The Last Hippie

Such a long, long time to be gone . . .
and a short time to be there
—Robert Hunter
"Box of Rain"

Greg F. grew up in the 1950s in a comfortable Queens household, an attractive and rather gifted boy who seemed destined, like his father, for a professional career—perhaps a career in songwriting, for which he showed a precocious talent. But he grew restive, started questioning things, as a teenager in the late sixties; started to hate the conventional life of his parents and neighbors and the cynical, bellicose administration of the country. His need to rebel, but equally to find an ideal and a guide, to find a leader, crystallized in the Summer of Love, in 1967. He would go to the Village and listen to Allen Ginsberg declaiming all night; he loved rock music, especially acid rock, and, above all, the Grateful Dead.

Increasingly he fell out with his parents and teachers; he was truculent with the one, secretive with the other. In 1968, a time when Timothy Leary was urging American youth to "tune in, turn on, and drop out," Greg grew his hair long and dropped out of school, where he had been a good student; he left home and went to live in the Village, where he dropped acid and joined the East Village drug culture—searching, like others of his generation, for utopia, for inner freedom, and for "higher consciousness."

But "turning on" did not satisfy Greg, who stood in need of a more codified doctrine and way of life. In 1969 he gravitated, as so many young acidheads did, to the Swami Bhaktivedanta and his International Society for Krishna Consciousness, on Second Avenue. And under his influence, Greg, like so many others, stopped taking acid, finding his religious exaltation a replacement for acid highs. ("The only radical remedy for dipsomania," William James once said, "is religiomania.") The philosophy, the fellowship, the chanting, the rituals, the austere and charismatic figure of the swami himself, came like a revelation to Greg, and he became, almost immediately, a passionate devotee and convert.[1] Now there was a center, a focus, to his life. In those first exalted weeks of his conversion, he wandered around the East Village, dressed in saffron robes, chanting the Hare Krishna mantras, and early in 1970, he took up residence in the main temple in Brooklyn. His parents objected at first, then went along with this. "Perhaps it will help him," his father said, philosophically. "Perhaps—who knows?—this is the path he needs to follow."

Greg's first year at the temple went well; he was obedient, ingenuous, devoted, and pious. He is a Holy One, said the swami, one of us. Early in 1971, now deeply committed, Greg was sent to the temple in New Orleans. His parents had seen him occasionally when he was in the Brooklyn temple, but now communication from him virtually ceased.

One problem arose in Greg's second year with the Krishnas—he complained that his vision was growing dim, but this was interpreted, by his swami and others, in a spiritual way: he was "an illuminate," they told him; it was the "inner light" growing. Greg had worried at first about his eyesight, but was reassured by the swami's spiritual explanation. His

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[1] The swami's unusual views are presented, in summary form, in *Easy Journey to Other Planets*, by Tridandi Goswami A. C. Bhaktivedanta Swami, published by the League of Devotees, Vrindaban (no date, one rupee). This slim manual, in its green paper cover, was handed out in vast quantities by the swami's saffron-robed followers, and it became Greg's bible at this stage.

sight grew still dimmer, but he offered no further complaints. And indeed, he seemed to be becoming more spiritual by the day—an amazing new serenity had taken hold of him. He no longer showed his previous impatience or appetites, and he was sometimes found in a sort of daze, with a strange (some said "transcendental") smile on his face. It is beatitude, said his swami—he is becoming a saint. The temple felt he needed to be protected at this stage: he no longer went out or did anything unaccompanied, and contact with the outside world was strongly discouraged.

Although Greg's parents did not have any direct communication from him, they did get occasional reports from the temple—reports filled, increasingly, with accounts of his "spiritual progress," his "enlightenment," accounts at once so vague and so out of character with the Greg they knew that, by degrees, they became alarmed. Once they wrote directly to the swami and received a soothing, reassuring reply.

Three more years passed before Greg's parents decided they had to see for themselves. His father was by then in poor health and feared that if he waited longer he might never see his "lost" son again. On hearing this, the temple finally permitted a visit from Greg's parents. In 1975, then, not having seen him for four years, they visited their son in the temple in New Orleans.

When they did so, they were filled with horror: their lean, hairy son had become fat and hairless; he wore a continual "stupid" smile on his face (this at least was his father's word for it); he kept bursting into bits of song and verse and making "idiotic" comments, while showing little deep emotion of any kind ("like he was scooped out, hollow inside," his father said); he had lost interest in everything current; he was disoriented—and he was totally blind. The temple, surprisingly, acceded to his leaving—perhaps even they felt now that his ascension had gone too far and had started to feel some disquiet about his state.

Greg was admitted to the hospital, examined, and transferred to neurosurgery. Brain imaging had shown an enormous

midline tumor, destroying the pituitary gland and the adjacent optic chiasm and tracts and extending on both sides into the frontal lobes. It also reached backward to the temporal lobes, and downward to the diencephalon, or forebrain. At surgery, the tumor was found to be benign, a meningioma—but it had swollen to the size of a small grapefruit or orange, and though the surgeons were able to remove it almost entirely, they could not undo the damage it had already done.

Greg was now not only blind, but gravely disabled neurologically and mentally—a disaster that could have been prevented entirely had his first complaints of dimming vision been heeded, and had medical sense, and even common sense, been allowed to judge his state. Since, tragically, no recovery could be expected, or very little, Greg was admitted to Williamsbridge, a hospital for the chronically sick, a twenty-five-year-old boy for whom active life had come to an end, and for whom the prognosis was considered hopeless.

I first met Greg in April 1977, when he arrived at Williamsbridge Hospital. Lacking facial hair, and childlike in manner, he seemed younger than his twenty-five years. He was fat, Buddha-like, with a vacant, bland face, his blind eyes roving at random in their orbits, while he sat motionless in his wheelchair. If he lacked spontaneity and initiated no exchanges, he responded promptly and appropriately when I spoke to him, though odd words would sometimes catch his fancy and give rise to associative tangents or snatches of song and rhyme. Between questions, if the time was not filled, there tended to be a deepening silence; though if this lasted for more than a minute, he might fall into Hare Krishna chants or a soft muttering of mantras. He was still, he said, "a total believer," devoted to the group's doctrines and aims.

I could not get any consecutive history from him—he was not sure, for a start, why he was in the hospital and gave different reasons when I asked him about this; first he said, "Because I'm not intelligent," later, "Because I took drugs in the past." He knew he had been at the main Hare Krishna temple

("a big red house, 439 Henry Street, in Brooklyn"), but not that he had subsequently been at their temple in New Orleans. Nor did he remember that he started to have symptoms there—first and foremost a progressive loss of vision. Indeed he seemed unaware that he had any problems: that he was blind, that he was unable to walk steadily, that he was in any way ill.

Unaware—and indifferent. He seemed bland, placid, emptied of all feeling—it was this unnatural serenity that his Krishna brethren had perceived, apparently, as "bliss," and indeed, at one point, Greg used the term himself. "How do you feel?" I returned to this again and again. "I feel blissful," he replied at one point, "I am afraid of falling back into the material world." At this point, when he was first in the hospital, many of his Hare Krishna friends would come to visit him; I often saw their saffron robes in the corridors. They would come to visit poor, blind, blank Greg and flock around him; they saw him as having achieved "detachment," as an Enlightened One.

Questioning him about current events and people, I found the depths of his disorientation and confusion. When I asked him who was the president, he said "Lyndon," then, "the one who got shot." I prompted, "Jimmy . . . ," and he said, "Jimi Hendrix," and when I roared with laughter, he said maybe a musical White House would be a good idea. A few more questions convinced me that Greg had virtually no memory of events much past 1970, certainly no coherent, chronological memory of them. He seemed to have been left, marooned, in the sixties—his memory, his development, his inner life since then had come to a stop.

His tumor, a slow-growing one, was huge when it was finally removed in 1976, but only in the later stages of its growth, as it destroyed the memory system in the temporal lobe, would it actually have prevented the brain from registering new events. But Greg had difficulties—not absolute, but

partial—even in remembering events from the late sixties, events that he must have registered perfectly at the time. So beyond the inability to register new experiences, there had been an erosion of existing memories (a retrograde amnesia) going back several years before his tumor had developed. There was not an absolutely sharp cutoff here, but rather a temporal gradient, so that figures and events from 1966 and 1967 were fully remembered, events from 1968 or 1969 partially or occasionally remembered, and events after 1970 almost never remembered.

It was easy to demonstrate the severity of his immediate amnesia. If I gave him lists of words, he was unable to recall any of them after a minute. When I told him a story and asked him to repeat it, he did so in a more and more confused way, with more and more "contaminations" and misassociations—some droll, some extremely bizarre—until within five minutes his story bore no resemblance to the one I had told him. Thus when I told him a tale about a lion and a mouse, he soon departed from the original story and had the mouse threatening to eat the lion—it had become a giant mouse and a mini-lion. Both were mutants, Greg explained when I quizzed him on his departures. Or possibly, he said, they were creatures from a dream, or "an alternative history" in which mice were indeed the lords of the jungle. Five minutes later, he had no memory of the story whatever.

I had heard, from the hospital social worker, that he had a passion for music, especially for rock-and-roll bands of the sixties; I saw piles of records as soon as I entered his room and a guitar lying against his bed. So now I asked him about this, and with this there came a complete transformation—he lost his disconnectedness, his indifference, and spoke with great animation about his favorite rock bands and pieces—above all, of the Grateful Dead. "I went to see them at the Fillmore East, and in Central Park," he said. He remembered the entire program in detail, but "my favorite," he added, "is 'Tobacco Road.' " The title evoked the tune, and Greg sang the whole

song with great feeling and conviction—a depth of feeling of which, hitherto, he had not shown the least sign. He seemed transformed, a different person, a whole person, as he sang.

"When did you hear them in Central Park?" I asked.

"It's been a while, over a year maybe," he answered—but in fact they had last played there eight years earlier, in 1969. And the Fillmore East, the famous rock-and-roll theater where Greg had also seen the group, did not survive the early 1970s. He went on to tell me he once heard Jimi Hendrix at Hunter College, and Cream, with Jack Bruce playing bass guitar; Eric Clapton, lead guitar; and Ginger Baker, a "fantastic drummer." "Jimi Hendrix," he added reflectively, "what's he doing? Don't hear much about him nowadays." We spoke of the Rolling Stones and the Beatles—"Great groups," Greg commented, "but they don't space me out the way the Dead do. What a group," he continued, "there's no one like them. Jerry Garcia—he's a saint, he's a guru, he's a genius. Mickey Hart, Bill Kreutzmann, the drummers are great. There's Bob Weir, there's Phil Lesh; but Pigpen—I love him."

This narrowed down the extent of his amnesia. He remembered songs vividly from 1964 to 1968. He remembered all the founding members of the Grateful Dead, from 1967. But he was unaware that Pigpen, Jimi Hendrix, and Janis Joplin were all dead. His memory cut off by 1970, or before. He was caught in the sixties, unable to move on. He was a fossil, the last hippie.

At first I did not want to confront Greg with the enormity of his time loss, his amnesia, or even to let involuntary hints through (which he would certainly pick up, for he was very sensitive to anomaly and tone), so I changed the subject and said, "Let me examine you."

He was, I noted, somewhat weak and spastic in all his limbs, more on the left, and more in the legs. He could not stand alone. His eyes showed complete optic atrophy—it was impossible for him to see anything. But strangely, he did not seem to be *aware* of being blind and would guess that I was

showing him a blue ball, a red pen (when in fact it was a green comb and a fob watch that I showed him). Nor indeed did he seem to "look"; he made no special effort to turn in my direction, and when we were speaking, he often failed to face me, to look at me. When I asked him about seeing, he acknowledged that his eyes weren't "all that good," but added that he enjoyed "watching" the TV. Watching TV for him, I observed later, consisted of following with attention the soundtrack of a movie or show and inventing visual scenes to go with it (even though he might not even be looking toward the TV). He seemed to think, indeed, that this was what "seeing" meant, that this was what was meant by "watching TV," and that this was what all of us did. Perhaps he had lost the very idea of seeing.

I found this aspect of Greg's blindness, his singular blindness to his blindness, his no longer knowing what "seeing" or "looking" meant, deeply perplexing. It seemed to point to something stranger, and more complex, than a mere "deficit," to point, rather, to some radical alteration within him in the very structure of knowledge, in consciousness, in identity itself.[2]

I had already had some sense of this when testing his memory, finding his confinement, in effect, to a single moment—"the present"—uninformed by any sense of a past (or a future). Given this radical lack of connection and continuity in his inner life, I got the feeling, indeed, that he might not *have* an in-

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[2] Another patient, Ruby G., was in some ways similar to Greg. She too had a huge frontal tumor, which, though it was removed in 1973, left her with amnesia, a frontal lobe syndrome, and blindness. She too did not know that she was blind, and when I held up my hand before her and asked, "How many fingers?" would answer, "A hand has five fingers, of course."

A more localized unawareness of blindness may arise if there is destruction of the visual cortex, as in Anton's syndrome. Such patients may not know that they are blind, but are otherwise intact. But frontal lobe unawarenesses are far more global in nature—thus Greg and Ruby were not only unaware of being blind but unaware (for the most part) of being ill, of having devastating neurological and cognitive deficits, and of their tragic, diminished position in life.

ner life to speak of, that he lacked the constant dialogue of past and present, of experience and meaning, which constitutes consciousness and inner life for the rest of us. He seemed to have no sense of "next" and to lack that eager and anxious tension of anticipation, of intention, that normally drives us through life.

Some sense of ongoing, of "next," is always with us. But this sense of movement, of happening, Greg lacked; he seemed immured, without knowing it, in a motionless, timeless moment. And whereas for the rest of us the present is given its meaning and depth by the past (hence it becomes the "remembered present," in Gerald Edelman's term), as well as being given potential and tension by the future, for Greg it was flat and (in its meager way) complete. This living-in-the-moment, which was so manifestly pathological, had been perceived in the temple as an achievement of higher consciousness.

Greg seemed to adjust to Williamsbridge with remarkable ease, considering he was a young man being placed, probably forever, in a hospital for the chronically ill. There was no furious defiance, no railing at Fate, no sense, apparently, of indignity or despair. Compliantly, indifferently, Greg let himself be put away in the backwater of Williamsbridge. When I asked him about this, he said, "I have no choice." And this, as he said it, seemed wise and true. Indeed, he seemed eminently philosophical about it. But it was a philosophicalness made possible by his indifference, his brain damage.

His parents, so estranged from him when he was rebellious and well, came daily, doted on him, now that he was helpless and ill; and they, for their part, could be sure, at any time, that he would be at the hospital, smiling and grateful for their visit. If he was not "waiting" for them, so much the better—they could miss a day, or a few days, if they were away; he would not notice, but would be cordial as ever the next time they came.

Greg soon settled in, with his rock records and his guitar, his Hare Krishna beads, his Talking Books, and a schedule of

programs—physiotherapy, occupational therapy, music groups, drama. Soon after admission he was moved to a ward with younger patients, where with his open and sunny personality he became popular. He did not actually know any of the other patients or the staff, at least for several months, but was invariably (if indiscriminately) pleasant to them all. And there were at least two special friendships, not intense, but with a sort of complete acceptance and stability. His mother remembers "Eddie, who had MS . . . they both loved music, they had adjacent rooms, they used to sit together . . . and Judy, she had CP, she would sit for hours with him, too." Eddie died, and Judy went to a hospital in Brooklyn; there has been no one so close for many years. Mrs. F. remembers them, but Greg does not, never asked for them, or about them, after they had gone—though perhaps, his mother thought, he was sadder, at least less lively, for they stimulated him, got him talking and listening to records and inventing limericks, joking and singing; they pulled him out of "that dead state" he would otherwise fall into.

A hospital for the chronically ill, where patients and staff live together for years, is a little like a village or a small town: everybody gets to meet, to know, everybody else. I often saw Greg in the corridors, being wheeled to different programs or out to the patio, in his wheelchair, with the same odd, blind yet searching look on his face. And he gradually got to know me, at least sufficiently to know my name, to ask each time we met, "How're you doing, Dr. Sacks? When's the next book coming out?" (a question that rather distressed me in the seemingly endless eleven-year interim between the publication of *Awakenings* and *A Leg to Stand On*).

Names, then, he might learn, with frequent contact, and in relation to them he would recollect a few details about each new person. Thus he came to know Connie Tomaino, the music therapist—he would recognize her voice, her footfalls, immediately—but he could never remember where or how he had met her. One day Greg began talking about "another Connie," a girl called Connie whom he'd known in high school.

This other Connie, he told us, was also, remarkably, very musical—"How come all you Connies are so musical?" he teased. The other Connie would conduct music groups, he said, would give out song sheets, play the piano-accordion at singsongs at school. At this point, it started to dawn on us that this "other" Connie was in fact Connie herself, and this was clinched when he added, "You know, she played the trumpet, too." (Connie Tomaino is a professional trumpet player.) This sort of thing often happened with Greg when he put things into the wrong context or failed to connect them with the present.

His sense of there being two Connies, his segmenting Connie into two, was characteristic of the bewilderments he sometimes found himself in, his need to hypothesize additional figures because he could not retain or conceive of an identity in time. With consistent repetition Greg might learn a few facts, and these would be retained. But the facts were isolated, denuded of context. A person, a voice, a place, would slowly become "familiar," but he remained unable to remember where he had met the person, heard the voice, seen the place. Specifically, it was context-bound (or "episodic") memory that was so grossly disturbed in Greg—as is the case with most amnesiacs.

Other sorts of memory were intact; thus Greg had no difficulty remembering or applying geometric truths that he had learned in school. He saw instantly, for example, that the hypotenuse of a triangle was shorter than the sum of the two sides—thus his semantic memory, so-called, was fairly intact. Again, he not only retained his power to play the guitar, but actually enlarged his musical repertoire, learning new techniques and fingering with Connie; he also learned to type while at Williamsbridge—so his procedural memory was also unimpaired.

Finally, there seemed to be some sort of slow habituation or familiarization—so that he became able, within three months, to find his way about the hospital, to go to the coffee shop, the cinema, the auditorium, the patio, his favorite places. This

sort of learning was exceedingly slow, but once it had been achieved, it was tenaciously retained.

It was clear that Greg's tumor had caused damage that was complex and curious. First, it had compressed or destroyed structures of the inner, or medial, side of both the temporal lobes—in particular, the hippocampus and its adjacent cortex, areas crucial for the capacity to form new memories. With such damage, the ability to acquire information about new facts and events is devastated—there ceases to be any explicit or conscious remembrance of these. But while Greg was so often unable to recall events or encounters or facts to consciousness, he might nonetheless have an unconscious or implicit memory of them, a memory expressed in performance or behavior. Such implicit ability to remember allowed him to become slowly familiar with the physical layout and routines of the hospital and with some of the staff, and to make judgments on whether certain persons (or situations) were pleasant or unpleasant.[3]

While explicit learning requires the integrity of the medial temporal lobe systems, implicit learning may employ more primitive and diffuse paths, as do the simple processes of conditioning and habituation. Explicit learning, however, involves the construction of complex percepts—syntheses of representations from every part of the cerebral cortex—brought together into a contextual unity, or "scene." Such syntheses can be held in mind for only a minute or two—the limit of short-term memory—and after this will be lost unless they can be shunted into long-term memory. Thus higher-order memorization is a multistage process, involving the transfer of perceptions, or perceptual syntheses, from short-

[3] That implicit memory (especially if emotionally charged) may exist in amnesiacs was shown, somewhat cruelly, in 1911, by Edouard Claparède, who, when shaking hands with such a patient whom he was presenting to his students, stuck a pin in his hand. Although the patient had no explicit memory of this, he refused, thereafter, to shake hands with him.

term to long-term memory. It is just such a transfer that fails to occur in people with temporal lobe damage. Thus Greg can repeat a complicated sentence with complete accuracy and understanding the moment he hears it, but within three minutes, or sooner if he is distracted for an instant, he will retain not a trace of it, or any idea of its sense, or any memory that it ever existed.

Larry Squire, a neuropsychologist at the University of California, San Diego, who has been a central figure in elucidating this shunting function of the temporal lobe memory system, speaks of the brevity, the precariousness, of short-term memory in us all; all of us, on occasion, suddenly lose a perception or an image or a thought we had vividly in mind ("Damn it," we may say, "I've forgotten what I wanted to say!"), but only in amnesiacs is this precariousness realized to the full.

Yet while Greg, no longer capable of transforming his perceptions or immediate memories into permanent ones, remains stuck in the sixties, when his ability to learn new information broke down, he has nevertheless adapted somehow and absorbed some of his surroundings, albeit very slowly and incompletely.[4]

Some amnesiacs (like Jimmie, the patient with Korsakov's syndrome whom I described in "The Lost Mariner") have brain damage largely confined to the memory systems of the diencephalon and medial temporal lobe; others (like Mr. Thompson, described in "A Matter of Identity") are not only amnesiac but have frontal lobe syndromes, too; yet others—like Greg, with immense tumors—tend to have a third area of damage as well, deep below the cerebral cortex, in the forebrain, or diencephalon. In Greg, this widespread damage had created a very complicated clinical picture, with sometimes overlapping or even contradictory symptoms and syndromes.

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[4] A. R. Luria, in *The Neuropsychology of Memory*, remarks that all his amnesiac patients, if hospitalized for any length of time, acquired "a sense of familiarity" with their surroundings.

Thus though his amnesia was chiefly caused by damage to the temporal lobe systems, damage to the diencephalon and frontal lobes also played a part. Similarly there were multiple origins for his blandness and indifference, for which damage to the frontal lobes, diencephalon, and pituitary gland was in varying degrees responsible. In fact, Greg's tumor first caused damage to his pituitary gland; this was responsible not only for his gain in weight and loss of body hair but also for undermining his hormonally driven aggressiveness and assertiveness, and hence for his abnormal submissiveness and placidity.

The diencephalon is especially a regulator of basic functions—of sleep, of appetite, of libido. And all of these were at a low ebb with Greg—he had (or expressed) no sexual interest; he did not think of eating, or express any desire to eat, unless food was brought to him. He seemed to exist only in the present, only in response to the immediacy of stimuli around him. If he was not stimulated, he fell into a sort of daze.

Left alone, Greg would spend hours in the ward without spontaneous activity. This inert state was at first described by the nurses as "brooding"; it had been seen in the temple as "meditating"; my own feeling was that it was a profoundly pathological mental "idling," almost devoid of mental content or affect. It was difficult to give a name to this state, so different from alert, attentive wakefulness, but also, clearly, quite different from sleep—it had a blankness resembling no normal state. It reminded me somewhat of the vacant states I had seen with some of my postencephalitic patients and, as with them, went with profound damage to the diencephalon. As soon as one talked to him, or if he was stimulated by sounds (especially music) near him, he would "come to," "awaken," in an astonishing way.

Once Greg was "awakened," once his cortex came to life, one saw that his animation itself had a strange quality—an uninhibited and quirky quality of the sort one tends to see when the orbital portions of the frontal lobes (that is, the portions adjacent to the eyes) are damaged, a so-called orbitofrontal syndrome. The frontal lobes are the most complex part

of the brain, concerned not with the "lower" functions of movement and sensation, but the highest ones of integrating all judgment and behavior, all imagination and emotion, into that unique identity that we like to speak of as "personality" or "self." Damage to other parts of the brain may produce specific disturbances of sensation or movement, of language, or of specific perceptual, cognitive, or memory functions. Damage to the frontal lobes, in contrast, does not affect these, but produces a subtler and profounder disturbance of identity.

And it was this—rather than his blindness, or his weakness, or his disorientation, or his amnesia—that so horrified his parents when they finally saw Greg in 1975. It was not just that he was damaged, but that he was changed beyond recognition, had been "dispossessed," in his father's words, by a sort of simulacrum, or changeling, which had Greg's voice and manner and humor and intelligence but not his "spirit" or "realness" or "depth"—a changeling whose wisecracking and levity formed a shocking counterpoint to the fearful gravity of what had happened.

This sort of wisecracking, indeed, is quite characteristic of such orbito-frontal syndromes—and is so striking that it has been given a name unto itself: *witzelsucht*, or "joking disease." Some restraint, some caution, some inhibition, is destroyed, and patients with such syndromes tend to react immediately and incontinently to everything around them and everything within them—to virtually every object, every person, every sensation, every word, every thought, every emotion, every nuance and tone.

There is an overwhelming tendency, in such states, to wordplay and puns. Once when I was in Greg's room another patient walked past. "That's Bernie," I said. "Bernie the Hernie," quipped Greg. Another day when I visited him, he was in the dining room, awaiting lunch. When a nurse announced, "Lunch is here," he immediately responded, "It's time for cheer"; when she said, "Shall I take the skin off your chicken?" he instantly responded, "Yeah, why don't you slip me some skin." "Oh, you want the skin?" she asked, puzzled.

"Nah," he replied, "it's just a saying." He was, in a sense, preternaturally sensitive—but it was a sensitivity that was passive, without selectivity or focus. There is no differentiation in such a sensitivity—the grand, the trivial, the sublime, the ridiculous, are all mixed up and treated as equal.[5] There may be a childlike spontaneity and transparency about such patients in their immediate and unpremeditated (and often playful) reactions. And yet there is something ultimately disquieting, and bizarre, because the reacting mind (which may still be highly intelligent and inventive) loses its coherence, its inwardness, its autonomy, its "self," and becomes the slave of every passing sensation. The French neurologist François Lhermitte speaks of an "environmental dependency syndrome" in such patients, a lack of psychological distance between them and their environment. So it was with Greg: he seized his environment, he was seized by it, he could not distinguish himself from it.[6]

Dreaming and waking, for us, are usually distinct—dreaming is enclosed in sleep and enjoys a special license because it is cut off from external perception and action; while waking perception is constrained by reality.[7] But in

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[5] Luria provides immensely detailed, at times almost novelistic, descriptions of frontal lobe syndromes—in *Human Brain and Psychological Processes*—and sees this "equalization" as the heart of such syndromes.

[6] A similar indiscriminate reactivity is sometimes seen in people with Tourette's syndrome—sometimes in the automatic form of echoing others' words or actions, sometimes in the more complex forms of mimicry, parodying or impersonating others' behavior, or in incontinent verbal associations (rhymings, punnings, clangings).

[7] Rodolfo Llinás and his colleagues at New York University, comparing the electrophysiological properties of the brain in waking and dreaming, postulate a single fundamental mechanism for both—a ceaseless inner talking between cerebral cortex and thalamus, a ceaseless interplay of image and feeling, irrespective of whether there is sensory input or not. When there is sensory input, this interplay integrates it to generate waking consciousness, but in the absence of sensory input it continues to generate brain states, those brain states we call fantasy, hallucination, or dreams. Thus waking consciousness is dreaming—but dreaming constrained by external reality.

Greg the boundary between waking and sleep seemed to break down, and what emerged was a sort of waking or public dream, in which dreamlike fancies and associations and symbols would proliferate and weave themselves into the waking perceptions of the mind.[8] These associations were often startling and sometimes surrealistic in quality. They showed the power of fancy at play and, specifically, the mechanisms—displacement, condensation, "overdetermination," and so on—that Freud has shown to be characteristic of dreams.

One felt all this very strongly with Greg; that he was often in some intermediate, half-dreamlike state in which, if the normal control and selectivity of thinking was lost, there was a half freedom, half compulsion, of fantasy and wit. To see this as pathological was necessary but insufficient: it had elements of the primitive, the childlike, the playful. Greg's absurdist, often gnomic utterances, along with his seeming serenity (actually blandness), gave him an appearance of innocence and wisdom combined, gave him a special status on the ward, ambiguous but respected, a Holy Fool.

Though as a neurologist I had to speak of Greg's "syndrome," his "deficits," I did not feel this was adequate to describe him. I felt, one felt, that he had become another "kind" of person; that though his frontal lobe damage had taken away his identity in a way, it had also given him a sort of identity or personality, albeit of an odd and perhaps a primitive sort.

If Greg was alone, in a corridor, he seemed scarcely alive; but as soon as he was in company, he was a different person altogether. He would "come to," he would be funny, charming, ingenuous, sociable. Everyone liked him; he would re-

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[8] Dreamlike or oneiric states have been described, by Luria and others, with lesions of the thalamus and diencephalon. J.-J. Moreau, in a famous early study, *Hashish and Mental Illness* (1845), described both madness and hashish trances as "waking dreams." A particularly striking form of waking dream may be seen with the severer forms of Tourette's syndrome, where the external and the internal, the perceptual and the instinctual, burst forth in a sort of public phantasmagoria or dream.

spond to anyone at once, with a lightness and a humor and an absence of guile or hesitation; and if there was something too light or flippant or indiscriminate in his interactions and reactions, and if, moreover, he lost all memory of them in a minute, well, there were worse things; it was understandable, one of the results of his disease. Thus one was very aware, in a hospital for chronic patients like ours, a hospital where feelings of melancholy, of rage, and of hopelessness simmer and preside, of the virtue of a patient such as Greg—who never appeared to have bad moods, and who, when activated by others, was invariably cheerful, euphoric.

He seemed, in an odd way, and in consequence of his sickness, to have a sort of vitality or health—a cheeriness, an inventiveness, a directness, an exuberance, which other patients, and indeed the rest of us, found delightful in small doses. And where he had been so "difficult," so tormented, so rebellious in his pre-Krishna days, all this anger and torment and angst now seemed to have vanished; he seemed to be at peace. His father, who had had a terrible time in Greg's stormy days, before he got "tamed" by drugs, by religion, by tumor, said to me in an unbuttoned moment, "It's like he had a lobotomy," and then, with great irony, "Frontal lobes—who needs 'em?"

One of the most striking peculiarities of the human brain is the great development of the frontal lobes—they are much less developed in other primates and hardly evident at all in other mammals. They are the part of the brain that grows and develops most after birth (and their development is not complete until about the age of seven). But our ideas about the function of the frontal lobes, and the role they play, have had a tortuous and ambiguous history and are still far from clear. These uncertainties are well exemplified by the famous case of Phineas Gage, and the interpretations and misinterpretations, from 1848 to the present, of his case. Gage was the very capable foreman of a gang of workers constructing a rail-

road line near Burlington, Vermont, when a bizarre accident befell him in September 1848. He was setting an explosive charge, using a tamping iron (a crowbarlike instrument weighing thirteen pounds and more than a yard long), when the charge went off prematurely, blowing the tamping iron straight through his head. Though he was knocked down, incredibly he was not killed but only stunned for a moment. He was able to get up and take a cart into town. There he appeared perfectly rational and calm and alert and greeted the local doctor by saying, "Doctor, here is business enough for you."

Soon after his injury, Gage developed a frontal lobe abscess and fever, but this resolved within a few weeks, and by the beginning of 1849 he was called "completely recovered." That he had survived at all was seen as a medical miracle, and that he was seemingly unchanged after sustaining huge damage to the frontal lobes of the brain seemed to support the idea that these were either functionless or had no functions that could not be performed equally by the remaining, undamaged portions of the brain. Where phrenologists, earlier in the century, had seen every part of the brain surface as the "seat" of a particular intellectual or moral faculty, a reaction to this had set in during the 1830s and 1840s, to such an extent that the brain was sometimes seen as being as undifferentiated as the liver. Indeed, the great physiologist Flourens had said, "The brain secretes thought as the liver secretes bile." The apparent absence of any change in Gage's behavior seemed to support this notion.

Such was the influence of this doctrine that, despite clear evidence from other sources of a radical change in Gage's "character" within weeks of the accident, it was only twenty years later that the physician who had studied him most closely, John Martyn Harlow (now, apparently, moved by the new doctrines of "higher" and "lower" levels in the nervous system, the higher inhibiting or constraining the lower) provided a vivid description of all that he had ignored, or at least not mentioned, in 1848:

> [Gage is] fitful, irreverent, indulging at times in the grossest profanity (which was not previously his custom), manifesting but little deference for his fellows, impatient of restraint or advice when it conflicts with his desires, at times pertinaciously obstinate, yet capricious and vacillating, devising many plans of future operations, which are no sooner arranged than they are abandoned in turn for others appearing more feasible. A child in his intellectual capacity and manifestations, he has the animal passions of a strong man. Previous to his injury, although untrained in the schools, he possessed a well-balanced mind, and was looked upon by those who knew him as a shrewd, smart businessman, very energetic and persistent in executing all his plans of operation. In this regard his mind was radically changed, so decidedly that his friends and acquaintances said he was "no longer Gage."

It seemed that a sort of "disinhibition" had occurred with the frontal lobe injury, releasing something animal-like or childlike, so that Gage now became a slave of his immediate whims and impulses, of what was immediately around him, without the deliberation, the consideration of past and future, that had marked him in the past, or his previous concern for others and the consequences of his actions.[9]

But excitement, release, disinhibition, are not the only possible effects of frontal lobe damage. David Ferrier (whose Gulstonian Lectures of 1879 introduced the Gage case to a worldwide medical community) observed a different sort of syndrome in 1876, when he removed the frontal lobes of monkeys:

> Notwithstanding this apparent absence of physiological symptoms, I could perceive a very decided alteration in

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[9] Robert Louis Stevenson wrote *The Strange Case of Dr. Jekyll and Mr. Hyde* in 1886. It is not known whether he knew of the Gage case, though this had become common knowledge since the early 1880s—but he was assuredly moved by the Jacksonian doctrine of higher and lower levels in the brain, the notion that it was only our "higher" (and perhaps fragile) intellectual centers that held back the animal propensities of the "lower."

> the animal's character and behaviour. . . . Instead of, as before, being actively interested in their surroundings, and curiously prying into all that came within the field of their observation, they remained apathetic, or dull, or dozed off to sleep, responding only to the sensations or impressions of the moment, or varying their listlessness with restless and purposeless wanderings to and fro. While not actually deprived of intelligence, they had lost, to all appearance, the faculty of attentive and intelligent observation.

In the 1880s it became apparent that tumors of the frontal lobes could produce symptoms of many sorts: sometimes listlessness, hebetude, slowness of mental activity, sometimes a definite change in character and loss of self-control—sometimes even (according to Gowers) "chronic insanity." The first operation for a frontal lobe tumor was performed in 1884, and the first frontal lobe operation for purely psychiatric symptoms was done in 1888. The rationale here was that in these (probably schizophrenic) patients, the obsessions, the hallucinations, the delusional excitements, were due to overactivity, or pathological activity, in the frontal lobes.

There was to be no repetition of such forays for forty-five years, until the 1930s, when the Portuguese neurologist Egas Moniz devised the operation he called "prefrontal leucotomy" and immediately applied this to twenty patients, some with anxiety and depression, some with chronic schizophrenia. The results he claimed aroused huge interest when his monograph was published in 1936, and his lack of rigor, his recklessness, and perhaps dishonesty were all overlooked in the flush of therapeutic enthusiasm. Moniz's work led to an explosion of "psychosurgery" (the term he had coined) all over the world—Brazil, Cuba, Romania, Great Britain, and especially Italy—but its greatest resonance was to be in the United States, where the neurologist Walter Freeman invented a horrible new form of surgical approach that he called transorbital lobotomy. He described the procedure as follows:

> This consists of knocking them out with a shock and while they are under the "anesthetic" thrusting an ice pick up between the eyeball and the eyelid through the roof of the orbit actually into the frontal lobe of the brain and making the lateral cut by swinging the thing from side to side. I have done two patients on both sides and another on one side without running into any complications, except a very black eye in one case. There may be trouble later on but it seemed fairly easy, although definitely a disagreeable thing to watch. It remains to be seen how these cases hold up, but so far they have shown considerable relief of their symptoms, and only some of the minor behavior difficulties that follow lobotomy. They can even get up and go home within an hour or so.

The ease of doing psychosurgery as an office procedure, with an ice pick, aroused not consternation and horror, as it should have, but emulation. More than ten thousand operations had been done in the United States by 1949, and a further ten thousand in the two years that followed. Moniz was widely acclaimed as a "savior" and received the Nobel Prize in 1951—the climax, in Macdonald Critchley's words, of "this chronicle of shame."

What was achieved, of course, was never "cure," but a docile state, a state of passivity, as far (or farther) from "health" than the original active symptoms, and (unlike these) with no possibility of resolution or reversal. Robert Lowell, in "Memories of West Street and Lepke," writes of the lobotomized Lepke:

> Flabby, bald, lobotomized,
> he drifted in a sheepish calm,
> where no agonizing reappraisal
> jarred his concentration on the electric chair—
> hanging like an oasis in his air
> of lost connections. . . .

When I worked at a state psychiatric hospital between 1966 and 1990, I saw dozens of these pathetic lobotomized patients,

many far more damaged even than Lepke, some psychically dead, murdered, by their "cure."[10]

Whether or not there are in the frontal lobes a mass of pathological circuits causing the torments of mental illness—the simplistic notion first put forward in the 1880s, and embraced by Moniz—there is certainly a downside to their great and positive powers. The weight of consciousness and conscience and conscientiousness itself, the weight of duty, obligation, responsibility, can press on us sometimes with unbearable force, so that we long for a release from its crushing inhibitions, from sanity and sobriety. We long for a holiday from our frontal lobes, a Dionysiac fiesta of sense and impulse. That this is a need of our constrained, civilized, hyperfrontal nature has been recognized in every time and culture. All of us need to take little holidays from our frontal lobes—the tragedy is when, through grave illness or injury, there is no return from the holiday, as with Phineas Gage, or with Greg.[11]

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[10] The huge scandal of leucotomy and lobotomy came to an end in the early fifties, not because of any medical reservation or revulsion, but because a new tool—tranquillizers—had now become available, which purported (as had psychosurgery itself) to be wholly therapeutic and without adverse effects. Whether there is that much difference, neurologically or ethically, between psychosurgery and tranquillizers is an uncomfortable question that has never been really faced. Certainly the tranquillizers, if given in massive doses, may, like surgery, induce "tranquillity," may still the hallucinations and delusions of the psychotic, but the stillness they induce may be like the stillness of death—and, by a cruel paradox, deprive patients of the natural resolution that may sometimes occur with psychoses and instead immure them in a lifelong, drug-caused illness.

[11] Though the medical literature of frontal lobe syndromes starts with the case of Phineas Gage, there are earlier descriptions of altered mental states not identifiable at the time—which we can now, in retrospect, see as frontal lobe syndromes. One such account is related by Lytton Strachey in "The Life, Illness, and Death of Dr. North." Dr. North, a master of Trinity College, Cambridge, in the eighteenth century, was a man with severe anxieties and tormenting obsessional traits, who was hated and dreaded by the fellows of the college for his punctiliousness, his moralizing, and his merciless severity. Until one day, in college, he suffered a stroke:

In a March 1979 note about Greg, I reported that "games, songs, verses, converse, etc. hold him together completely . . . because they have an organic rhythm and stream, a flowing of being, which carries and holds him." I was strongly reminded here of what I had seen with my amnesiac patient Jimmie, how he seemed held together when he attended Mass, by his relationship to and participation in an act of meaning, an organic unity, which overrode or bypassed the disconnections of his amnesia.[12] And what I had observed with a patient in England, a musicologist with profound amnesia from a temporal lobe encephalitis, unable to remember events or facts for more than a few seconds, but able to remember, and indeed to learn, elaborate musical pieces, to conduct them, to perform them, and even to improvise at the organ.[13]

It was similar with Greg as well: he not only had an excellent memory for songs of the sixties, but was able to learn

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> His recovery was not complete; his body was paralyzed on the left side; but it was in his mind that the most remarkable change occurred. His fears had left him. His scrupulosity, his diffidence, his seriousness, even his morality—all had vanished. He lay on his bed, in reckless levity, pouring forth a stream of flippant observations, and naughty stories, and improper jokes. While his friends hardly knew which way to look, he laughed consumedly, his paralyzed features drawn up in a curiously distorted grin. . . . Attacked by epileptic seizures, he declared that the only mitigation of his sufferings lay in the continued consumption of wine. He, who had been so noted for his austerity, now tossed off, with wild exhilaration, glass after glass of the strongest sherry.

Strachey gives us here a precise and beautifully described picture of a frontal lobe stroke altering the personality in a major and, so to speak, "therapeutic" way.

[12] The nature of the "organic unity," at once dynamic and semantic, which is central to music, incantation, recitation, and all metrical structures, has been most profoundly analyzed by Victor Zuckerkandl in his remarkable book *Sound and Symbol*. It is typical of such flowing dynamic-semantic structures that each part leads on to the next, that every part has reference to the rest. Such structures cannot usually be perceived, or remembered, in part—they are perceived and remembered, if at all, as wholes.

[13] This patient is the subject of a remarkable BBC film made by Jonathan Miller, *Prisoner of Consciousness* (November 1988).

new songs easily, despite his difficulty in retaining any "facts." It seemed as if wholly different kinds—and mechanisms—of memory might be involved. Greg was also able to pick up limericks and jingles with ease (and had indeed picked up hundreds of these from the radio and television that were always on in the ward). Soon after his admission, I tested him with the following limerick:

> Hush-a-bye baby,
> Hush quite a lot,
> Bad babies get rabies
> And have to be shot.

Greg immediately repeated this, without error, laughed at it, asked if I'd made it up, and compared it with "something gruesome, like Edgar Allan Poe." But two minutes later he could not recall it, until I reminded him of the underlying rhythm. With a few more repetitions, he learned it without cueing and thereafter recited it whenever he met me.

Was this facility for learning jingles and songs a mere procedural or performative one, or could it provide emotional depth or generalizability of a sort that Greg did not normally have access to? There seemed no doubt that some music could move him profoundly, could be a door to depths of feeling and meaning to which he normally had no access, and one felt Greg was a different person at these times. He no longer seemed to have a frontal lobe syndrome, but was (so to speak) temporarily "cured" by the music. Even his EEG, so slow and incoherent most of the time, became calm and rhythmical with music.[14]

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[14] Another patient in Williamsbridge, Harry S.—a gifted man, a former engineer—suffered a huge cerebral hemorrhage from a burst aneurysm, with gross destruction of both frontal lobes. Emerging from a coma, he started to recover and eventually recovered most of his former intellectual powers, but remains, like Greg, severely impaired—bland, flat, indifferent emotionally. But all this changes, suddenly, when he sings. He has a fine tenor voice and loves Irish songs. When he sings, he does so with a fullness of feeling, a tenderness, a lyricism, that are astounding—the more so because one sees no hint of this at any

It is easy to show that simple information can be embedded in songs; thus we can give Greg the date every day in the form of a jingle, and he can readily isolate this and say it when asked, without the jingle. But what does it mean to say, "This is July 9, 1995," when one is sunk in the profoundest amnesia, when one has lost a sense of time and history, when one is existing from moment to moment in a sequenceless limbo? Knowing the date means nothing in these circumstances. Could one, however, through the evocativeness and power of music, perhaps using songs with specially written lyrics—songs that relate something valuable about himself or the current world—accomplish something more lasting, deeper? Give Greg not only the "facts," but a sense of time and history, of the relatedness of events, an entire (if artificial) framework for thinking and feeling?

It seemed natural, at this time, given Greg's blindness and the revelation of his potential for learning, that he should be given an opportunity to learn Braille. Arrangements were made with the Jewish Institute for the Blind for him to enter intensive training, four times a week. It should not have been a disappointment, nor indeed a surprise, that Greg was unwilling to learn any Braille—that he was startled and bewildered at finding this imposed on him, and cried out, "What's going on? Do you think I'm blind? Why am I here, with blind people all around me?" Attempts were made to explain things to him, and he responded, with impeccable logic, "If I were blind, I would be the first person to know it." The institute said they had never had such a difficult patient, and the project was quietly allowed to drop. And indeed, with the failure of the Braille program, a sort of hopelessness gripped us, and perhaps Greg, too. We could do nothing, we felt; he had no potential for change.

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other time and might well think his emotional capacity entirely destroyed. He shows every emotion appropriate to what he sings—the frivolous, the jovial, the tragic, the sublime—and seems to be transformed while he sings.

Greg by this time had had several psychological and neuropsychological evaluations, and these, besides commenting on his memory and attentional problems, had all spoken of him as being "shallow," "infantile," "insightless," "euphoric." It was easy to see why these words had been used; Greg was like this for much of the time. But was there a deeper Greg beneath his illness, beneath the shallowing effect of his frontal lobe loss and amnesia? Early in 1979, when I questioned him, he said he was "miserable . . . at least in the corporeal part," and added, "It's not much of a life." At such times, it was clear that he was not just frivolous and euphoric, but capable of deep, and indeed melancholic, reactions to his plight. The comatose Karen Ann Quinlan was then very much in the news, and each time her name and fate were mentioned, Greg became distressed and silent. He could never tell me, explicitly, why this so interested him—but it had to be, I felt, because of some sort of identification of her tragedy with his own. Or was this just his incontinent sympathy, his falling at once into the mood of any stimulus or news, falling almost helplessly, mimetically, into its mood?

This was not a question I could decide at first, and perhaps, too, I was prejudiced against finding any depths in Greg, because the neuropsychological studies I knew of seemed to disallow this possibility. But these studies were based on brief evaluations, not on long-continued observation and relationship of a sort that is, perhaps, only possible in a hospital for chronic patients, or in situations where a whole world, a whole life, are shared with the patient.

Greg's "frontal lobe" characteristics—his lightness, his quick-fire associations—were fun, but beyond this there shone through a basic decency and sensitivity and kindness. One felt that Greg, though damaged, still had a personality, an identity, a soul.[15]

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[15] Mr. Thompson ["A Matter of Identity"], who also had both amnesia and a frontal lobe syndrome, by contrast often seemed "desouled." In him the wisecracking was manic, ferocious, frenetic, and relentless; it rushed on like a torrent,

When he came to Williamsbridge we all responded to his intelligence, his high spirits, his wit. All sorts of therapeutic programs and enterprises were started at this time, but all of them—like the learning of Braille—ended in failure. The sense of Greg's incorrigibility gradually grew on us, and with this we started to do less, to hope less. Increasingly, he was left to his own devices. He slowly ceased to be a center of attention, the focus of eager therapeutic activities—more and more he was left to himself, left out of programs, not taken anywhere, quietly ignored.

It is easy, even if one is not an amnesiac, to lose touch with current reality in the back wards of hospitals for the chronically ill. There is a simple round that has not changed in twenty, or fifty, years. One is wakened, fed, taken to the toilet, and left to sit in a hallway; one has lunch, one is taken to bingo, one has dinner and goes to bed. The television may indeed be left on, blaring, in the television room—but most patients pay no attention to it. Greg, it is true, enjoyed his favorite soap operas and westerns and learned an enormous number of advertising jingles by heart. But the news, for the most part, he found boring and, increasingly, unintelligible. Years can pass, in a sort of timeless limbo, with few, and certainly no memorable, markers of the passage of time.

As ten years or so went by, Greg showed a complete absence of development, his talk seemed increasingly dated and repertorial, for nothing new was being added to it, or him. The tragedy of his amnesia seemed to become greater with the years, although his amnesia itself, his neurological syndrome, remained much the same.

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oblivious to tact, to decency, to propriety, to everything, including the feelings of everyone around him. Whether Greg's (at least partial) preservation of ego and identity was due to the lesser severity of his syndrome, or to underlying personality differences, is not wholly clear. Mr. Thompson's premorbid personality was that of a New York cabbie, and in some sense his frontal lobe syndrome merely intensified this. Greg's personality was gentler, more childlike, from the start—and this, it seemed to me, even colored his frontal lobe syndrome.

In 1988 Greg had a seizure—he had never had one before (although he had been on anticonvulsants, as a precaution, since the time of his surgery)—and in the seizure broke a leg. He did not complain of this, he did not even mention it; it was only discovered when he tried to stand up the following day. He had, apparently, forgotten it as soon as the pain eased and as soon as he had found a comfortable position. His not knowing that he had broken a leg seemed to me to have similarities to his not knowing he was blind, his inability, with his amnesia, to hold in mind an absence. When the leg caused pain, briefly, he knew something had happened, he knew it was there; as soon as the pain ceased, it went from his mind. Had he had visual hallucinations or phantoms (as the blind sometimes do, at least in the first months and years after losing their sight), he could have spoken of them, said, "Look!" or "Wow!" But in the absence of actual visual input, he could hold nothing in mind about seeing, or not-seeing, or the loss of a visual world. In his person, and in his world, now, Greg knew only presence, not absence. He seemed incapable of registering any loss—loss of function in himself, or of an object, or a person.

In June of 1990, Greg's father, who had come every morning before work to see Greg and would joke and chat with him for an hour, suddenly died. I was away at the time (mourning my own father), and hearing the news of Greg's bereavement on my return, I hastened to see him. He had been given the news, of course, when it happened. And yet I was not quite sure what to say—had he been able to absorb this new fact? "I guess you must be missing your father," I ventured.

"What do you mean?" Greg answered. "He comes every day. I see him every day."

"No," I said, "he's no longer coming. . . . He has not come for some time. He died last month."

Greg flinched, turned ashen, became silent. I had the impression he was shocked, doubly shocked, at the sudden, appalling news of his father's death, and at the fact that he

himself did not know, had not registered, did not remember. "I guess he must have been around fifty," he said.

"No, Greg," I answered, "he was well up in his seventies."

Greg grew pale again as I said this. I left the room briefly; I felt he needed to be alone with all this. But when I returned a few minutes later, Greg had no memory of the conversation we had had, of the news I had given him, no idea that his father had died.

Very clearly, at least, Greg showed a capacity for love and grief. If I had ever doubted Greg's capacity for deeper feeling, I no longer doubted it now. He was clearly devastated by his father's death—he showed nothing "flip," no levity, at this time.[16] But would he have the ability to mourn? Mourning requires that one hold the sense of loss in one's mind, and it was far from clear to me that Greg could do this. One might indeed tell him that his father had died, again and again. And every time it would come as something shocking and new and cause immeasurable distress. But then, in a few minutes, he would forget and be cheerful again, and was so prevented from going through the work of grief, the mourning.[17]

I made a point of seeing Greg frequently in the following months, but I did not again bring up the subject of his father's death. It was not up to me, I thought, to confront him with this—indeed it would be pointless and cruel to do so; life itself, surely, would do so, for Greg would discover his father's absence.

I made the following note on November 26, 1990: "Greg shows no conscious knowing that his father has died—when asked where his father is, he may say, 'Oh, he went down to

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[16] This is in distinction to Mr. Thompson, who with his more severe frontal lobe syndrome had been reduced to a sort of nonstop, wisecracking, talking machine, and when told of his brother's death quipped "He's always the joker!" and rushed on to other, irrelevant things.

[17] The amnesiac musicologist in the BBC film *Prisoner of Consciousness* showed something both similar and different. Every time his wife went out of the room, he had a sense of calamitous, permanent loss. When she came back, five minutes later, he sobbed with relief, saying, "I thought you were dead."

the patio,' or 'He couldn't make it today,' or something else plausible. But he no longer wants to go home, on weekends, on Thanksgiving, as he so loved to—he must find something sad or repugnant in the fatherless house now, even though he cannot (consciously) remember or articulate this. Clearly he has established an association of sadness."

Toward the end of the year Greg, normally a sound sleeper, started to sleep poorly, to get up in the middle of the night and wander gropingly for hours around his room. "I've lost something, I'm looking for something," he would say when asked—but what he had lost, what he was looking for, he could never explain. One could not avoid the feeling that Greg was looking for his father, even though he could give no account of what he was doing and had no explicit knowledge of what he had lost. But, it seemed to me, there was perhaps now an implicit knowledge and perhaps, too, a symbolic (though not a conceptual) knowing.

Greg had seemed so sad since his father's death that I felt he deserved a special celebration—and when I heard, in August of 1991, that his beloved group, the Grateful Dead, would be playing at Madison Square Garden in a few weeks, this seemed just the thing. Indeed, I had met one of the drummers in the band, Mickey Hart, earlier in the summer, when we had both testified before the Senate about the therapeutic powers of music, and he made it possible for us to obtain tickets at the last minute, to bring Greg, wheelchair and all, into the concert, where a special place would be saved for him near the soundboard, where acoustics were best.

We made these arrangements at the last minute, and I had given Greg no warning, not wanting to disappoint him if we failed to get seats. But when I picked him up at the hospital and told him where we were going, he showed great excitement. We got him dressed swiftly and bundled him into the car. As we got into midtown, I opened the car windows, and the sounds and smells of New York came in. As we cruised down Thirty-third Street, the smell of hot pretzels suddenly

struck him; he inhaled deeply and laughed. "That's the most New York smell in the world."

There was an enormous crowd converging on Madison Square Garden, most in tie-dyed T-shirts—I had hardly seen a tie-dyed T-shirt in twenty years, and I myself began to think we were back in the sixties, or perhaps that we had never left them. I was sorry that Greg could not see this crowd; he would have felt himself one of them, at home. Stimulated by the atmosphere, Greg started to talk spontaneously—very unusual for him—and to reminisce about the sixties:

> Yeah, there were the be-ins in Central Park. They haven't had one for a long time—over a year, maybe, can't remember exactly. . . . Concerts, music, acid, grass, everything. . . . First time I was there was Flower-Power Day. . . . Good times . . . lots of things started in the sixties—acid rock, the be-ins, the love-ins, smoking. . . . Don't see it much these days. . . . Allen Ginsberg—he's down in the Village a lot, or in Central Park. I haven't seen him for a long time. It's over a year since I last saw him. . . .

Greg's use of the present tense, or the near-present tense; his sense of all these events, not as far distant, much less as terminated, but as having taken place "a year ago, maybe" (and, by implication, likely to take place again, at any time); all this, which seemed so pathological, so anachronistic in clinical testing, seemed almost normal, natural, now that we were part of this sixties crowd sweeping toward the Garden.

Inside the Garden we found the special place reserved for Greg's wheelchair near the soundboard. And now Greg was growing more excited by the minute; the roar of the crowd excited him—"It's like a giant animal," he said—and the sweet, hash-laden air. "What a great smell," he said, inhaling deeply. "It's the least stupid smell in the world."[18]

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[18] Jean Cocteau, in fact, said this of opium. Whether Greg was quoting this, consciously or unconsciously, I do not know. Smells are sometimes even more evocative than music; and the percepts of smells, generated in a very primitive part of

As the band came onstage, and the noise of the crowd grew greater, Greg was transported by the excitement and started clapping loudly and shouting in an enormous voice, "Bravo! Bravo!" then "Let's go!" followed by "Let's go, Hypo," followed, homophonously, by "Ro, Ro, Ro, Harry-Bo." Pausing a moment, Greg said to me, "See the tombstone behind the drums? See Jerry Garcia's Afro?" with such conviction that I was momentarily taken in and looked (in vain) for a tombstone behind the drums—before realizing it was one of Greg's confabulations—and at the now-grey hair of Jerry Garcia, which fell in a straight, unhindered descent to his shoulders.

And then, "Pigpen!" Greg exclaimed, "You see Pigpen there?"

"No," I replied, hesitantly, not knowing how to reply. "He's not there. . . . You see, he's not with the Dead anymore."

"Not with them?" said Greg, in astonishment. "What happened—he got busted or something?"

"No, Greg, not busted. He died."

"That's awful," Greg answered, shaking his head, shocked. And then a minute later, he nudged me again. "Pigpen! You see Pigpen there?" And, word for word, the whole conversation repeated itself.

But then the thumping, pounding excitement of the crowd got him—the rhythmic clapping and stamping and chanting possessed him—and he started to chant, "The Dead! The Dead!" then with a shift of rhythm, and a slow emphasis on each word, "We want the Dead!" And then, "Tobacco Road, Tobacco Road," the name of one of his favorite songs, until the music began.

The band began with an old song, "Iko, Iko," and Greg joined in with gusto, with abandon, clearly knowing all the

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the brain—the "smell brain," or rhinencephalon—may not go through the complex, multistage memory systems of the medial temporal lobe. Olfactory memories, neurally, are almost indelible; thus they may be remembered despite an amnesia. It would be fascinating to bring Greg hot pretzels, or hash, to see whether their smells could evoke memories of the concert. He himself, the next day, spontaneously mentioned the "great" smell of pretzels—it was very vivid for him—and yet he could not locate the smell in place or time.

words, and especially luxuriating in the African-sounding chorus. The whole vast Garden now was in motion with the music, eighteen thousand people responding together, everyone transported, every nervous system synchronized, in unison.

The first half of the concert had many earlier pieces, songs from the sixties, and Greg knew them, loved them, joined in. His energy and joy were amazing to see; he clapped and sang nonstop, with none of the weakness and fatigue he generally showed. He showed a rare and wonderful continuity of attention, everything orienting him, holding him together. Looking at Greg transformed in this way, I could see no trace of his amnesia, his frontal lobe syndrome—he seemed at this moment completely normal, as if the music was infusing him with its own strength, its coherence, its spirit.

I had wondered whether we should leave at the break midway through the concert—he was, after all, a disabled, wheelchair-bound patient, who had not really been out on the town, at a rock concert, for more than twenty years. But he said, "No, I want to stay, I want it all"—an assertion, an autonomy, I rejoiced to see and had hardly ever seen in his compliant life at the hospital. So we stayed, and in the interval went backstage, where Greg had a large hot pretzel and then met Mickey Hart and exchanged a few words with him. He had looked a little tired and pale before, but now he was flushed, excited by the encounter, charged and eager to be back for more music.

But the second half of the concert was somewhat strange for Greg: more of the songs dated from the mid- or late seventies and had lyrics that were unknown to him, though they were familiar in style. He enjoyed these, clapping and singing along wordlessly, or making up words as he went. But then there were newer songs, radically different, like "Picasso Moon," with dark and deep harmonies and an electronic instrumentation such as would have been impossible, unimaginable, in the 1960s. Greg was intrigued, but deeply puzzled. "It's weird stuff," he said, "I never heard anything like it before." He listened intently, all his musical senses stirred, but with a

slightly scared and bewildered look, as if seeing a new animal, a new plant, a new world, for the first time. "I guess it's some new, experimental stuff," he said, "something they never played before. Sounds futuristic . . . maybe it's the music of the future." The newer songs he heard went far beyond any development that he could have imagined, were so beyond (and in some ways so unlike) what he associated with the Dead, that it "blew his mind." It was, he could not doubt, "their" music he was hearing, but it gave him an almost unbearable sense of hearing the future—as late Beethoven would have struck a devotee if it had been played at a concert in 1800.

"That was fantastic," he said, as we filed out of the Garden. "I will always remember it. I had the time of my life." I played CDs of the Grateful Dead in the car on the way home, to hold as long as possible the mood and memory of the concert. I feared that if I stopped playing the Dead, or talking about them, for a single moment, all memory of the concert would go from his mind. Greg sang along enthusiastically all the way back, and when we parted at the hospital, he was still in an exuberant concert mood.

But the next morning when I came to the hospital early, I found Greg in the dining room, alone, facing the wall. I asked him about the Grateful Dead—what did he think of them? "Great group," he said, "I love them. I heard them in Central Park and at the Fillmore East."

"Yes," I said, "you told me. But have you seen them since? Didn't you just hear them at Madison Square Garden?"

"No," he said, "I've never been to the Garden."[19]

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[19] Greg has no recollection of the concert, seemingly—but when I was sent a tape of it, he immediately recognized some of the "new" pieces, found them familiar, was able to sing them. "Where did you hear that?" I asked as we listened to "Picasso Moon."

He shrugged uncertainly. But there is no doubt that he has learned it, nonetheless. I have taken now to visiting him regularly, with tapes of our concert and of the latest Grateful Dead concerts. He seems to enjoy the visits and has learned many of the new songs. And now, whenever I arrive, and he hears my voice, he lights up, and greets me as a fellow Deadhead.