able to investigate Dr. P. further and determine his disease pathology. However, he found a case from 1956 in which a young man was unable to recognize faces—even his own. However, he'd become adept at studying objects by touching them. The young man couldn't even picture objects in his dreams—his visual imagination had ceased to exist. Sacks wonders if this patient and Dr. P. had similar disorders. However, he acknowledges that they didn't have the same problem: where Dr. P. mistook his wife for a hat, the 1956 patient needed his wife to identify herself by *wearing* a large hat.

Sacks omits a lot of medical jargon and terminology—not just because he's writing for a lay audience but because he doesn't always have the time and resources to conduct thorough tests and scans of his patients. Thus, in the case of Dr. P., he doesn't know exactly what P.'s condition was; he can only compare Dr. P.'s condition with that of other similar patients. Chapter One sets the tone for the rest of the book, in which Sacks will often be more concerned with showing how patients adapt to their conditions than with offering a precise diagnosis.

PART 1, CHAPTER 2: THE LOST MARINER

What would it be like, Oliver Sacks wonders, to lose one's memory? Sacks recalls a patient named Jimmie G., who was admitted to a home for the elderly in 1975, when he was forty-nine years old. Jimmie was friendly and eager to cooperate with Sacks. He knew his name, birthday, and hometown, and could tell Sacks about his early life, including his time serving in World War II. Jimmie's memories ended with the 1950, howevers: speaking in the present-tense, he told Sacks about Harry Truman being the president of the United States. Jimmie informed Sacks that he was nineteen years old. What Sacks did next was, he admits, a mistake—he took Jimmie to a mirror and asked him to look at his own face. Jimmie immediately became distressed—he wondered if he was in a nightmare. But less than two minutes later, Jimmie greeted Sacks as if meeting him for the first time. He seemed to have no memory of Sacks, although he immediately identified Sacks as a "doc."

Evidently, Jimmie G. lacks a normal ability to make new memories, with the result that he can barely remember anything for longer than a couple seconds (notice, however, that Jimmie can vaguely remember Sacks, suggesting that his long-term memory is impaired, but not totally gone). Evidently, there was a point in Jimmie's life when his memory was working normally, which is why Jimmie can remember Truman, his childhood, etc. The passage raises the first of many ethical questions surrounding Sacks's patients: if a patient has a serious delusion about their reality, should Sacks disrupt the illusion? Sacks seems to recognize that showing Jimmie his true age was a mistake, suggesting that in some cases doctors shouldn't interfere with their patients' illusions unless absolutely necessary.

Sacks proceeded to run some tests on Jimmie G. Jimmie was smart, and could beat Sacks at games. He could also retain faint memories of the recent past—for example, when Sacks played tic-tac-toe with Jimmie, Jimmie could recall having played the game with "some doctor … a while back." Jimmie could recall scientific knowledge, such as the weights of the elements, but was ignorant of any science past the 1940s—when Sacks told him that men had walked on the moon, for instance, Jimmie laughed.

As with Dr. P. in Chapter One, Sacks runs tests and examines Jimmie G. with great scientific rigor, but only after he's gotten a sense for Jimmie's character. Sacks's tests and questions confirm what he already hypothesized: Jimmie is an intelligent person, but he's virtually incapable of remembering events past the 1940s.

Oliver Sacks hypothesized that Jimmie G. suffered from Korsakov's Syndrome, a rare condition, often brought on by alcohol, which degenerates the parts of the brain associated with memory. A. R. Luria had diagnosed many patients with a condition whose symptoms were similar to Korsakov's, but whose cause, Luria believed, was the growth of cerebral tumors. Sacks's wondered what could have caused Jimmie's mental deterioration—could it have been alcohol consumption, or perhaps a tumor? Sacks ran various tests on Jimmie, but could find nothing unusual in his brain. Then he found a doctor's report from 1971, explaining that Jimmie was suffering from brain disease "due to alcohol" (the report didn't specify what this meant). Sacks managed to contact Jimmie's brother, who explained that Jimmie—with whom he was no longer close—was a heavy drinker. In 1971, Jimmie's brother had visited Jimmie, and found that Jimmie could no longer recognize him.

Sack's diagnosis of Jimmie G. is more thorough than his diagnosis for Dr. P. in Chapter One; he not only determines the precise syndrome that's caused Jimmie G.'s loss of memory, but also determines the cause of the syndrome. Like any good scientist, Sacks begins with a hypothesis and then strengthens his hypothesis by accumulating evidence for it, eventually determining that Jimmie's alcohol consumption impaired his memory.

Oliver Sacks contacted A. R. Luria, and asked him for his opinion about Jimmie G. Luria theorized that, even though Jimmie G.'s cerebral deterioration hadn't become serious until the 70s, this deterioration retroactively erased most of his memories after 1945. Luria encouraged Sacks to do "whatever your ingenuity and your heart suggest" for Jimmie, adding, "a man does not consist of memory alone." Sacks spent more time with Jimmie, and watched Jimmie begin to develop a sense of familiarity with his new home. As the years went on, Jimmie never developed a deep emotional attachment to anyone in the hospital, although he was very friendly. The only person he recognized was his brother, who visited him occasionally. Jimmie's brother's visits were always deeply moving—Jimmie would wonder why his brother had aged so quickly.

Luria continues to act as a friend and a mentor for the young, relatively inexperienced Sacks. But notice that Luria's advice isn't purely medical; in addition, he gives Sacks moral and even spiritual advice about how to treat Jimmie G. In so doing, Luria confirms one of Sacks's most important points: the responsibility of the neurologist is not, as many neurologists suppose, simply to measure and test patients, but also to understand patients' lives and emotional situations, and to respect their dignity. Sacks makes a diagnosis for Jimmie, but he also comes to understand the tragedy of Jimmie's life—he's alienated from his closest friends and family.

Oliver Sacks once asked Jimmie how he felt about life, and Jimmie answered, "I haven't felt alive for a very long time." Sacks came to understand that Jimmie had lost his self—a loss that was especially tragic because Jimmie couldn't understand that it had occurred in the first place. However, Sacks also noticed that when Jimmie went to chapel, he became very somber. He would take Communion, and in that moment, his spirit would align "with the spirit of the Mass." Here, Jimmie's lack of memory helped him become totally absorbed in the act of worship.

Here, Sacks poses one of the central questions of his book: what is the "self?" As Sacks seems to understand it, the self consists of more than just the ability to live, think, and have memories: to have a self, a human being must also make connections with other people, and with the external world in general. Jimmie's condition leaves him incapable of making even the simplest connections with other people, but Catholic Mass helps him connect with the institutions and traditions of the church, providing him with a sense of peace. The fact that Sacks is posing such profound philosophical questions suggests that his book's scope is much broader than just science.

Jimmie G. had no understanding of time in the sense of days, months, and years, but he had a deep understanding of "intentional time," in the sense that his emotions oriented him from moment to moment. For example, during Mass, he was perfectly attuned to the peaceful mood of the ceremony, and would continue in this mood all day. Jimmie's was the most severe case of Korsakov's that Sacks has ever seen, but Sacks has realized that Jimmie isn't lost in a constant state of flux because of his lack of memory. In some ways, Jimmie is more at peace than other human beings—with the help of religion and ceremony, he's preserved his dignity and his spirit.

Jimmie's participation in Mass not only provides him with a lasting sense of peace and somberness; it orients him in the world. In a way, Mass gives Jimmie an especially intense version of the feeling that it provides for many Catholics—a sense that they're one small part of a much bigger force. Jimmie, who lives almost wholly in the present, thus regains a sense of inner composure here, adapting to his neurological condition.

In a Postscript, Sacks discusses recent scholarship on Korsakov's. Alcoholic deterioration is only one potential cause of memory loss—others include head injury or impaired blood flow to the brain. In a similar disorder called Transient Global Amnesia (TGA), patients may experience severe temporary amnesia, especially retrograde amnesia. Sacks has researched patients who experience temporary visual amnesia—a condition in which the patient briefly loses the ability to see, but also the memory of what it means to see.

For most of the chapters in the book, Sacks uses the Postscript to discuss some relevant medical questions (while leaving the more abstract, philosophical matters for the chapter itself). Jimmie G.'s situation may be rare, but it raises some new, important questions about the causes and long-term effects of amnesia, for which thorough analysis of other patients is required.

In 1983, one hospitalized patient with Korsakov's, Stephen R., was taken back to his hometown. In his home, Stephen felt comfortable, even though his memories of home ended in the 1970s. He was confused with some of the changes in his hometown, such as the building of a new supermarket, and found it odd that some of his friends looked older than he remembered them being. The most painful part of Stephen's life was returning to the hospital after his hometown visits—by this time, Stephen had completely forgotten about being in the hospital. Although Jimmie G. found peace, Stephen "has a gaping time-wound, an agony that will never heal."

There's no rule that says that patients with serious neurological disorders are all like Jimmie G. (i.e., they don't all find a way to achieve peace). Some, like Stephen R., live in a constant, nightmarish state, in which they're bombarded with unfamiliar sensory data—a condition that Sacks aptly likens to having a wound that will never heal.

PART 1, CHAPTER 3: THE DISEMBODIED LADY

The 20th century philosopher Ludwig Wittgenstein argued that the most important things in people's lives are always hidden from them—people don't think twice about their most basic sensations and ideas. Neurologists have found that people have a sixth sense in addition to the five familiar senses. This "sixth sense," which scientists have termed "proprioception," consists of the ability to feel one's body as one's own, and to feel a continuous flow between the body and the external world. Such a feeling is so basic that we take it for granted. One could say that Wittgenstein's late philosophy is about what would happen if humans lost proprioception—if they had to question their most basic behaviors.

Sacks's erudition is on full-display in this chapter: his knowledge encompasses philosophy, art, history, and literature in addition to neurology. Wittgenstein is considered one of the greatest philosophers of the twentieth century, and in this chapter, Sacks finds a surprising, real-world counterpart for one of Wittgenstein's most challenging ideas—the idea of humans being uncertain of their own existence, or the existence of their own bodies.

Sacks describes a woman named Christina, who worked as a computer programmer. At the age of twenty-seven, she was hospitalized to have her gallbladder removed. The day before her surgery (while sleeping in the hospital), Christina had a nightmare in which she couldn't stop her body from flailing around. The doctors assumed that Christina was feeling nervous about her surgery. On the day of the surgery, however, she reported anxiety, and told her doctors that she couldn't feel her body.

The doctors interpret Christina's nightmares and anxieties as manifestations of her fear of having surgery; however, retrospectively, it seems likely that these anxieties reflected the "last gasp" of her proprioceptive abilities.

Doctors brought in Oliver Sacks to examine Christina. He found that Christina had lost all proprioception—she could still use her five senses, but she couldn't feel anything in her muscles or joints, meaning that she had no sense of familiarity with her body. Sacks informed Christina that she'd lost her proprioception, and Christina realized that, in order to compensate, she'd have to use her senses to regain a "sense" of her body. Instead of intuitively knowing where her arm was, for example, she'd have to use her vision to locate it.

From an early age, we're taught that we perceive the world thanks to our five senses, but this clearly isn't the full story. Humans wouldn't "feel themselves" without proprioception. However, as Christina proves, it's possible to adapt to one's lack of proprioception by relying more heavily on the five senses.

In the following weeks, Sacks and his fellow doctors helped Christina regain her confidence while walking. Most people control their voices proprioceptively—they know how to modulate their tone and volume because of an intuitive understanding of their vocal organs. But Sacks noticed that Christina now had to rely on hearing to standardize her voice's volume and tone. She also had to re-learn the most basic behaviors—talking, walking, eating. Christina could still feel superficial sensations, such as the feeling of the wind on her body and face. However, as in Wittgenstein's writings, she was forced to doubt and question her sense of connection to her own body. Over the next few years, she learned how to work around proprioception, compensating with her senses—and yet, she remained a "disembodied" human being.

Although Sacks can't cure Christina's lack of proprioception, he can train her to "work around" her neurological impairment. Christina spends the rest of her life uncertain of her own body (or, at Wittgenstein might have put it, "doubting" her body). But she learns to use her five other senses to navigate her way through the world and live a fairly normal, happy life.

In the Postscript, Sacks mentions other patients who lost their proprioception. Many of these patients were health nuts and took large amounts of vitamin B6—perhaps they'll regain their proprioception, Sacks says, after they stop "poisoning themselves."

As Sacks somewhat sarcastically notes, some people have accidentally stripped themselves of their proprioception by taking the wrong vitamins.

PART 1, CHAPTER 4: THE MAN WHO FELL OUT OF BED

When Oliver Sacks was a medical student, he met with a patient who described going to the hospital for some tests—neurologists told him that he had a "lazy" left leg. The next morning, the patient woke up and, according to him, found a severed leg in his bed. Assuming that the doctors were playing a nasty prank on him, the patient tried to throw the leg out of the bed—only to fall out of bed and realize that the leg was attached to his body. Revolted, the patient tried to tear his leg off. When Oliver Sacks met with the patient, he asked, "Don't you know your own leg?" The patient insisted that his leg wasn't his real leg. Sacks asked the patient where his "real" left leg was. Distressed, the patient admitted he didn't know.

The patient in this chapter feels a sense of disembodiment similar to that of Christina in the previous chapter—the difference being that this patient feels disembodied from his leg, rather than his entire body. Notice that Sacks doesn't actively disagree with the patient during his interview; he just tries to use logic and reason to persuade the patient to see the plain truth—that is *his leg after all.*

In the Postscript, Sacks mentions a similar case, in which a patient with a left hemiplegia (paralysis of one side of the body) reported waking up with a disembodied leg in his bed, and then falling out of bed when he realized the leg was attached to his body.

This is one of the shortest chapters in the book, and one of the few in which Sacks doesn't write about his patient's attempts to cope with their neurological disorder. As usual, Sacks uses the Postscript to clarify medical issues and compare different patients' conditions.

PART 1, CHAPTER 5: HANDS

In 1980, a sixty-year-old blind woman with cerebral palsy named Madeline J. was admitted to Saint Benedict's Hospital in New York. Madeline was intelligent, and had read a huge number of books with other people's help. Madeline explained to Sacks that she couldn't do anything whatsoever with her hands, and compared them to "godforsaken lumps of dough." Sacks found Madeline's explanation strange, since usually cerebral palsy doesn't affect the hands. Furthermore, although Madeline's hands were mildly spastic, they weren't *useless*, as she claimed. Sacks then researched cases of patients who couldn't use their hands. In one case, hundreds of soldiers reported their hands feeling "foreign" and "lifeless." However, the soldiers could remember a time when they used their hands normally—Madeline, on the other hand, had never used her hands normally.

In addition to suffering from cerebral palsy, Madeline seems to suffer from a neurological affliction that creates the illusion that she has no control over her hands (even though, scientifically speaking, her brain's control over her hands is perfectly normal). Notice how Sacks initially tries to understand Madeline's unusual condition by comparing it with the existing scholarship on the matter—like a good neurologist, Sacks understands the importance of compiling research and situating individual patients in a broader medical narrative.

Sacks tried to push Madeline J. to use her hands to feed herself by serving her food without utensils. Eventually, Madeline began using her hands to eat bagels. Afterwards, she began to take an interest in feeling different objects with her hands. Madeline also began sculpting in her spare time. Amazingly, control of one's hands—a mental function that most people learn when they're babies—eluded Madeline for the first sixty years of her life. More amazingly still, she learned how to control her hands *after* sixty years.

When he realizes that Madeline's situation is unprecedented in medical literature, Sacks tries to treat Madeline's impairment by training her to use her hands. That Sacks succeeds in doing so suggests that humans are hard-wired for motor control over their own hands, even if, in some rare cases, this ability can lie dormant for many decades.

In the Postscript, Sacks notes that Madeline J.'s case wasn't unique—another patient, named Simon K., had a similar lack of control over his hands, and, with help, learned how to use his hands normally. Sacks also notes that sometimes patients lose their ability to use their hands and feet normally, and sometimes suddenly regain the ability.

Since studying Madeline, Sacks has learned that there are, in fact, other similar cases of people losing and regaining control over their hands. By treating Madeline, however, Sacks advances the medical scholarship on the subject and proves that this neurological impairment can be treated.

PART 1, CHAPTER 6: PHANTOMS

When neurologists talk about a "phantom," they mean an idea of a body part which persists in a patient's mind even after they lose that body part. For example, there was a sailor who lost his index finger and, for the next forty years, had to deal with the phantom of the finger. Neurologists aren't sure what causes a phantom, but it's well-known that a sudden pathological disorder, such as a stroke, can get rid of a phantom. Sacks wonders if a "peripheral pathological disorder" would cure a phantom. In this chapter, he'll briefly go over other characteristics of phantoms.

This chapter, unlike the others in the book, doesn't revolve around a single patient, but rather poses a series of questions about the idea of "phantoms."

Without phantoms, amputees wouldn't feel comfortable with artificial limbs. Therefore, it can be important for patients to preserve a phantom. Sacks once had a patient who would "wake up" his phantom lower leg every morning by slapping his thigh.

Amputees adapt to their changing circumstances by learning how to coexist with their phantoms—indeed, some amputees have elaborate routines that preserve the "phantom" of their amputated limb.

Sacks had another patient, Charles D., who suffered from dizziness and constantly fell to the floor. After some investigation, Sacks realized that Charles could only walk steadily while looking at his feet, suggesting that Charles was suffering from *tabes*, which caused a "delirium of proprioceptive illusions." The end stage of *tabes* is often total unawareness of the legs; however, in the disorder's early stages, people like Charles are often intermittently unaware of their legs.

Much like Christina in the earlier chapter, Charles D. suffers from an intermittent impairment of proprioception—he finds ways to adjust to such an impairment, however, by looking at his feet; in other words, relying on his sense of sight more extensively than usual.

One of the clearest descriptions of a phantom came from a patient who told Sacks that his foot-phantom was sometimes good and sometimes bad. At best, his phantom helped him walk steadily with a prosthetic foot; at worst, it caused him pain. Sacks argues that it's important for patients to develop physical routines for either preserving phantoms or getting rid of them.

It's characteristic of Sacks's approach to neurology that he stresses the importance of routine and adaptation, so that amputees can either learn how to coexist with their phantoms or rid themselves of them. In other chapters, Sacks shows how patients adapt to their neurological conditions, often with the help of some routine.

In the Postscript, Sacks notes that some people who have phantoms say that their phantoms cause them pain. Sacks learned of one patient with a phantom leg pain who said that the pain went away when doctors anaesthetized her spinous ligament, lessened when they stimulated her higher spinal cord, and intensified when they electrically stimulated the spinal roots.

Sacks alludes to a potential treatment in patients for whom phantoms are problematic; however, in the meantime, patients will have to continue replying on routine and special training to cope with their phantoms.

PART 1, CHAPTER 7: ON THE LEVEL

Oliver Sacks vividly remembers meeting a man named Mr. MacGregor in St. Dunstan's Hospital. MacGregor greeted Sacks and explained that other people told him that he leaned, "like the Leaning Tower of Pisa." MacGregor walked around the room, leaning about twenty degrees to the left but insisting that he was perfectly straight. When Sacks showed MacGregor a tape of his movements, MacGregor, who'd had Parkinson's disease in the past, immediately realized that he was leaning to one side.

Unlike the case with Jimmie G. (in which Sacks showing him his aged face), here Sacks seems to be doing the right thing by showing MacGregor a video of his lean—this is one case, in other words, in which disrupting a patient's illusion is the ethical and helpful thing to do.

There are five main senses, Sacks notes, but there are also other ways for the mind to orient itself. One way of doing so is the vestibular system. The ears are arranged to function like carpenter's levels—when one inner ear is higher or lower than the other, the mind senses that the body is unbalanced. But Mr. MacGregor's case was far more complicated than a simple problem with the vestibular system. MacGregor leaned to one side because, although his vestibular, proprioceptive, and visual systems functioned normally, his mind couldn't integrate these three systems, due to the effects of Parkinson's.

Sacks has already discussed proprioception earlier; here, he'll discuss the vestibular system, located in the inner ears, which allows people to grasp their own orientation without relying on their five senses to do so. Much like Dr. P. in the first chapter, MacGregor suffers from a problem of perception—his brain experiences all the sensory data from the visual, vestibular, and proprioceptive systems, but can't translate this information into normal perception.

To understand Mr. MacGregor's condition, Sacks says, we can look to the work of the great neurologist Purdon Martin, who argued that one of the mind's roles is to integrate sensory data from the visual, proprioceptive, and vestibular systems. People with Parkinson's, however, lack the ability to integrate the data, meaning that they might lose their balance while doing something as simple as closing their eyes.

Parkinson's disease causes the long-term degeneration of the nervous system—in the case of Mr. MacGregor, for instance, Parkinson's disease renders MacGregor's brain incapable of interpreting sensory data.

While talking with Sacks about his condition, Mr. MacGregor proposed using a level surface, his glasses, to orient himself. He and Sacks experimented with hanging a tiny pendulum on his glasses, so that he could visually assess his orientation whenever he needed to. These glasses later became popular in the hospital, since there were other Parkinson's patients who could use them to stand and walk straight.

Like many of the chapters, this chapter ends with Sacks using unconventional means to train Mr. MacGregor to cope with his new condition. MacGregor has to rely more than usual on his five senses (in this case, sight) to determine if he's standing straight or not, but in doing so, he regains his posture, and a semblance of a normal life.

PART 1, CHAPTER 8: EYES RIGHT!

A patient named Mrs. S. suffered a stroke. After the stroke, Mrs. S. remained an intelligent, funny woman. However, she no longer had any understanding of the concept of "left." When she ate her meals, she would only eat from the right half of the plate, and when looking for lost objects she'd only seem to search the right half of her visual field. Mrs. S. learned to compensate for her restricted vision, however. Because she could no longer turn left, she learned to turn right through a circle, until previously unseen objects came into view. When applying her makeup, Mrs. S. couldn't see the left side of her face, but by staring at a video feed of her face—in which the left and right sides are reversed—she could apply the makeup to the other side. In the Postscript, Sacks notes that videos and computer simulations may become important for helping people like Mrs. S.

In this intriguing case, Mrs. S.'s stroke leaves her incapable of conceiving of "left" in the ordinary way. Therefore, she has to adjust her behaviors and movements to her new neurological impairment. She finds various ingenious work-arounds, showing how even (and perhaps especially) people with series neurological problems can adapt to their changing circumstances. Furthermore, the rise of personal computers (which, at the time when Sacks composed this chapter, was an ongoing process) might help people like Mrs. S., perhaps by training them to recover their spatial awareness.

PART 1, CHAPTER 9: THE PRESIDENT'S SPEECH

In a ward of a hospital, Sacks listened to the patients laughing at the television. The president of the United States was speaking, and Sacks wondered what his voice sounded like to the patients.

When Sacks published this book, the president was Ronald Reagan—a man who some (including, it would seem, Sacks) didn't always trust or respect.

Even patients who have global aphasia—the inability to understand words—are capable of understanding ordinary conversations, because when people speak naturally, they can pick up on non-verbal cues. However, aphasia patients couldn't understand anything spoken by an affectless voice. Aphasia patients are, in short, living proof that speech doesn't consist of words alone, but rather of *utterances* delivered with inflection and emotions. Aphasia patients become highly attuned to the nuances of speech. As a result, when they listen to the president's televised speech, the words ring false.

Understanding speech, Sacks suggests, isn't a purely left-brained activity; in order to understand the nuances of human communication, one must not only understand the explicit meaning of words, but also the inflections and other nuances of language. Therefore, patients who lack the ability to understand words can still communicate insofar as they become especially attuned to the nuances of speech.

There are also patients who have a condition called tonal agnosia, which is the reverse of global aphasia—these patients can understand words, but not different tones and inflections. One such patient, Emily D., couldn't understand if a voice sounded happy or angry—however, she trained herself to pay attention to people's facial cues, compensating for her condition. While watching the president speak, Emily said, "He is not cogent … He does not speak good prose." Many ordinary people, Sacks notes, were taken in by the president's speech—"only the brain-damaged remained … undeceived."

This passage is one of the first in which Sacks suggests that, at times, patients with so-called neurological disorders *may actually be better off than "normal" people. Agnosia and aphasia give the patients in the hospital a special insight into political language, so that they can see the underlying crudity and cheap emotional manipulation of Reagan's rhetoric. Since Sacks seems to dislike Reagan, he also seems to respect his patients' ability to see through Reagan's charming façade.*

PART 2, INTRODUCTION

As Sacks has already discussed, the neurologist's favorite word is "deficit"; however, the concept of superabundance is so rare in neurology that there's no convenient word for it. Modern neurology is ill-equipped to discuss "monstrosities or manias." For instance, the great neurologist Hughlings Jackson wrote about some "hyper-psychological states," but only rarely.

Once again, Sacks discusses a paradigm that neurologists use to conceive of different neurological disorders. It's crucial to notice that the paradigm of superabundance is no more or less "correct" than the paradigm of deficit; both are useful insofar as they help doctors better understand the mind. Sacks's point seems to be that we need many different, competing paradigms for neurological disorders.

In the second part of the book, Sacks will examine cases of patients who suffer from disorders that cause an excess of a brain function. When compared with disorders that cause deficits in a brain function, these cases will be more overtly focused on what the patients *do*, not just what they're missing. Thus in studying excess, Sacks says we're forced to talk about "neurology of action." Traditional neurology is excessively focused on the brain's mechanical processes and not enough on the effects of such processes on a patient's life.

Perhaps as a consequence of relying too heavily on the paradigm of deficit, neurologists don't focus on action as thoroughly as they should (since, by definition, the notion of a deficit emphasizes the absence of behavior far more than it suggests a different behavior). Moreover, Sacks will endeavor to talk about patients' lives and personalities instead of analyzing their disorders in overly mechanical, left-brained terms.

In this section, Sacks will also discuss some cases in which an illness initially presents as "a wonderful feeling of health and well-being." Sacks has always been fascinated by such a concept, and wrote about it in his earlier book, *Awakenings*. Sometimes patients sense that, in spite of their health, they're possessed by their own disease, or even that they're headed for "disaster."

Sacks will also discuss the concept of a neurological "disorder" being beneficial in some way, although, for the time being, he will restrict himself to disorders that have both overt advantages and disadvantages.

PART 2, CHAPTER 10: WITTY TICCY RAY

Scientists have known about Tourette's Syndrome since 1885. On the most basic level, Tourette's consists of "an excess of nervous energy," but no two cases of Tourette's are "ever quite the same." Some patients learn how to get their condition under control, or even use the condition to their advantage, exploiting the "swiftness of thought" that it can create.

As Sacks alluded to in the Introduction, Tourette's Syndrome may impair a patient's abilities, but it may also give a patient exaggerated mental powers (or at least the feeling *of exaggerated mental powers).*

In the early 20th century, physicians began to ignore Tourette's, and some even suggested that it was never a real disorder in the first place. Sacks suggests that doctors' lack of interest in Tourette's is indicative of the growing split in the medical community between doctors who studied the mind and those who studied the body. Tourette's is difficult to classify—it could be considered a neurological problem, or a disease of the body—and therefore, doctors in the early 20th century often ignored it.

This passage reminds us why a diversity of conceptions of disease is important to the neurological community; without many competing paradigms of disease (abundance, deficit, etc.), some diseases will escape medical attention simply because they're difficult to classify.

Sacks compares the reception of Tourette's in the medical community to the reception of sleepy-sickness, the disease that he discusses in his earlier book, *Awakenings*. Sleepy-sickness is a disease that sometimes causes patients to fall into a coma-like condition. In the 1960s, Sacks gave sleepy-sickness patients a new drug, L-Dopa, which enabled them to "awaken," at which point they often exhibited wild, Tourette's-like syndromes. After he began studying sleepy-sickness, Sacks began studying tics in Tourette's patients. He came to realize that there were many people who could be said to suffer from Tourette's-like symptoms. Throughout the seventies, the medical community (and eventually society at large) gradually came to accept that Tourette's, quite apart from being a rare or made-up condition, was very common. Scientists hypothesize that the causes of Tourette's Syndrome can be found in the subcortex, the part of the brain that controls primitive responses. Tourette's patients seem to suffer from an excess of dopamine in the brain. However, the causes of Tourette's are so complicated that they can't be pinned to a single chemical or part of the brain.

Sacks first rose to prominence by studying sleepy-sickness in the Bronx in the 1960s—his investigations later formed the basis for his first important book, Awakenings. *Sacks treats Tourette's Syndrome in much the same way that he treats sleepy-sickness; however, he comes to realize that Tourette's is far more common than the medical community believes. It is because Tourette's is such a mysterious, hard-to-diagnose disorder that neurologists in the 1960s often fail to recognize it. Furthermore, Sacks's research into Tourette's was instrumental in boosting awareness of the disorder and drawing both the public and the medical community's attention.*

In the early seventies, Oliver Sacks studied a patient named Ray, who suffered from Tourette's—violent spasms prevented him from concentrating on anything for longer than a few seconds. He would also shout profanities almost constantly. Because of his condition, Ray excelled at certain games, such as table tennis. Sacks learned that he could curb Ray's symptoms by giving him a drug called Haldol. However, Ray didn't like Haldol, because he thought that it slowed him down. For the next three months, Sacks worked with Ray to build a life without the habits he'd acquired as a result of living from Tourette's. Sacks then began to give Ray Haldol again, and Ray found himself tic-free, "but without significant ill-effects." In short, Haldol performed a miracle for Ray—but only when accompanied by three months of preparation, in which Ray learned how to calibrate his new behavior.

Sacks's treatment of Ray is emblematic of his approach to neurology in general. Although he diagnoses Ray successfully, and prescribes the "correct" dosage of the correct drug, Sacks recognizes that purely chemical treatment for Ray's Tourette's is insufficient. Sacks's duty as a doctor, in other words, isn't simply to cure Ray's Tourette's, but also to show Ray how to adjust his behavior to his new, post-Tourette's life. By neglecting one-on-one patient interaction and careful training, Sacks suggests, neurologists are shirking their duties to their patients.

Ray has lived a happy life for the past nine years, thanks largely to Haldol. He has a good job and marriage, and he has many friends. But although Ray is calmer and happier, he finds himself missing some aspects of his old life—particularly, the wit and inventiveness that accompanied his Tourette's. On weekends, Sacks says, Ray takes a break from Haldol and allows himself to "let fly." Thus, Ray has made a happy life for himself, despite—but also because of—Tourette's.

Ray's life post-Tourette's reminds us that neurological disorders aren't always harmful, or rather, they're not always harmful across the board. At times, Ray thinks of his Tourette's as a gift, not a curse—that's why he chooses to embrace his Tourette's on weekends, balancing a normal, low-energy life with high-energy, manic Friday and Saturday nights.

PART 2, CHAPTER 11: CUPID'S DISEASE

Oliver Sacks once studied an elderly woman named Natasha K. Shortly after she turned eighty-eight, she told Sacks, she began to feel suddenly flirty and energetic. Natasha decided that she was "suffering" from Cupid's Disease, a euphemism for syphilis. Natasha caught syphilis when she was younger, but had it treated with penicillin. She asked Sacks if it's possible for the syphilis to "catch up" with her. Sacks confirmed that Natasha was afflicted with a rare case of cerebral syphilis. However, Natasha told Sacks that she didn't want him to treat her syphilis—she liked the way it made her feel. Sacks writes, "our course, mercifully, was clear." He gave Natasha penicillin, which killed the potentially deadly spirochetes in her brain, but didn't do anything to reverse the mental changes that had already taken place.

Natasha "suffers" from a serious neurological disorder, syphilis, but she doesn't experience the disorder as a problem of any kind, and, in fact, wants to live with her syphilis instead of letting Sacks treat it. Notice that Sacks refuses to editorialize over whether or not Natasha's decision is reasonable. Instead he writes, "our course, mercifully, was clear," suggesting that in this particular case he didn't have to make a choice between preserving Natasha's new, energetic personality and removing it (and instead just had to kill off the spirochetes).

In the Postscript, Sacks notes that he's encountered a similar dilemma in a patient named Miguel O., who suffered from a kind of neurosyphilis that made him especially manic. Sacks gave Miguel drawing tests designed to measure his sense-perception. Instead of duplicating the drawings that Sacks gave him, Miguel preferred to elaborate upon them. But then, when Sacks treated Miguel's symptoms with Haldol, Miguel's drawings became duller. Miguel was sad that Haldol made him less imaginative. Sacks notes the irony: "that inner life and imagination may lie dull and dormant unless released, awakened, by an intoxication or disease!" Under the right circumstances, he says illness could be considered wellness, while normality could be considered a form of illness.

Although he pointedly doesn't take a position on whether or not Natasha's syphilitic personality was "good" or "bad" (and perhaps doesn't regard this as any of his business), Sacks goes so far as to suggest that Miguel O.'s syphilis could be construed as a form of wellness, since it excites his imagination and gives him great pleasure. Sacks's opinions remind us that he's not just writing a book about neurology; he's also writing about the moral and philosophical implications of treating disease—questions that arguably lie beyond the bounds of science.

PART 2, CHAPTER 12: A MATTER OF IDENTITY

The chapter begins with Oliver Sacks having a strange conversation with a man named William Thompson, an ex-grocer who suffers from Korsakov's Syndrome and lives in a hospital. Thompson greeted Sacks as an old friend and asked him what meats he wanted to pick up from the grocery. Then, not thirty seconds later, he said that Sacks was a butcher down the street; then he said that Sacks was a mechanic who's just pretending to be a doctor. Then he asked Sacks, once again, what meat he wanted from the store.

Unlike most of the other chapters in the book, Chapter Twelve begins en medias res *(in the middle of the action), so that, initially, we don't really understand what's going on with William Thompson. This is a clever approach, because it gives a sense of the flux and constant confusion that surrounds Thompson's existence.*

William Thompson's case of Korsakov's caused him to remember nothing for more than a few seconds. He sometimes identified himself as multiple people, often in the course of the same conversation. Thompson's condition was especially strange because it required him to improvise new identities for himself from second to second. Clearly, Thompson had brilliant powers of invention.

Every case of Korsakov's is unique, because every patient finds a different way to adjust to the absence of memory. Thompson compensates for his condition by improvising new identities for himself, suggesting the importance of having memories of a stable identity (something that most people take for granted).

Why, Sacks asks, did William Thompson make up identities for himself? Perhaps the reason was that, unlike most people, Thompson lacked any true identity—he had no memory beyond what happened a few seconds before, so he had no understanding of what his life had been like and, therefore, what kind of person he was. In the absence of an identity, Thompson made one (or more) up. Thompson was a natural comedian, with a great sense of timing—but his comedy was tragic, because it appeared that Thompson sincerely believed himself to be all these different people.

Thompson's improvisational talents seem to stem from his desperation to "be someone," rather than become lost in the constant flux state that is the Korsakov's patient's curse. Yet at the same time, it's suggested that his incredible inventiveness is also a result of (or at least emphasized by) his illness.

One day, Sacks was talking with William Thompson in a restaurant, when Thompson looked outside and said, "There's my brother, Bob." Sacks ignored Thompson's comments, assuming them to be elaborate lies—but then Bob poked his head in and greeted Mr. Thompson as his brother. However, William didn't treat Bob Thompson any differently than he treated other people. When Bob mentioned that their brother George Thompson had died years before, William brushed off the news as a joke.

William Thompson is cut off from other human beings to a degree that would be utterly incomprehensible to most people—he doesn't even seem to have a close emotional bond with his brother, and doesn't understand that his other brother died years ago. Trapped in the present, Thompson is alienated from his friends and family.

It's instructive to compare William Thompson with Jimmie G., the Korsakov's patient from Part One. Jimmie G.'s life is suffused with loneliness, tempered by his own peacefulness. It's difficult to feel terribly sorry for William Thompson because he's such a buoyant guy. And yet, his gift for talking is also his curse, because it alienates him from his peers in the long term. Furthermore, William seems to lack the ability to "feel" any profound emotions.

Like Jimmie, Mr. Thompson tries to compensate for his lack of memory (and, therefore, self-awareness); however, Thompson does so by crafting literal, verbal identities for himself, whereas Jimmie seems to do so by latching onto a sense of the divine and a stable institution, the Catholic Church. Thompson's attempts to connect with other people through humor and talk are successful in the short-term (since people seem to like him) but tragic in the long-term.

In the writings of the neurologist A. R. Luria, one often comes across examples of patients who have serious afflictions but don't realize it, and, indeed, don't realize how alienated they've become from other people. Such patients will often adopt similar attitudes—a kind of nonchalance whose purpose seems to be to mitigate their alienation. In general, Luria discussed the principle of "equalization"—the changes in the affect of patients designed to compensate for their conditions. Certain patients with Korsakov's, such as Jimmie G., find ways to connect with other people in spite of their disorder, while others, such as William Thompson, do not. But even William experiences moments of peace. When he's alone, Sacks says, William becomes quiet and calm, and seems to recover a sense of "being in the world."

Here, Sacks introduces the principle of equalization: the ways that patients with neurological afflictions adjust to their problems by altering their attitude or affect. Throughout the book, and on a less clinical level, Sacks shows how patients compensate for their conditions in a variety of ways. Notice that Sacks believe that, on some level, patients are trying to adjust to their condition in order to maintain a sense of being in the world—a phrase that Sacks borrows from the work of the philosopher Martin Heidegger (reminding us of Sacks's vast intelligence and erudition, and of the abstract, philosophical implications of his neurological findings).

PART 2, CHAPTER 13: YES, FATHER-SISTER

Oliver Sacks met with a lively patient named Mrs. B., whom he determined to be suffering from a cerebral tumor. When Sacks spoke to Mrs. B., she addressed him as "Father," "sister," and "Doctor." She explained that she couldn't look at "all" of Sacks—she had to construct his identity by putting together small details of his appearance, such as his coat and his beard. She also insisted that she could no longer tell the difference between left and right, and that the whole world had been reduced to "a facetious insignificance" since she developed her condition—she greeted everything with the same nonchalance.

Mrs. B.'s condition is difficult to understand; it appears that she lacks the ability to discern the differences between basic concepts and categories. In the absence of such an ability—which most human beings take for granted—Mrs. B. compensates by affecting a tone of total, humorous indifference to reality.

Mrs. B. was, much like William Thompson, "de-souled" as a person. Yet her condition was emblematic of the concept of equalization developed by A. R. Luria, which Sacks described in the case of William Thompson and which we'll see again in later chapters.

Mrs. B., much like other patients in this section, is alienated from other people, and "equalizes" by affecting a tone designed to compensate for her condition. Here Sacks also raises the interesting question of how one connects the idea of a "soul" to the brain and the sense of "self."

In the Postscript, Sacks notes that the indifferent affect of Mrs. B. is a common manifestation of equalization. There are cases of patients telling two contradictory stories within minutes of each other, all the while maintaining the same nonchalant pose. For people like Mrs. B., "there ceases to be any 'center' in the mind," and yet their minds work perfectly well.

Many patients with neurological disorders "equalize" and compensate for their conditions in different ways, sometimes by unconsciously changing their personality, sometimes consciously by changing their behavior.

PART 2, CHAPTER 14: THE POSSESSED

In Chapter Ten, Sacks discussed a mild case of Tourette's. However, Tourette's can also cause more severe cases, in which the patients seem to be possessed and become violent. Around the time that he was studying Ray, while walking through the streets of New York, Sacks noticed many people who were clearly suffering from Tourette's. One reason why Tourette's patients went undiagnosed for most of the 20th century is that Tourette's in its severest forms is hard to study in a lab—to really get a sense for it, you have to watch it in a public place. One could say that there are certain conditions, such as Parkinson's and Tourette's, for which "street neurology" is the best way of understanding them. Indeed, James Parkinson, the doctor who identified Parkinson's disease, noticed the disease for the first time while walking through the streets of London.

In this section, Sacks implicitly critiques the practice of neurology as it exists in America in the 1970s and 1980s. As he sees it, neurology has become too clinical, too mechanical, and too concerned with observing patients in a laboratory setting. As a result, neurologists failed to understand disorders like Tourette's Syndrome—both how it worked and how common it really was. There are some disorders that can only be fully understood with "street neurology," and Tourette's is only one example.

While walking through New York after meeting with Ray, Sacks came across a woman in her sixties who seemed to be having some kind of fit. On closer inspection, Sacks realized that she was caricaturing passersby, albeit in a convulsive, not entirely intentional way. Sacks was so struck by the elderly woman that he proceeded to spend hundreds of hours talking to and observing Tourette's patients.

The behavior of the woman is important for Sacks's understanding of Tourette's because it's not entirely intentional or unintentional. In a counterintuitive way, the woman's behavior is analogous to the nonchalant affect adopted by Mrs. B. in the previous chapter—like Mrs. B., the elderly woman seems to be using forms of humor to distance herself from her own illness and maintain some control over her own life.

From his research, Sacks concluded that, not unlike a Korsakov's patient, a "super-Tourette's" patient like the elderly woman is driven by strong impulses, and can choose to give into the impulse or repudiate it. Where most people's minds shield them from a constant stream of impulses, super-Tourette's patients' minds are bombarded with impulses. The life of a super-Tourette's patient is a flux-state, in which there is no stable "I." In the face of this constant flux, the patient is forced to fight to claim any identity. The miracle is that, in many cases, the super-Tourette's patient finds successful ways of doing so.

Sacks interprets the elderly woman's behavior as a struggle for identity, not unlike the struggles of William Thompson or Mrs. B. The elderly woman finds ways to adapt to her neurological problems, at once embracing her erratic, tic-like behavior and distancing herself from her own behavior with humor and performance. Sacks sees Tourette's patients' behavior as nothing short of heroic—they're fighting for a self, and, unbelievably, they often succeed.

PART 3, INTRODUCTION

In the first half of this book, Oliver Sacks has talked about cases in which there is a clear neurological excess or deficit—and cases in which, clearly, "something is the matter." In Part Three, Sacks will discuss conditions that alter perception or imagination—conditions which aren't often discussed from a neurological perspective. Few would say that a vivid dream or sudden burst of inspiration are primarily neurological matters, and might even think that applying neurology to such experiences devalues them. But Sacks will describe, without devaluing it, the mental achievement that can result from aberrations in the brain's structure.

Part Three is the shortest part of the book, but it's important in complicating the traditional understanding of a disorder as "something wrong." Sacks proposes that, under certain conditions, a mental disorder could easily be construed as benign, or even as a gift. It's often been suggested that some of the greatest creative geniuses in history had neurological abnormalities of some kind, and Sacks will investigate this notion. It's worth noting that Sacks continues using the words "disorder," "disability," and "illness," despite their pejorative connotations—connotations which, as Sacks makes clear here, he wants to challenge and complicate.

PART 3, CHAPTER 15: REMINISCENCE

One morning in January 1979, a woman named Mrs. O'C. woke up to the sound of loud music. She assumed she was dreaming—the music was the same music that she'd heard in her dream that night. Yet she continued hearing the music as the day went on. Frightened for her sanity, she visited her doctor, who referred her to Oliver Sacks. Sacks found that Mrs. O'C. was in good health, suggesting that the source of the music wasn't a stroke. He performed EEG tests on her, and found that whenever O'C. heard the music in her head, her temporal lobes experienced seizures. By mid-April, the songs had faded from Mrs. O'C.'s mind—she even told Sacks that she missed them.

In the first section of the chapter Sacks clarifies what, in the narrowest sense, is the "problem" with Mrs. O'C.: she's experiencing seizures in her temporal lobes. However, this explanation cannot do justice to the music Mrs. O'C. hears in her head—her personal associations with the music, the nostalgic emotions it arouses in her, and other important factors in understanding Mrs. O'C.'s condition holistically.

Oliver Sacks came upon a similar case, in which a woman named Mrs. O'M. reported hearing the song "Glory, Glory, Hallelujah" again and again for years. Mrs. O'M. seemed to be in perfect health, except that she'd had recent bouts of deafness. EEG tests revealed that Mrs. O'M.'s temporal lobes had an unusual amount of activity, comparable with the amount one would expect during an epileptic fit.

Mrs. O'M.'s condition is, at least on paper, similar to that of Mrs. O'C.; however, as Sacks shows, it's important to understand the more intimate, personal differences between the two patients, rather than simply interpreting their disorder as a seizure of the temporal lobes.

What was the cause of Mrs. O'M. and Mrs. O'C.'s "musical epilepsy?" To understand the answer, Sacks says, we'll need to look to the findings of the doctor Wilder Penfield, who located the area of the brain associated with seizures—the temporal lobes. Penfield learned that by electrically stimulating the area, he could give his subjects vivid hallucinations of sound. Penfield's key insight was that his subjects' hallucinations weren't just hallucinations—they were also accompanied by a strong, euphoric feeling, often nostalgia. Mrs. O'C. and Mrs. O'M. reported feeling like "little girls again" when they heard music in their heads.

Penfield's findings emphasize not only the new sensations *triggered by the stimulation of the temporal lobes, but also the new* perceptions *and emotional overtones brought about by a seizure. This might suggest that in order to understand Mrs. O'C. and Mrs. O'M. fully, neurologists would need to understand their emotional character and understand whether they have some special predisposal to feel nostalgia.*

Why would the brain hallucinate certain songs, such as "Glory, Glory, Hallelujah?" Penfield argued that there was no real significance to the music—any song that the subject remembers fairly well could resurface when electricity was applied to the temporal lobes. Sacks questions Penfield's conclusions, though—perhaps there's some special significance to the songs. Sacks ran further tests on Mrs. O'M. to see if he could find any personal significance in the songs she heard. During his tests, Sacks learned that she was already apt to hum the songs before she hallucinated them.

Even though Penfield's findings emphasize the importance of nostalgia and emotional reaction to seizure, he believed that there was no rhyme or reason to which songs his patients hallucinated. Sacks is more inclined to believe that seizure hallucinations reflect personal associations, and found that Mrs. O'M. did, indeed, have some special association with the music before she began hallucinating it.

A recent article posited that the secret of the great composer Dmitry Shostakovich's success was that he had a metal splinter, a fragment of a bombshell, in the temporal horn of the brain's left ventricle. Shostakovich claimed that he could hear music in his head by tilting his head to one side. Thus it's possible that he was able to control hallucinations of music, which he experienced due to brain damage.

Shostakovich is often regarded as one of the key composers of the twentieth century; therefore, his strange condition emphasizes the role of neurological abnormality in creativity.

Oliver Sacks put Mrs. O'M. on anticonvulsants (drugs whose purpose is to prevent seizures) and afterwards she stopped hallucinating. He posits that her hallucinations had both a physiological cause (the temporal lobe being stimulated in some way) and a personal cause (some experience that triggered her to imagine music). The personal cause seems particularly important in the case of Mrs. O'C., since her parents died when she was young, suggesting that she might have been an unusually nostalgic person. Mrs. O'C. enjoyed her hallucinations, and found them refreshing, since they gave "her back the childhood she lost."

Where Sacks's predecessors speculate that musical hallucinations stem primarily from physiological causes, Sacks emphasizes both physiological and more personal stimuli; for example, it seems not to be a coincidence that Mrs. O'C. was an unusually nostalgic person, since her parents died when she was still young (Sacks doesn't unpack this theory, but his point seems to be that a person whose parents died when they were young would be more likely to be nostalgic for the period before the parents' deaths).

In the Postscript, Sacks notes that Mrs. O'C.'s case is interesting because her musical hallucinations both fulfilled a personal need and reflected physiological aberrations in her brain. Mrs. O'C. was afflicted with a form of "hyper-mnesis"—the ability to remember the past too well. It would be difficult for neurologists to explain such a phenomenon in great detail, because the way memory unfolds is so personal. Here, as in other areas of neurology, we must confront the "chasm between what we learn from our patients and what physiologists tell us."

One reason why the study of musical hallucinations is so new is that it's very difficult for neurologists to study the inner workings of memory—perhaps because memory can't easily be reduced to a mechanical, left-brained model (as Sacks argued in Part One). In order to better understand memory, Sacks suggests, neurologists need to make more of an effort to understand their patients' perceptions, rather than simply identifying the physiological parts of the brain in which memory could be said to occur.

Sacks raises a hypothetical: Mrs. O'C. and Mrs. O'M. could hear a piece of music in vivid detail because of the stimulation occurring in specific parts of their brains. Thus, it's not inconceivable that, in the future, scientists will develop ways to perform "psycho-surgeries" that can remove specific memories. However, Sacks also notes that, in the future, neurologists might try to help people who suffer from amnesia reconstruct their memories. Neurologists would do well, Sacks argues, to use a holistic form of therapy that addresses the complex network of subjects' experiences, rather than simply trying to recapture specific memories. Sacks concludes that such projects are still a long way off, since as of now, neurologists don't really understand the origins of musical hallucinations.

Again Sacks distinguishes between two ways of describing the mind: first, as a series of discrete parts, each of which governs different mental functions (and, by the same logic, different memories); second, as an interconnected whole, such that any specific memory is linked to other memories and mental processes. Sacks clearly favors the second approach, and encourages his peers in the neurological community to learn about memory by studying their patients holistically and getting a sense for their personalities and backgrounds.

PART 3, CHAPTER 16: INCONTINENT NOSTALGIA

When Oliver Sacks used L-Dopa to treat people, he found that the drug often provoked sudden, vivid reminiscences in his patients. When he used L-Dopa to treat a sixty-three year-old woman with Parkinson's, for example, the woman exhibited nostalgia, increased libido, and an upsurge in memories of sexual experiences. The woman herself was astonished, since, she claimed, she hadn't felt so lively since she was a young woman.

The sixty-three year-old woman in this chapter is similar to Natasha from Part Two, insofar as she experiences a sudden resurgence in libido and energy, brought about by a supposed mental "disorder."

Most human beings experience an involuntary reminiscence at some point in their lives. Sometimes the reminiscence kicks off with a word, sound, or smell that triggers the memory. But involuntary reminiscences also arise in people who have epilepsy or chronic migraines. It would appear that people's minds are "Stacked with an almost infinite number of dormant memory-traces," which can be brought into the consciousness at any time. Epileptic fits, L-dopa, alcohol, and migraines can all uncover old memories, leading to a vivid "re-enactment of the past."

There is an established link between memory and epilepsy, with the result that many epileptics experience sudden, involuntary attacks of reminiscence. In discussing the amount of usually inaccessible memories contained in each person's brain, Sacks again examines what the "self" is and how it is connected to memory.

PART 3, CHAPTER 17: A PASSAGE TO INDIA

In 1978, Oliver Sacks's hospital admitted a nineteen-year-old Indian girl named Bhagawhandi P., who had a malignant tumor. Growing up, Bhagawhandi had lived a normal life, though she was always conscious that she was living with a "time bomb" in her head—her tumor was going to kill her someday. Even after she was admitted to the hospital, Bhagawhandi seemed oddly calm about her death. As the tumor grew, she began having seizures. During these seizures, she wouldn't lose consciousness—instead, she'd become dreamy and nostalgic. Afterwards, Bhagawhandi reported enjoying her seizures because they reminded her of "back home" in her village.

Bhagawhandi's is one of the most moving chapters in the book, and an especially lucid example of how so-called mental disorders can serve an important purpose—in this case, helping a young woman accept her own mortality. Bhagawhandi's seizures induce strong bouts of nostalgia, as Sacks suggested in the Postscript to the previous chapter.

Sacks hypothesized that Bhagawhandi's seizures were caused by the steroids that he was giving her to prolong her life. However, this hypothesis wasn't entirely satisfactory, because usually steroidal seizures were calm and dreamy. Yet the hypothesis that Bhagawhandi's seizures could have been ordinary temporal-lobe seizures (like those described in Chapter 15) seemed unlikely, too, since temporal-lobe seizures usually center around one specific memory, such as a piece of music, whereas Bhagawhandi's seizures made her think of music, dancing, different parts of her home village, and many different people who lived there.

Sacks offers multiple hypotheses for the precise cause of Bhagawhandi's seizures, including steroids and excitement in the temporal lobes—and then goes on to doubt these hypotheses. Sacks seems more interested in giving readers a vivid sense for Bhagawhandi's hallucinations and her overall manner than offering a precise diagnosis.

As Bhagawhandi's tumor grew, she continued having seizures. Just once, Oliver Sacks asked Bhagawhandi, in the middle of one of her seizures, what was happening to her. Bhagawhandi calmly replied, "I am dying … I am going back to where I came from." Afterwards, Bhagawhandi seemed to lose all contact with the external world, and retreated into her hallucinations. A few days later, she died—perhaps having "completed her passage to India."

Bhagawhandi's hallucinations act as a kind of pleasant anesthetic, calming her in anticipation for her death. Sacks alludes to E.M. Forster's famous novel A Passage to India, suggesting that, perhaps, Bhagawhandi returns to her family and her village in the afterlife—another reminder of 1) Sacks's literary erudition and 2) the philosophical, even religious character of his book.

PART 3, CHAPTER 18: THE DOG BENEATH THE SKIN

There was a medical student, Stephen D., who used lots of cocaine, PCP, and amphetamines. One night, he dreamt that he was a dog. When he awoke, he reported a pronounced sense of vision. He found that he could now distinguish between dozens of subtly different shades and draw beautiful sketches of the human body. Above all, he found that his sense of smell had become greatly pronounced. Then, some three weeks later, he found that he no longer had a strong sense of smell or sight.

At the time when Sacks was writing, drugs like cocaine ("uppers") weren't regarded as harmful in the same way they are now. Stephen D.'s drug use had some unexpected consequences: they heightened his artistic abilities, and his senses, suggesting that these skills were locked inside him all along, and only made accessible because of a neurological change.

It's been sixteen years since Sacks learned about Stephen D.'s case, and it's now commonly accepted that amphetamines can be dangerous. Stephen D. is now a successful doctor, but he's often nostalgic for his drug days, especially the brief period during which he had terrific smell and sight.

As with many of the other neurological abnormalities he discusses in the book, Sacks doesn't say that people should *use amphetamines; however, he seems to respect Stephen's nostalgia for the brief time in his life when he experienced these heightened senses.*

Following the ideas of Sigmund Freud, Sacks speculates that, neurologically speaking, a pronounced sense of smell is often associated with a stronger libido. In treating Tourette's patients with L-Dopa, Sacks has often found that the drug creates an excited, hyper-sexual state, paired with a heightened sense of smell. Sacks argues that there is a "universality of inhibition" in our society, such that people's sex drives and, perhaps, their senses are repressed. Whether or not one believes that such forms of repression are necessary, one could argue that, at times, "we need to be dogs and not men."

Sacks takes a philosophical, political view of his subject, arguing that civilization represses not only the individual's needs and desires, but also the individual's very senses. *Once again, Sacks doesn't outright say that society is wrong to inhibit people, but suggests that, at the very least, there are brief times when people should be able to live with fewer inhibitions, as Stephen D. did (and as Ray from Part Two now does on weekends).*

In the Postscript, Sacks discusses a man who sustained a head injury and damaged his olfactory tracts, losing his sense of smell. The man was devastated—previously, he'd taken smell for granted, but now realized how important it was to his life. Strangely, however, the man reported being able to smell the rich odor of his pipe. Neurologists found that the man's sense of smell was completely gone, suggesting that the "odor" the man detected in the pipe was a kind of "olfactory imagery," allowing him to recreate smells in his cortex, even without sensory stimulation. Much like the deaf Beethoven imagining music in his head, this man could imagine smells.

The man's ability to remember his pipe is reminiscent of Sacks's discussion of phantoms in an earlier chapter. Humans are so used to receiving sensory data that, even after they lose the ability to receive this data, they sometimes seem to hallucinate their perception of it.

PART 3, CHAPTER 19: MURDER

There was a patient named Donald who murdered his girlfriend while he was high on PCP. Donald claimed to have no memory of the murder, and at his trial his lawyers successfully pled insanity. Donald spent four years in a psychiatric hospital for the criminally insane. In the hospital, he took an active interest in gardening. He seemed calm, and his doctors guessed that, somehow, he'd achieved "a sort of stability."

Sacks doesn't editorialize on whether or not Donald actually went insane under the influence of PCP; however, there have been many cases of people losing their memories and inhibitory instincts under the influence of PCP or other similar drugs. Indeed, even the sober mind sometimes blocks out unpleasant memories, so that the individual can achieve "a sort of stability."

Donald became so stable that he was allowed to leave the hospital on weekends. One weekend, Donald took a bike ride and sustained a severe head injury, which left him in a coma for two weeks. After he regained consciousness, Donald was plagued by hallucinations of the act of murdering his girlfriend. Where before Donald claimed to have forgotten any memory of the deed, he could now remember the deed in almost photographic detail. Donald became so racked with guilt and anxiety that he twice tried to kill himself.

The fact that Donald could suddenly remember killing his girlfriend in such vivid detail suggests that the memory of the incident was never truly lost; instead, Donald repressed his memories of the incident, at least until his head injury caused his memories to "escape" once again.

What caused the sudden change in Donald's behavior? EEG tests suggested that Donald experienced near-constant seizures in both temporal lobes, perhaps inducing his hallucinations. However, over time, Donald learned to control his hallucinations with the help of therapists. Donald still experiences visions of his murder, but he's no longer "obsessed" with these visions—he's learned how to live with them. But the real mystery, Sacks concludes, is why Donald lost the memory of the murder in the first place.

As with many of the patients in this book, Donald doesn't "defeat" his neurological disorder; he just learns to live with it, thanks to the therapy and training he receives in the hospital. Sacks acknowledges that he—and the neurological community in general—doesn't understand exactly why Donald forgot the murder to begin with (and if he did, Donald probably wouldn't have needed training).

PART 3, CHAPTER 20: THE VISIONS OF HILDEGARD

The vision is one of the most enduring religious tropes. Religious visionaries have reported seeing otherworldly things that have put them in contact with the supernatural. One of the most famous examples of a religious visionary is Hildegard of Bingen, a nun, philosopher, and poet who lived during the 12th century. Hildegard left detailed accounts of her visions, beginning when she was still a child and recurring throughout her life. She described seeing stars, bright lights, and other inexplicable things, all of which she attributed to "the will of God."

Hildegard of Bingen is one of the most famous Christian mystics, and tradition holds that she was able to communicate directly with God through visions. While Sacks suggests that Hildegard's visions might have resulted from seizures in her temporal lobes, he doesn't dispute the point that Hildegard was an important figure, or that her visions filled her with genuine religious ecstasy and insight.

A modern neurologist might say that Hildegard's visions consisted of "a shower of phosphenes in transit … being succeeded by a negative scotoma." But of course, Hildegard's great career as a religious writer and scholar shows that neurological aberrations can become "the substrate of a supreme ecstatic inspiration."

The chapter on Hildegard, brief though it is, emphasizes one of Sacks's most important points: just because people's visions and hallucinate originate in their physical brain doesn't mean that their visions are somehow false or meaningless. Put another way, one can accept the divine nature of Hildegard's visions while also accepting that they were caused by seizures.

PART 4, INTRODUCTION

At the beginning of his career, Oliver Sacks began working with intellectually disabled patients, and worried that he'd find his work especially depressing. However, his mentor, A. R. Luria, encouraged Sacks to continue working with these patients, adding that his own time working in such a capacity was some of the happiest and most moving of his professional life. Years after, Sacks has come to understand what Luria meant. Mentally challenged people may be "defective" in some capacities, but they may also exhibit a "peculiar clarity" in others.

As he has before, Luria here give Sacks a new attitude about his work as a neurologist. Socially there is a strong tendency for neurotypical people to think of intellectually disabled people as "defective" in some way; however, Sacks comes to realize that an intellectually disabled person may exhibit phenomenal ability in other cognitive areas, and sees that intellectual disability certainly doesn't mean a lack of humanity or value.

If there's a single word that can describe the existence of the mentally challenged, Sacks says, it is "concreteness." The neurologist Kurt Goldstein argued that human beings are unique among living beings insofar as they can reason abstractly and categorically. And yet human beings are also concrete—living, breathing entities. Even if some mentally challenged people lack the ability to reason abstractly, they are perhaps more in touch with the tangible, concrete world.

For the final quarter of his book, Sacks will use the concept of concreteness to structure his discussions of different patients. Like "deficit," "concreteness" is not itself a scientific phenomenon—it's an intellectual tool to help scientists make sense of a wide array of people and conditions. The term isn't perfect, and doesn't encompass all cases, but it helps Sacks convey the rare insightfulness that he's noticed in some patients.

Too often, scientists ignore the importance of the "concrete"; in classical science, Sacks argues, the concrete is seen as trivial. But sometimes, patients who have a heightened relationship with the concrete world become attuned to tiny details of the world, or have an uncanny ability to remember physical spaces. And the concrete can be a place of beauty in a way that the world of ideas cannot. Thus, a patient may be mentally disabled and yet have a rare gift for understanding the concrete world.

Sacks isn't trying to fetishize intellectual impairment, or suggest that it's preferable to "normal" intelligence; however, he argues that people—both scientists and lay people—are too eager to ignore the unique point of view that mentally disabled people offer; a point of view that Sacks will explore in Part Four.

PART 4, CHAPTER 21: REBECCA

At the age of nineteen, a "mentally retarded" patient named Rebecca entered Oliver Sacks's clinic. Her grandmother described her as being "like a child." Rebecca couldn't always tell left from right, and sometimes spent hours trying to fit her left foot into a right-sided shoe. She also had a cleft palate, which made it difficult for her to talk. She loved nature and worshipped her grandmother, who told her stories. Rebecca excelled at understanding complex metaphors—in spite of her low IQ, she had a rare gift for "poetic power."

Rebecca exemplifies the unique, "concrete" point of view that Sacks began to explain in the Introduction to Part Four. However, it may seem counterintuitive to describe Rebecca as having a rare gift for metaphor, since one could argue that metaphor is the exact opposite of "concreteness." In Part Four, Sacks uses several terms such as "moron," "retarded," and "idiot" which were once common in the medical community, but which have become heavily stigmatized and are no longer so commonly used. For the purposes of this summary, we'll use terms such as "intellectually disabled" to describe Rebecca.

Rebecca had an incredible ability to see the world—especially the natural world—as one poetic whole. She would stand outside, saying, "Look at the world, how beautiful it is." As Sacks spent more time with her, he came to realize how inadequate traditional methods of evaluating intelligence are. Such tests are primarily designed to measure mental deficits; they can't show neurologists the mind's unique powers.

Rebecca's lack of cognitive ability in some areas doesn't do justice to her cognitive abilities in others. Sacks implicitly criticizes the neurological community in this passage—as before, the crux of his criticism is that neurologists are too reliant on narrow, perhaps overly quantitative measures of cognitive ability.

When Rebecca's grandmother died, Rebecca was devastated, but she conducted herself with impressive dignity. She told Sacks, "I'm so cold, it's winter inside … she was a part of me. Part of me died with her." She later told Sacks, "It is winter. I feel dead. But I know the spring will come again." In her grief, Rebecca turned to the synagogue (she'd been raised Jewish) and delivered the Kaddish (a Jewish funeral prayer) for her grandmother's funeral.

Sacks writes movingly about Rebecca's religious passion and the way she turns to art, as well as religion, in her time of emotional need. Rebecca may be mentally impaired in some ways, but there's nothing juvenile or unsophisticated about the way she copes with grief.

Rebecca's life proves that doctors pay far too much attention to patients' defects and not enough to "what is intact or preserved." One consequence of this bias is that doctors lack the terminology to talk about a patient's link with the concrete world. Rebecca was always interested in words. She could understand the concept of a symbol, and often spoke in a symbolic language, which helped her make sense of "concrete reality" in a way that abstract thought couldn't. She once told Sacks, "I'm like a sort of living carpet. I need a pattern, a design … I unravel unless there's a design." Later in her life, Rebecca became very interested in the clinic's theater group. Sacks concludes, "If one sees Rebecca on stage … one would never even guess that she was mentally defective."

Though Sacks argues that mentally disabled people often display a special connection with the "concrete" world, he also praises Rebecca for her ability to speak poetically and metaphorically (which, one could argue, is the opposite of speaking concretely). But Rebecca finds ways of expressing abstract, ineffable emotions with the help of concrete language. Sacks's point isn't that Rebecca is incapable of abstract thought of any kind; rather, Rebecca uses her familiarity with the concrete realm to express complex emotions and abstract thoughts in ways that most human beings couldn't.

In the Postscript, Sacks notes that music, stories, and theater can have an especially powerful effect on the mentally challenged. There have been cases of patients with severe damage to their frontal lobes, leaving them almost unable to walk, who learn to walk with the help of music. In a way, music helps people organize their minds, and much the same is true of drama. Love and talent for the arts seems to be one of the quintessential human qualities, one which has very little to do with traditional ideas of intelligence.

One of the uniting themes of Sacks's book is the way that people, especially those with neurological conditions, use art to make sense of their existence. If Sacks has a definition of human nature in mind, his definition would surely include the ability to make and respond to art. Ultimately, then, his subjects' love for art and poetry is a powerful reminder of their resilient humanity.

PART 4, CHAPTER 22: A WALKING GROVE

In 1983, Oliver Sacks's clinic admitted a sixty-one year-old man named Martin A., who had been suffering from Parkinson's for many years. He was intellectually disabled, due to a case of meningitis he'd contracted as a baby; however, he excelled at music, partly because his father had been a famous opera singer. He could remember the melodies of thousands of operas, though he'd never learned to read music. He even remembered the names of the singers who'd played all the roles in different opera performances. He also had an encyclopedic knowledge of the New York public transportation system. Sacks wondered about Martin A.'s musical talent—if Martin had been born with a "normal" intelligence, would he have become a great musician like his father? Or was Martin's musical ability his mind's way of compensating for his limited intelligence?

Martin A. is another interesting case of how a mind with a supposed neurological disorder (intellectual impairment) seems to compensate with another mental function (in this case, musical appreciation and knowledge). It's very important to keep in mind that Sacks isn't *arguing that all intellectually disabled people have prodigious, savant-like gifts; rather, he chooses to write about patients like Martin and Rebecca because they're particularly striking, instructive examples of how the mind functions.*

When Martin A. listened to music, or when he sang in choruses, he seemed to forget about his mental problems. In his day-to-day life, he had very little knowledge of the external world, and yet he had the ability to recall maps, newspaper articles, and lists in near-perfect detail. At times, Sacks notes, people with great memories, such as Martin, have immature personalities, because their abilities interfere with the growth of their character. Martin could be childish, spiteful, and mean, and very soon, he'd become unpopular in the hospital.

Sacks has written that Martin's mind seemed to compensate for its cognitive impairment with a heightened knowledge of music. By the same token, however, Sacks argues that as a result of Martin's prodigious gifts for music, he has never had the time or inclination to learn about the external world, or to develop emotionally—thus, his abilities cut both ways.

One day in January, Sacks was called to see Martin A., who desperately explained that he needed to go to sing in church on Sunday, adding, "It'll kill me if I don't." Confused about why Martin hadn't brought up singing on Sundays before now, Sacks assured Martin that he'd be allowed to sing in church. At the nearby church, Martin was greeted like an old friend, and as "the brains and adviser of the choir." At the church, Sacks saw for the first time Martin's deep passion for the music of Johann Sebastian Bach. Henceforth, Sacks made sure that Martin visited church every Sunday, and, perhaps as a result, Martin became a different man—calmer, kinder, and more of a "real person." When Martin sang, Sacks sensed, he focused his entire being on the beauty of the music, and attained a state of trancelike rapture.

Like many of the other patients in this book, Martin turns to art as a way of making sense of his life and preserving his dignity. Among fellow music lovers, Martin isn't stigmatized for his intellectual impairment; on the contrary, he's treated like a sage expert on music in general and Bach in particular. And, much like Jimmie G., musical performance gives Martin a deep, lasting sense of peace and joy.

In the Postscript, Sacks discusses some of the articles on music and the mentally challenged that he's read since originally composing his article on Martin A. There have been other cases of mentally challenged people with a world-class ear for classical music. In many of these cases, music (and musical history) serves as a way for patients to make sense of the world, providing a sense of "order and coherence."

Sacks doubles down on his original thesis by drawing additional evidence from other case studies: for the mentally disabled, art in general, and music in particular, can be a powerful coping mechanism that allows the subjects to preserve a sense of order and meaning.

The phrase "idiot savant" is often used to describe people who have mental problems combined with profound mental gifts. However, one problem with this term as it's typically used is that it belittles the patient's gifts, treating them as a mere "knack" or "talent of a mechanical sort, with no real intelligence or understanding." It's plain to Sacks that Martin A. had a profound, sophisticated understanding of Bach's music, not just a photographic memory for the notes. Perhaps this is true of all "idiot savants"—their intelligence in a specific realm, such as music, is just as valid as their intellectual deficits in other areas.

Sacks ends by making a plea for respect for the mentally disabled—too often, their prodigious gifts are written off as mere curiosities, with no underlying depth of understanding beneath them. On the contrary, Sacks argues, there's no reason—other than prejudice, of course—to say that Martin A.'s knowledge of Bach is less sophisticated than that of any other musician or music-lover.

PART 4, CHAPTER 23: THE TWINS

In 1966, Oliver Sacks met "the twins," John and Michael, in a state hospital, at which time they were both twenty-six years old. At this time, the twins were already well known—they'd appeared on TV many times. They had been diagnosed as intellectually disabled, but also as autistic or psychotic, and they were at the same time known for their incredible mental gifts. However, in the twenty years since Sacks's first meeting with the twins, there have been few, if any, studies conducted upon them. Sacks argues that the original neurological examinations of the twins were too reductive in their format. By focusing too exclusive on the superficial aspects of the twins' existences, they reduced the twins' "psychology, methods, and lives … almost to nothing." To understand the twins more fully, Sacks says, one must study them as subjects, and observe them from day to day.

In this chapter, Sacks not only studies the lives of John and Michael, whose awesome mathematical talents briefly made them into celebrities; he also critiques the neurological community, which, according to Sacks, is far too simplistic in its attempts to understand intellectual impairment. Previous neurologists analyzed John and Michael's mental abilities, but only in the narrowest, most quantitative senses (in much the same way that neurologists in the 1960s failed to identify cases of Tourette's because they didn't try to get a sense for their patients' personalities or day-to-day behaviors).

The twins, Sacks has found in the course of his 1966 tests, might seem grotesque at first—they're unusually small, with high voices, disproportionately large heads, and poor vision. The twins have jaw-dropping intellectual abilities, however—they can determine the day of the week for any date in history, past or future, and can remember long numbers perfectly. The twins can also remember the weather on any day in their lives. Strangely, however, the twins can't perform even the most basic arithmetic.

Much like Martin A. and Rebecca, the twins are prodigies in spite of their mental deficits in certain areas. Sacks tries to understand the twins' talent without reducing it to a mere party trick.

There have been many cases throughout history of people with phenomenal mathematical abilities. However, what makes the twins so interesting for Sacks is that they can perform complex mathematical calculations without understanding what they're doing. Once, Sacks spilled matches on the ground, only to have the twins inform him that he'd spilled exactly 111 matches. The twins claimed that they hadn't counted the matches at all—they'd simply "seen" the correct number. The twins then repeated "thirty-seven" three times—which, Sacks realized, suggested that they'd broken up the 111 matches into three groups of thirty-seven, without understanding the concepts of multiplication or factoring.

Sacks's description would seem to suggest that, in a sense, the twins are capable of doing arithmetic; they just don't understand what they're doing—for this reason, they can count to 111 by dividing up the number into three equal groups of thirty-seven. But this makes it unclear whether the twins really can "see" 111 in a fraction of a second (the way most human beings can "see" the number three without actually counting it) or whether they need to use arithmetic to count it. It's also been noted by critics that the matches Sacks spilled came from the twins themselves, who may have counted them beforehand (or found a special beauty in the number 111).

On another occasion, Sacks watched the twins exchanging long, six-figure numbers. After each number, the twins would smile as if savoring a fine wine. Sacks wondered if the numbers had any meaning. Only later did he realize that all the numbers the twins had named were primes (i.e., numbers that can only divided by themselves and one). The next day, Sacks joined in the twins' game, naming seven-, eight-, and eventually ten-digit prime numbers. After each one, the twins would pause for a moment, and then smile, as if verifying that Sacks's numbers were, indeed, prime. Even though there is no simple method for calculating prime numbers, the twins clearly had some method of calculating them.

Some doctors have criticized Sacks's description of the twins in this passage for containing less insight into their mental functions than it seems to. However, Sacks's point seems to be that the twins' understanding of mathematics, contrary to what many would assume, is highly sophisticated—their passion for mathematics is no less than that of a university professor. Sacks doesn't try to explain or de-code the twins' mathematical methods; rather, he regards their methods with respect and even awe.

Sacks draws an analogy between the twins' mathematical talents and the talents of a great musician. Like a musician, the twins had an intuitive understanding of the "sense" of different numbers, even if they had little to no understanding of arithmetic. It was as if they could see the "harmony" in different numbers. The twins seemed to live in a world of numbers—and, as a result, they seemed to have developed an almost aesthetic sense for the beauty and proportion of different numbers, not unlike a musician's sense for the beauty and proportion of different melodies. For the twins, numbers were both awesome, godlike entities and also intimate friends.

Sacks is hardly the first neurologist to draw a comparison between mathematical ability and musical ability—some of the greatest musicians were mathematical prodigies, and many eminent mathematicians have compared their work to music. In all, Sacks argues that the twins' understanding of mathematics is mature and highly sophisticated—contrary to what earlier neurologists had concluded.

Ten years after Sacks met with the twins, it was decided that they should be separated to prevent their "unhealthy communication." Now they both work in menial jobs for little money. Tragically, since being separated and working menial jobs, the twins seem to have lost their numerical powers, "the chief joy … of their lives." But, Sacks comments, "This is considered a small price to pay, no doubt, for their having become quasi-independent and 'socially acceptable.'"

We can sense Sacks's bitterness here: he's quietly angry and disappointed that the twins have been separated and that, as a result, they've lost their one great source of happiness, their mathematical ability. Sacks's point seems to be that societal definitions of what is and isn't "acceptable" are arbitrary and, in the case of people like the twins, actively cruel. In forcing the twins to behave "normally" (get a job, etc.), society has ruined their lives.

In the Postscript, Sacks notes one hypothesis regarding the twins, proposed by the researcher Israel Rosenfield: although the twins couldn't do basic arithmetical operations like multiplication, perhaps they *were* capable of modular arithmetic—for example, following the cyclical algorithm necessary to calculate days of the week. And perhaps the fact that the twins could calculate the number of matches—111—by dividing them up into three groups of thirty-seven suggests that the twins *could* do arithmetical operations, if only with primes. Sacks accepts that Rosenfield's hypothesis may be true.

Here Sacks explores the twins' mathematical ability in more detail than he attempted in the chapter itself. Sacks seems to acknowledge that more research is needed into the mathematical ability of prodigies like the twins, whether they're capable of arithmetical thinking or not (and whether their arithmetical abilities only apply to certain special numbers, such as the prime numbers).

After publishing the original version of this chapter as an article, Sacks received many comments and letters from other doctors. Some parents wrote to him about their children's abilities to visualize numbers. Sacks realized that prime numbers have played a special role in the lives of several mathematically gifted, autistic children. It's still unclear how, precisely, gifted children calculate primes and prime factors—even the gifted patients themselves can't explain how they do it. The great mathematician Kurt Gödel argued that, in the future, primes could serve as a way of marking different ideas, places, and people, paving the way for the total numeralization of the world. If Gödel's hypothesis ever comes true, then people like the twins may truly be able to live in a world of numbers.

Prime numbers have been a subject of great fascination for thousands of years, across a wide variety of cultures, and the twins aren't the first to attach some divine significance to them (in both ancient Chinese and ancient Greek culture, for instance, primes were thought to be mystical entities). Sacks's closing remarks about Gödel convey the arbitrariness of society's definitions of what is and isn't "normal." In another lifetime, one could imagine the twins' abilities to remember prime numbers being very useful and highly sought-after.

PART 4, CHAPTER 24: THE AUTIST ARTIST

Once, Oliver Sacks ran tests on a twenty-one year-old man named José, who was said to be "hopelessly retarded." Over the objections of his attendants, Sacks encouraged José to draw a picture of his pocket watch, which José proceeded to do. Sacks was struck by José's attention to detail, and his confidence as a drawer. He left the test, sure that José was a special case.

Sacks builds on some of the ideas he brought up in the previous chapter, particularly the way that society marginalizes mentally disabled people who may in fact have wonderful gifts. Before Sacks met him, José had been dismissed as "hopeless"; however, Sacks discovered José's artistic talents.

Shortly after his first visit with José, Sacks met with José again and asked him to copy a picture of people canoeing on a lake. Without hesitation, José proceeded to draw a remarkable facsimile of the picture. Indeed, the **drawing** was more than just a copy of the original—in some ways, Sacks thought, José had improved on the original picture, giving the two tiny figures more of a sense of drama and aliveness than they'd had originally. José drew more pictures for Sacks, and Sacks came to realize that José had a great creative gift and a wonderful sense of humor. José's case is especially interesting, Sacks argues, because traditional accounts of "idiot savants"—patients who have severe intellectual problems, but who excel at certain intellectual tasks—focus on tasks that are mostly mathematical or mechanical; for example, patients who have incredible talent for calculating large numbers.

As with Martin A. and the twins, José's talents go far beyond robotic mimicry; indeed, Sacks gives us no reason to think that José's talents are in any way inferior to those of an artistically gifted person with a "normal" intelligence. It's a sign of the strong dehumanizing stigma often associated with mentally disabled people that the few such people who do attract attention for their mental abilities usually excel in mathematics and similar fields—whereas Sacks shows that at least some mentally disabled people, like José, excel at art, a field that's often associated with emotional maturity and insight.

After conducting more research, Sacks learned that José had suffered from temporal lobe seizures since the age of eight, and as a child had had an abnormal amount of spinal fluid in his body, leading doctors to diagnose him as autistic. Doctors had argued that José's medical condition "interfered" with his mental faculties. José's parents had pulled him out of school at an early age, and since then he was isolated from most other people. Sacks wasn't able to get much information about José between the ages of eight and twenty, but he speculates that José enjoyed drawing because **art** represented a way for him to connect with the outside world. José was taken to the hospital because of a supposed "violent fit"—possibly epileptic—during which he smashed many objects, and endangered people around him. During José's time in the hospital, he was heavily medicated; the drugs gave him a modicum of control over his seizures, giving him more time to draw.

At the time when Sacks was writing this article, autism was a little-understood condition, even in the medical community (and even today, people have lots of misconceptions about autism). As was the case with Sacks's work with Tourette's Syndrome, Sacks's writing on autism was instrumental in raising awareness of the condition, both among other doctors and in the general public. José's talent for art reiterates one of Sacks's key points: people of all kinds, including and (perhaps) especially neurodivergent people, turn to art to find happiness, peace, and meaning in their lives.

The third time Sacks saw José, he asked José to draw more pictures. José drew a **picture** of a little fish and a big fish, which, Sacks felt, seemed to symbolize José and himself. When Sacks gave José a picture of a wintry nature scene, José drew Sacks a lush spring scene.

Notice that Sacks doesn't explicitly say who the big fish is—Sacks himself or José—perhaps suggesting the way that Sacks sees himself as both a mentor and a student of highly gifted patients like José. Sacks continues to be awed by José's artistic ability—not just his abilities to copy pictures, but to imbue his drawings with his own unique style.

During later visits, Sacks got José to talk to him. His utterances were often unintelligible, but Sacks found it significant that José was making any sound at all—in the past, he'd been mute at almost all times. He wondered if José's struggle to speak might be a manifestation of his general struggle for self-expression, in which **drawing** was critical.

Sacks interprets José's behavior as a sign of his emotional development—showing that José really is trying to communicate and connect with other people and with the external world, contrary to what his other doctors have claimed.

The last time Sacks met with José, José drew a garden scene—instead of modeling the scene off of a picture, he drew from life, studying the small garden in his hospital. Sacks found the **drawing** beautiful. He notes that, for autistic patients like José, the concrete and the particular are far more interesting than the abstract. José is a great artist because he naturally understands the concrete, real world. And yet José's artistry arises from the fact that he is, in many ways, cut off from the world—or at least, cut off from the rest of human society. José suffers from a form of autism that set in fairly late in his life. Perhaps the lateness of José's autism explains why he was more accessible and communicative than other autistic patients with whom Sacks has met.

As with the other patients in this quarter of the book, José's connection to the concrete, material world gives him tremendous gifts, which he uses to draw beautiful pictures. Although José is, in many ways, cut off from the rest of the world, Sacks suggests that he uses art to form connections with external objects and places, such as the garden in his hospital. Sacks's additional hypotheses about José aren't intended to be the last word on the matter; rather, they emphasize the need for further autism research.

Sacks poses a challenging question: is there anywhere in the modern world for people like José, other than a hospital? Couldn't José become a great illustrator of plants or anatomical texts? Couldn't he become a useful assistant on scientific expeditions? Couldn't he become a great illustrator of children's books? Sadly, it's unlikely that José will do any of these things—unless someone very patient works with him. In all likelihood, he'll spend a "useless, fruitless life, as so many other autistic people do, overlooked, unconsidered, in the back ward of a state hospital."

As in the previous chapter, Sacks implicitly criticizes society for too hastily concluding that people like José are "useless" and depriving them of their dignity by sending them into hospitals and clinics. One senses Sacks's bitterness in the final sentence: society is being pointlessly cruel to people like José who, have profound gifts to offer.

In the Postscript, Sacks discusses a letter he received from Doctor C. C. Park about some of the defining qualities of autistic people's **drawings**—in particular, a knack for "rendering the object as *perceived*," and for reducing subjects to their simplest, most stereotyped form. Park also discusses Japanese educators who've found ways of teaching talented autistic patients to become accomplished, mature painters and sculptors without interfering with their style. To conclude, Sacks cites the final words of the letter: "The teacher should love the beautiful, honest retarded person, and live with a purified, retarded world."

Sacks's final Postscript is particularly important because it suggests that the medical community, and, by extension, society in general, is making some progress in respecting the talent and dignity of autistic people, and finding ways to nurture autistic people's abilities instead of ignoring them. While Sacks isn't trying to idealize the life of an autistic person—or of any other neurodivergent person—he's used his book to argue for a more nuanced, respectful understanding of so-called abnormal people. In the thirty years since Sacks's book, society has certainly become more accepting of autistic people, although there's still a lot to work to be done before their abilities are accepted and celebrated without the stigma of mental illness.

HOW TO CITE

To cite this LitChart:

MLA

Arn, Jackson. "*The Man Who Mistook His Wife for a Hat.*" *LitCharts*. LitCharts LLC, 17 Apr 2017. Web. 21 Apr 2020.

CHICAGO MANUAL

Arn, Jackson. "*The Man Who Mistook His Wife for a Hat.*" LitCharts LLC, April 17, 2017. Retrieved April 21, 2020. https://www.litcharts.com/lit/the-man-who-mistook-his-wife-for-a-hat.

To cite any of the quotes from *The Man Who Mistook His Wife for a Hat* covered in the Quotes section of this LitChart:

MLA

Sacks, Oliver. The Man Who Mistook His Wife for a Hat. Simon & Schuster. 1998.

CHICAGO MANUAL

Sacks, Oliver. The Man Who Mistook His Wife for a Hat. New York: Simon & Schuster. 1998.