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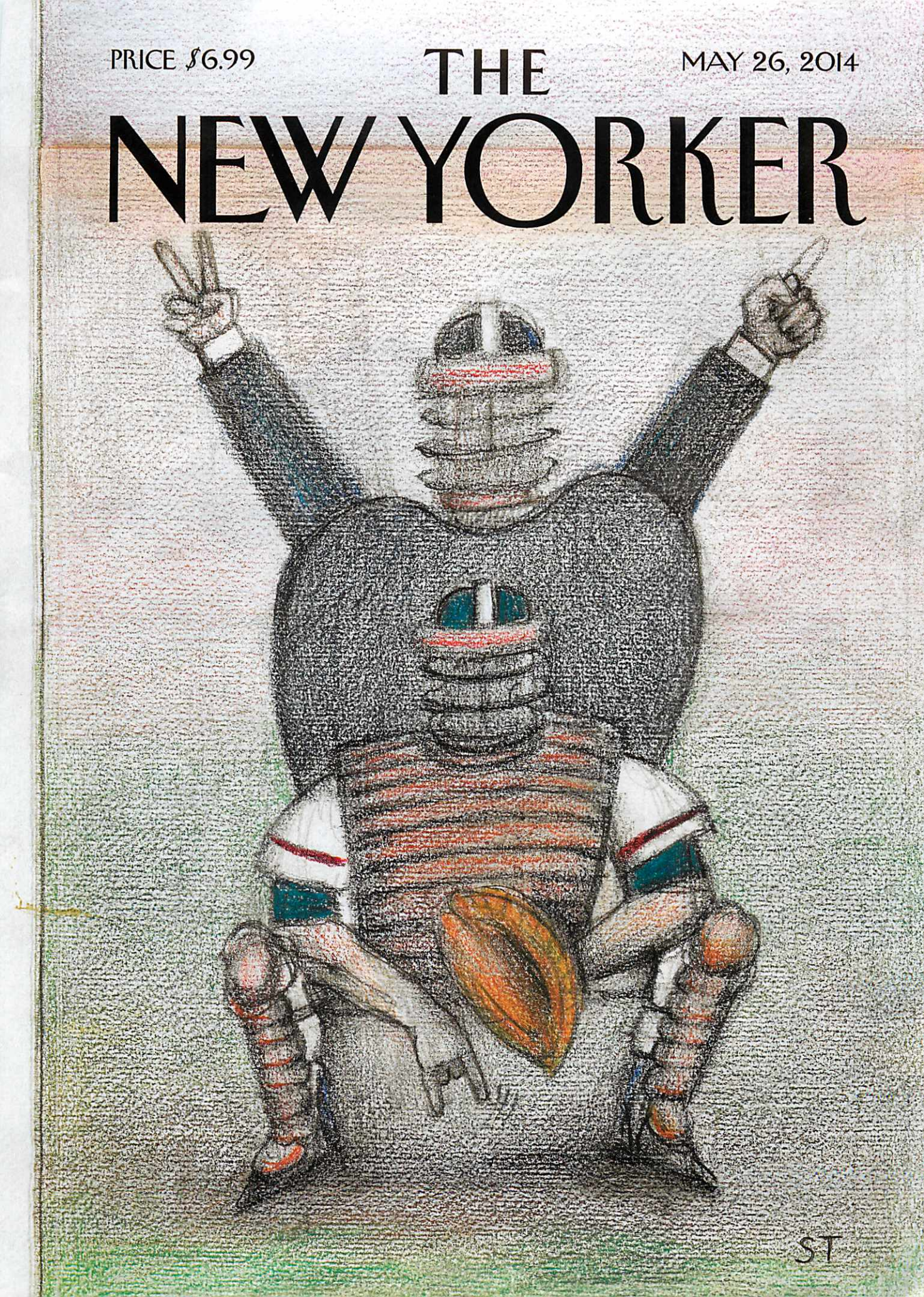
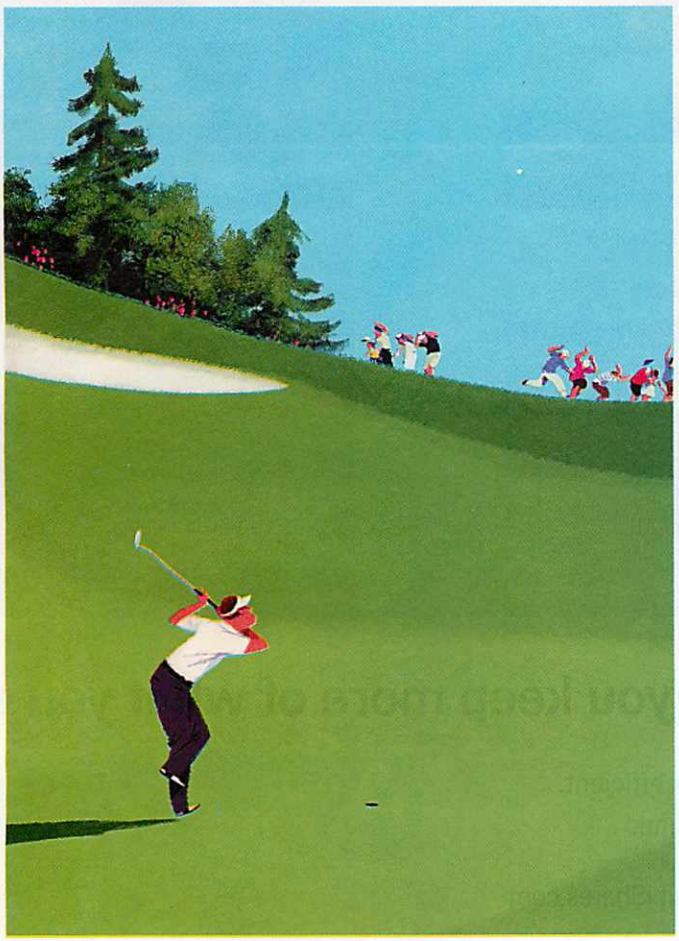


THE SPORTING SCENE

THE YIPS

What's behind the condition that every golfer dreads?

BY DAVID OWEN



The yips are often conflated with choking, but research suggests neurological causes.

Six or seven years ago, I played a round of golf in a foursome that included Hank Haney, who at the time was Tiger Woods's coach. Haney's golf swing was exceedingly strange. On the first tee, after he lined up his shot, he drew his driver back high in the air while turning to look at the clubhead, took a baseball-like practice swing well above the ball—then, immediately, took the club all the way back again and swung. The last part looked pretty normal, but if I hadn't known who Haney was I wouldn't have guessed that his occupation was teaching golf.

Haney is tall and trim. He was an all-conference player at the University of Tulsa, in the mid-nineteen-seventies, but a few years after graduation he began having serious difficulty controlling his tee shots, which travelled unpredictable distances and were sometimes more than a hundred yards off-line. The problem became so severe, he told me, that between 1985 and 2002 he played fewer than ten rounds, even as he was building a national reputation as an instructor. "One morning, I went out alone with a carry bag and one of those eighteen-packs of cheap balls," he wrote later. "I lost every one of them by the time I made the turn." He studied videotapes of his swing, frame by frame, in the hope of discovering some fundamental flaw, and when no one was watching he hit hundreds of range balls, trying to straighten himself out. But the harder he worked the worse his problem became.

Haney was suffering from a much dreaded golf malady, which consists of an involuntary disruptive movement of the hands, wrists, or forearms. In the great majority of cases, it affects putting or chipping, both of which involve relatively small, relatively slow strokes, but, as in Haney's case, it can infect full swings, too. Versions of it have been known over the years by many names, among them "freezing," "the waggles," "the staggers," "the jerks," "whiskey fingers," and "the yips." That last term is the one that's used almost universally today. It was coined around the middle of the last century by the Scottish golfer Tommy Armour, a sufferer, who defined it as "a brain spasm that impairs the short game." Bill Mehlhorn—a contemporary of Armour's and a leading tour player in the nineteen-twenties—once had a short putt in a tournament in Florida, but he jabbed the ball so far past the hole that a competitor standing in the fringe on the far side of the green had to jump out of the way. Harry Vardon, Ben Hogan, Sam Snead, and Tom Watson all developed the yips late in their careers. Johnny Miller, who was a tour superstar in the mid-nineteen-seventies and early eighties, developed such severe yips that watching him play was painful; a rebroadcast of a 1997 match between him and Jack Nicklaus included relatively few of his (many) putts, presumably because the producers had mercifully edited them out.

Golfers aren't the only yippers. Cricket bowlers suffer a similar disability, which they also call the yips. In darts, the problem is "dartitis"; in snooker, "cueitis"; in archery, "target panic"; in gun shooting, "flinching"; in baseball pitching, "the creature," "the monster," and "Steve Blass disease" (after the Pittsburgh Pirates pitcher, who, in 1973, developed what turned out to be a career-ending inability to find the strike zone). In 1999, Chuck Knoblauch, the Yankees' second baseman, began flubbing routine plays to first base, and in one game threw a ball so far off target that it hit the mother of the ESPN sportscaster Keith Olbermann, in the stands.

ILLUSTRATION BY LEO ESPINOSA

Knoblauch finished his career in left field, and what until that time had usually been called Steve Sax syndrome—after the Dodgers' second baseman, who had the same problem for several years in the nineteen-eighties—became widely known as Knoblauch disease.

Even bad cases of the yips don't always end sports careers—at least, not immediately. Miller won the 1976 British Open, at Royal Birkdale, even though he was afraid that, if he looked at his ball or at the head of his putter while making a stroke, he wouldn't be able to putt at all, and so he placed a dab of red fingernail polish on the grip, below the position of his right thumb, and looked at that instead. Later, he sometimes putted with his eyes closed, or while looking at the hole instead of the ball. The German tour pro Bernhard Langer was able to control his yips by using his right hand to brace the shaft of his putter against his left forearm—and, when the problem returned, by switching to putters with longer shafts and anchoring them against his chest.

Hank Haney arrived at the peculiar swing I saw after deciding he needed to develop a technique that, while it might not be mechanically optimal, made him physically less able to hit the ball in the wrong direction. To reduce the mobility of his hands and wrists, he adopted an unconventional grip, holding the club mostly in his palms, rather than in his fingers. He had noticed that, on the few occasions when he couldn't avoid demonstrating a shot with his driver, he was able to do so successfully if he looked at his audience, not the ball, while he swung—a feat that impressed his students but for him was an act of desperation. "That was something I discovered by trial and error," he told me. "Focussing my eyes and my attention on something different—anything to not anticipate the hit, anything to not anticipate the moment of contact with the ball." In his new swing, he glanced at the ball only briefly, at the very beginning of his routine; during the actual swing, he kept his eyes on the brim of his cap.

Athletes and sports fans have generally assumed that yipping and its variants are forms of performance anxiety, or choking. It's true that nervous athletes often play poorly, and that yipping is most evident when the stakes are high, and that even serious sufferers are sometimes able to perform in practice or while playing alone. Yet many yippers are veterans of competition at the highest levels, who never showed a tendency to buckle under stress; many others are casual players who have trouble even when the pressure is low. Yipping also is usually extremely task-specific. Haney never stopped being a good putter. Knoblauch didn't have a problem throwing from the outfield. Archers who can no longer hit a bull's-eye often have no trouble shooting at bare bales of straw. If the yips and other sports-related movement problems are solely a matter of anxiety, why do they affect only certain motions? And how can a change of target, technique, or equipment sometimes make them go away?

Debbie Crews is the sports-psychology consultant for the women's golf team at Arizona State University and the chair of the World Scientific Congress of Golf. Her laboratory, in Tempe, Arizona, is carpeted with artificial turf and has two golf holes cut in the floor. I met her there, and we sat at a card table near the door. When, at one point, I began to move my chair to a different position, she stopped me, to prevent the chair's feet from making dents in her lab's putting surface. Also in the room were a computer, a tangle of cables, a stationary bicycle, a wooden balance board, a full-length mirror, a large black plastic net for hitting range balls into, and two golf bags filled with clubs and training gadgets, including a broom. Crews has long white-blond hair and the lean build of a runner. She co-founded the women's golf team at the University of Wisconsin when she was an undergraduate there, in the early nineteen-seventies, and later she earned a master's in exercise physiology and a Ph.D. in psychophysiology.

In 1996, producers from the television news program "Dateline NBC" asked her to conduct a small study for a program they were planning, on choking in golf. The subject was of topical interest, because Greg Norman had collapsed catastrophically in the final round of that year's Masters—an implosion so complete that almost all subsequent golf implosions have been measured against it. In Crews's study, ten subjects were hooked up to heart monitors and electroencephalographs, and then asked to make multiple attempts at a five-foot putt under increasing amounts of psychological stress, much of which was created by telling them that their performance would be shown on national television. "We doubled their heart rates in that study," Crews told me. "We had players whose legs shook for forty putts straight. But half of them put the ball in the hole, and half of them just fell apart." Her conclusion was that the difference between the chokers and the non-chokers was not the level of anxiety they felt, as measured by their heart rate, but how successful they were at remaining focussed on the task, as measured by the patterns of electrical activity in their brain.

The study was narrow, and it wasn't utterly serious, since it was commissioned by a television network, but it attracted the attention of Aynsley M. Smith, a sports psychologist at the Mayo Clinic in Rochester, Minnesota, who was interested in the yips and how they differed, or didn't differ, from choking. She and Crews, along with several other researchers, eventually conducted a study, funded by Mayo, in which they used a variety of devices to measure movements in the hands and wrists of affected and unaffected golfers, along with various vital signs. In a paper, Smith proposed a definition of the yips as a "continuum," with choking at one end and a category of neurological disorders called focal dystonias at the other. The defining symptoms of focal dystonias are involuntary movements that affect specific actions made by specific parts of the body. Smith referred to the dystonia end of her continuum as Type I and the choking end as Type II. Among the participating researchers in the study was Charles H. Adler, who is a professor of neurology at the Mayo Clinic in Scottsdale. Adler's specialty is disorders that involve abnormal body movements, including Parkinson's disease. He and Crews led two additional yips studies, both in Arizona, and they used a variety of measuring instruments, among them an electromyograph, an electrocardiograph, an electroencephalograph, and a wireless motion-capture device called a CyberGlove II. Both studies showed that yipping was

characterized by the "co-contraction" of groups of arm muscles that don't ordinarily operate at the same time: one group that extends the wrist and one that flexes it. In the yips, those muscles make what Aynsley Smith called a "double pull," resulting in a jerk.

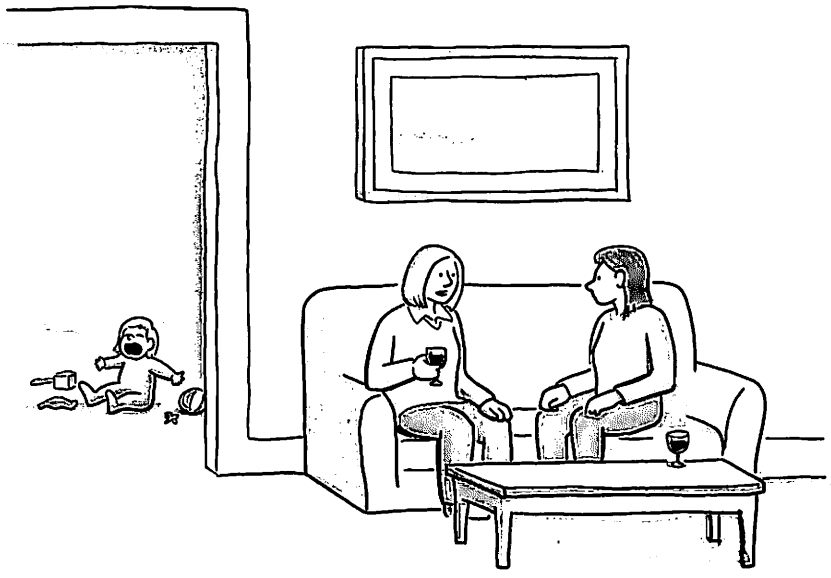
Crews told me that she and Adler don't use the word "choking" anymore. "It isn't correct," she said. "Choking and yips are not the same thing." She said that anxiety can exacerbate the yips—just as it exacerbates the tremors in Parkinson's disease—but it's not the cause, since the yips are usually present whether the yipper is nervous or not, and even when the yipper can't feel them. "In one of the studies we did," she said, "we had people try seventy-five putts—from three feet, six feet, and eight feet—and some of them would do that and then walk away and say, 'I'm sorry I didn't yip for you today.' And we had just watched their hand turn on every putt, and we could see it on the EMG. They had no idea, because they don't feel it until it gets big. But it was still there."

Crews and Adler believe that most cases of the yips probably have a psychological basis of some kind, but that in some percentage the ultimate cause will turn out to be neurological. They are now planning a new Mayo study, in collaboration with a German sports psychologist named Christian Marquardt. Among other things, the new study will collect "outcome data" about the behavior of the putter and the ball, using a device called the SAM PuttLab, which Marquardt's company developed and sells, as a teaching aid, to golf instructors and tour pros. A PuttLab is about the size of a heart defibrillator. It connects to a computer, which uses proprietary software to analyze signals produced by ultrasound transmitters attached to the putter shaft. The software generates minutely precise graphs and numerical reports on as many as twenty-eight putting parameters, including the angle and the rotation of the clubface throughout the stroke, and the exact point on the clubface where the putter makes contact with the ball.

One of Adler's hopes for the new study is that it will help to define the division between psychological and neurological causes. "The biggest problem is that there's no diagnostic test," he told me. "It's all pattern recognition. So the hypothesis, with this new study, is that we'll see a specific pattern for a specific golfer. We're also going to be testing a couple of different interventions, to see if, with intervention, those patterns change."

Golfers are careless with the word "yips," and use it in annoyance for all kinds of lousy putts. But anyone who plays regularly knows players who are clearly tormented by something dark and deep. It's telling that when Tommy Armour named the yips he located the spasm not in his hands but in his brain, and that when Johnny Miller described his problem to Guy Yocom, of *Golf Digest*, he said, "I have a wire corroded in my head." One of the world's leading experts on corroded head wires is Stanley Fahn, who is a longtime professor of neurology at Columbia University, the scientific director of the Parkinson's Disease Foundation, and the founder of Columbia's Dystonia Clinical Research Center. He's also the co-author of a standard textbook on movement disorders. I visited him in his office, at New York-Presbyterian Hospital, not long ago, and he told me that he remembered watching Chuck Knoblauch on TV. "All of a sudden, his throwing to first base went off with an error," he said. "He had developed a focal dystonia. I tried to tell him and the Yankees, but they didn't understand." Fahn said that Sam Snead and other famously yippy golfers had the same problem. "It's beyond their control," he said. "It's not psychogenic; it's an organic disease of the brain. But we still don't understand why, because at autopsies we don't see anything. It's some kind of a physiological-biochemical problem that we don't understand."

The first focal dystonia to be identified, though not by that term, was probably the condition known today as mogigraphia, or writer's cramp. (In the nineteenth century, it was also often called scrivener's palsy—or steel-pen palsy, because the change from quill pens was thought to have caused it or made it worse.) In the late eighteenhundreds, William Gowers, an English physician and one of the founders of modern neurology, wrote about it extensively. Steven Frucht, who is a professor of neurology and the director of the movement-disorders division at Mount Sinai Hospital, told me that Gowers's observations still hold up, more than a century later. "He predicted and described everything we now take for granted," Frucht said. "He even went so far as to posit that there was a central etiology for writer's cramp—that it was coming from the brain, from an aberration in the connection of the centers responsible for organizing the motor program for writing."



"Oh, she just wants attention or needs help."

Gowers related writer's cramp to other activity-related movement disorders, including similar ones suffered by telegraph operators, seamstresses, knitters, masons, sailors, painters, enamellers, cigarette makers, and musicians. "He said they're all connected," Frucht continued. "They're not separate disorders, and they're all central, and they're real."

Frucht's office is in Mount Sinai's Robert and John M. Bendheim Parkinson and Movement Disorders Center, at Ninety-eighth Street and Fifth Avenue. Standing against a wall near his desk is a large electronic keyboard, which affected pianists play during examinations. (Most other patients—including a surprising number of bagpipers—are able to bring their own instruments.) Only about five per cent of Frucht's patients are musicians, but they have become a subspecialty. He himself was a fellow in violin at Tanglewood, and he still plays both the violin and the piano. He became interested in impaired musicians after reading an article about them in the *Times*, and during his second year of medical school, at Harvard, he spent one day a week shadowing a neurologist in Boston who had been mentioned in the article. One of Frucht's first dystonia patients was Glen Estrin, a member of Frank Sinatra's band. Estrin's instrument was the French horn, and his particular disability is known as embouchure dystonia, which involves various combinations of the lips, the tongue, and the jaw, and has an insidious tendency to spread to other oral activities, including speaking and eating. In 1999, the two of them founded an organization called Musicians with Dystonia.

Gowers sometimes referred to writer's cramp as "writer's neurosis." At that time, "neurosis" was merely a standard term for disorders whose origin was neurological rather than, say, muscular. But then Freud and Jung used "neurosis" in a different way, and, by doing so, Frucht told me, they probably helped to initiate a "lost half century" in the medical understanding of many movement disorders. Beginning with the rise of psychoanalysis and continuing into the nineteen-seventies, he said, dystonias, including writer's cramp, were most often treated as forms of mental illness. In

1973, I. S. Cooper, who was the director of the department of neurologic surgery at St. Barnabas Hospital, in the Bronx, published a heartbreaking account of several severely dystonic patients of his. All of them had a condition that had caused their entire bodies, beginning in childhood, to become progressively twisted, and racked by painful, uncontrollable spasms. The illness they suffered from was first written about in 1911, by the pioneering German neurologist Hermann Oppenheim, who coined the word "dystonia" to describe the condition. Oppenheim correctly identified the disease as neurological—the ultimate cause is now known to be a single defective gene—but his findings were forgotten or ignored under the influence of Freudian thinking about the subconscious, and Cooper's patients had all been treated for years as psychiatric cases. The parents of one young girl were told that her contortions were a consequence of "conversion hysteria," traceable to a boy in her neighborhood who had once enjoyed pulling down girls' pants, or to a bath she had taken with her brother, or, possibly, to her parents' prudish thinking about sex. She spent several months in a psychiatric hospital (where her parents were allowed to visit her for an hour a week), and for a month she was confined in a tiny room and told that all she had to do to leave was to walk out. Her parents eventually took her to Cooper, who achieved significant relief of her symptoms with an experimental operation in which he used a cryogenic probe to create lesions deep in her brain.

In terms of the modern understanding of musician's cramp, the index patient is probably the concert pianist Leon Fleisher, who began losing control of the fourth and fifth fingers of his right hand in 1964, when he was in his mid-thirties. "The gods know where to hit you, when they want to hit you," he said in a documentary about his ordeal, "Two Hands," which was nominated for an Oscar in 2007. He switched to playing pieces for the left hand only, and became a conductor and a teacher. He received all the now predictable misdiagnoses and tried every conceivable remedy, including, in 1981, surgery for carpal-tunnel syndrome—which at first seemed like a breakthrough but turned out to be only somewhat helpful. His condition wasn't identified as dystonia until years later. In the early nineteen-nineties, Fleisher's doctors began using tiny amounts of an experimental drug, botulinum toxin—now better known by one of its trade names, Botox—to slightly weaken the muscles that controlled the affected fingers. After extensive physical therapy (which he needed because years of cramping had caused muscular scarring and soft-tissue fibrosis), Fleisher was able to resume playing with both hands.

Botulinum injections are not a cure, since they have no effect on the underlying pathology, whatever it is. And they're more difficult to use in cases where the affected muscles are small and hard to isolate, as in the mouths of French-horn players. They aren't necessarily an ideal solution for golfers, either, since weakening the muscles used in putting could make other shots harder to perform.

Early in 2003, Hank Haney attended a teaching conference in Munich. There he met Christian Marquardt, the sports psychologist who is working with Adler and Crews on the upcoming Mayo study, and Marius Filmalter, a golf professional based in Germany. Marquardt and Filmalter had been studying the yips for several years, and not long after the conference Filmalter moved to Texas and joined the staff of Haney's golf school. In the years since then, Marquardt, Filmalter, and Haney, in collaboration with various colleagues, have studied the putting strokes of thousands of golfers, at all levels, in both the United States and Germany, and have drawn a number of conclusions about yipping: with a vanishingly small number of exceptions, even golfers with severe yips can make unaffected strokes if no ball is present; yipping often runs in families, suggesting a possible genetic component; the twitches or spasms that characterize the yips occur either at the exact moment of impact or a fraction of a second before it; and somewhere between a quarter and half of golfers are affected. Haney and Filmalter now divide the yips into two types: one involving direction, in which the clubhead twists or shakes, and one involving acceleration, in which the clubhead jerks forward with excessive force. They have also found that full-swing yips are suffered mainly by players whose natural shot starts out to the right and curves to the left, if they're right-handed, or vice versa, if they're left-handed—a ball flight that is known as a "draw" or a "hook," and which is far more common among good players than among poor ones. (It's the opposite of a "slice.")

Several years ago, Marquardt began doing something counterintuitive: looking for the yips in people who had never played golf. "In our last study, we took twenty volunteers who didn't even know how to grip a putter," he told me recently. "We put them on a putting green, and told them, O.K., this is a hole, this is a putter—now hold the putter with both hands and hit the ball so it goes in the hole." Marquardt analyzed their strokes with a PuttLab machine. "Very surprisingly, when we looked at the data, we saw that twenty per cent of them had severe yips," he said. That's smaller than the percentage among golfers, but it's not a lot smaller. The obvious question for Marquardt and his colleagues was whether the PuttLab had merely detected something like the mechanical incompetence of novices. But when he turned his subjects around—the right-handed ones putting like left-handers, and vice versa—their yips disappeared.

Among experienced golfers, too, the yips usually affect just the dominant hand, and some players with putting yips are able to control them by switching. Steven Frucht told me that the focal dystonias of musicians tend to be one-sided as well, but that the favored side is different with different instruments. "Among the keyboard players," he said, "it's three-quarters involving the right hand, and among the string players it's three-quarters to four-fifths involving the left hand, and among guitar players it's mostly the right hand." In each case, he said, the hand most likely to be

affected is the one with the more complex motor task.

No one knows why the percentage of affected golfers is so high. It may be that golf, by its nature, creates an unusual degree of dissension between the hands and the brain, and that putting poses an especially exasperating challenge, whether psychologically or neurologically. A feature that golf shares with other sports in which yip-like problems are well known—archery, darts, rifle shooting, snooker, basketball free-throwing—is that every action begins from a dead stop, with ample opportunity between actions for counterproductive cerebration. Marquardt told me that in tennis yipping is possible only with serves and with shots like the return of a high lob, because, unlike other shots, both leave lots of time for thinking. He added, "While you are in the game, you will normally not have a chance to develop the yips, because you just need to react."

During my visit to Debbie Crews's putting lab, I mentioned that I had been following an online chat board for snooker players, and had read about a cueitis case in which the sufferer had been helped by a friend who noticed that his eyes, as he prepared to shoot, were moving back and forth between the tip of his cue and the cue ball. The friend told him to fix his eyes on the target ball for the whole stroke, and when he did that his cueitis disappeared. Crews said, "The first thing I do with yips people is have them close their eyes and putt or chip and see if it goes away." Thinking about that snooker player, and about Johnny Miller's red dot and Hank Haney's hat brim, made me wonder about blind golfers—who are able to play because a caddie-like assistant lines up every shot. Could vision be a complicating factor in the yips? One theory about some dystonias is that they involve, at least in part, a kind of sensory breakdown in the brain. I spoke with Ron Plath, who was inducted into the U.S. Blind Golf Association's Hall of Fame in 2012, and asked him whether he had ever known of a blind golfer with the yips. He said that he hadn't and, later, called me back to say that he'd asked several other blind golfers, in this country and in Europe, and nobody he'd talked to could think of anyone.

Of course, he hadn't studied the question scientifically, and, besides, people who can't see may not be the best people to ask about what anyone else does on a golf course. But when I mentioned my conversation to Crews she said she had once tested a blind woman who was an extraordinarily good putter. "She took up golf after she became blind," Crews said. "She came to my lab and putted a couple of three-footers and a couple of five-footers, and then she jumped back to twelve feet—and putted unbelievably well. If a caddie lines her up right, she makes amazing putts." In tournaments, Crews said, she took an average of just 1.52 putts per green, a record that's better than that of any player on the P.G.A. Tour. Crews hooked her up to an EEG, and while she was putting, Crews said, her brain was "quiet and balanced," except in the visual cortex, which was full of activity. "She told me that, when she putts, she sees a line down there," Crews continued. "The line is white and it's about twelve inches long, and the ball is on it. She makes that line with her brain, and then she just moves her putter back and forth on it."

The tour player Mark O'Meara has worked with Hank Haney for many years. On several occasions, O'Meara told Haney that he believed he was developing the yips. Haney was skeptical, because O'Meara had always been a good putter, but O'Meara insisted that he could feel what he described as a "hit" in his stroke, and he said it was getting worse. When Haney met Marquardt and Filmalter in Munich in 2003, he described O'Meara's problem to them, and they gave him something to try. Back at home, Haney told O'Meara to grip his putter normally with his left hand, but to flatten his right hand and place just the tips of the fingers, lightly, on top of the handle, immediately below the left hand, so that all four fingers were pointing toward the target. (His thumb opposed them from the other side of the handle.) "Mark was reluctant to change, because of how funny it looked," Haney told me,

"Let me answer your question about farm subsidies by saying a few words about Benghazi."

"but he tried it in the tour's Father/Son Challenge, and after the first day he told me he hadn't yipped a putt." O'Meara still uses that grip. He calls it "the saw," because to him the tips of his fingers, when resting on his putter, look like saw teeth. Golfers at all levels (including several of my friends) now use the same grip, or variations of it, under various names, including "the claw" and "the paintbrush."

Leon Fleisher's fingers, before treatment, were curled all the time, but that's not always true with musician's cramp. Affected pianists can often "play" if they do it on a tabletop, rather than on a keyboard—or if they wear rubber gloves, or if the keys they press don't make sounds, or if they alter the degree to which they curve or extend their fingers—and guitarists and violinists can sometimes flawlessly manipulate instruments that have no strings. Some woodwind players who "double"—who play, say, clarinet and saxophone—suffer embouchure dystonia with only one of their instruments, and some pianists with musician's cramp have no trouble playing the organ. People with writer's cramp are usually able to type, draw, knit, and perform other dexterous actions; some have trouble with their writing only when forming a specific letter, and some don't cramp at all if they place their other hand on top of the one holding the pen, or if they place their writing hand on top of the hand of someone else holding the pen. Some people with vocal dystonia can speak normally if they place a toothpick in their mouth. Stanley Fahn told me that he once consulted with a well-known professional golfer whose head would turn involuntarily whenever he tried to swing a golf club. "He found that he could swing if his caddie held the end of the handle of his putter against his cheek," Fahn said. People who suffer from cervical dystonia can sometimes make it go away by touching their chin—or by imagining that they're touching their chin.

Such techniques are known as sensory tricks, or *gestes antagonistes*. Steven Frucht said that, in the past, their effectiveness was often viewed as evidence that dystonias were psychogenic, but that nowadays it's viewed as the opposite, and also as a potential window on causation. One theory about dystonia is that it involves the failure of a neurological mechanism called "surround inhibition," which is how your brain enables you to, for example, wiggle your middle finger without also wiggling your index and ring fingers (or, at least, without wiggling them very much). Sensory tricks may restore the brain's ability to suppress the firing of neurons that aren't supposed to be involved in whatever the sufferer is trying to do—in essence, creating a neurological detour around the problem. But, if that's what they do, no one knows how they do it—or why they often stop working, as eventually happened with the golfer who could swing when his caddie was poking him in the cheek.

Debbie Crews told me, "Golfers have to always stay one step ahead. In a tour player I work with, the yip has travelled from the right hand to the left hand and back to the right hand. So my goal is to give golfers five to seven things to walk away with. Treat it like a shoulder injury: do everything you can to make it better, don't do things that would encourage it, and if it comes back take care of it and go play." A strategy that's sometimes effective in chipping, she said, is to become "bi-manual," by separating the hands, even slightly, on the club shaft; one that often helps with putting is to shift one's "focus of attention" from the moment of impact to a later point in the stroke, so that the player stops thinking of the ball as the destination. (A strategy that has worked for some yipping golfers, using a longer putter and anchoring the butt of its handle against the chest or the stomach, is going to become illegal in 2016, according to a decision made last year by the game's two main rule-making organizations.)

Marquardt is working on a number of new work-arounds for yipping golfers. Most of them involve what he calls "changing the context" of the putt, in the hope of neutralizing situations and sensations that act as triggers. "A very simple thing we do is to work with balls that are not able to roll," he said. "It might look like a ball, but when you hit it with a putter it doesn't move. And now we train you on that ball, so that you will become able to ignore that it is a ball." A ball that isn't a ball can't miss the hole. Similarly, a putter that doesn't feel like a putter may not jerk. "Sometimes we put a kind of foam rubber on the putter blade," he said. "It masks the impact, and all of a sudden a high percentage of yippers are able to putt." Debbie Crews often does something similar, by having golfers with the yips putt in her lab while wearing ski gloves. "They usually putt so much better that it's amazing, because they can't manipulate," she told me. I tried the gloves, and putted worse—which I'm interpreting as a good sign.

No one understands for certain what causes any form of the yips, and no one yet has identified physical loci in the brain for focal dystonias. But that doesn't mean that the origins of such disorders will always be elusive. Stanley Fahn told me, "Even with Parkinson's it took a hundred years before people looking at autopsies found where the actual cell loss was."

Hank Haney told me recently that his golf swing today is more conventional-looking than it was when we played together. "I've made incredible progress, but if I get too conventional it's hard for me to stay a hundred-per-cent yip-free," he said. "When I get in tight situations, I definitely go back to things like gripping the club more in the palms of my hands, and letting my eyes wander more."

He went on, "Every time people see somebody's hand shake when he putts, they think he must be nervous. And maybe he is—but everybody's nervous. So am I just more nervous?" He said he thought that the yips were actually more like stuttering. Most stutterers are unaffected when they sing or whisper, or when they speak without being able to hear their voice—just as pianists with focal dystonia can often play on Steven Frucht's desk. "Sure, stutterers get nervous when they have to speak, and that makes their problem worse," Haney said. "But the nervousness didn't cause the problem; it didn't come before. They had a stutter, and then they became self-conscious about it, and then everything got worse." ♦

From the Kalispell (Mont.) Daily Inter Lake.

The study involves fitting female grizzly bears with radio or satellite tracking collars, and monitoring those bears for births and morality.

Presumably on behalf of jealous male bears.