

FROM AUTISTICS to Tourette's patients, Sacks has found, music finds the lost among us

THE 'MUSIC SPECIES'

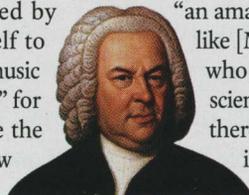
Not just a pleasure, music is in our neural wiring, says Oliver Sacks

BY BRIAN BETHUNE • If Oliver Sacks has an overarching purpose in *Musicophilia* (Knopf), it's probably best described as issuing a corrective. Much has been made, in a spate of recent books, of humans as the story species—how we need narrative to make sense of anything and to emotionally accept and internalize information. Sacks has no quarrel with any of that; he's a writer and storyteller himself. But the distinguished neurologist would like us to remember that we are also the music species. "For virtually all of us," Sacks writes, "music has great power. It is manifest and central in every culture, and lies so deep in human nature that one must think of it as innate."

That's Sacks speaking as much personally as professionally. Last December, after he learned his brother was gravely ill, a dark melody began to form a constant background to the 74-year-old scientist's thoughts. The music turned out to be Bach's *Capriccio on the Departure of a Most Beloved Brother*, a piece "plucked out from 10,000 tunes by my unconscious." Likewise, those who suffer from musical hallucinations—not tunes stuck in the mind, but music heard from the outside as clearly as if it were playing on the radio—tend to hear what resonates with their own past lives. That can mean, among Sacks's patients, endless loops of old popular songs or Irish jigs, or, in the unhappy case of one elderly German Jew, the Nazi marching songs

that had so terrified him in his childhood.

Other musical phenomena, however, are more mysterious in origin and awe-inspiring in effect. Take Tony Cicoria, an orthopaedic surgeon struck by lightning 13 years ago, at 42. Previously neither very musical nor particularly religious, within three months Cicoria was possessed by music, driven to teach himself to play the piano and to compose music for it, believing himself "saved" for the purpose of bringing to life the "absolute torrent" of notes now pouring into his mind. (His



NEVER VERY MUSICALLY INCLINED, CICORIA BEGAN WRITING SONATAS AFTER BEING HIT BY LIGHTNING

latest work is called the *Lightning Sonata*.)

The music is deep within us all, virtually ineradicable, because it's everywhere in our neural wiring. "So much of the brain is recruited for the perception, imagery and playing of music," Sacks says in an interview, "that music survives all the common insults," as neurologists call brain injuries. In other words, our music tends to live through anything that doesn't outright kill us. Music, in

fact, can be *liberated* by damage, as happened to Cicoria, and sometimes occurs with those stricken with frontotemporal dementia. They often take up incessant whistling, singing or actual composing, sometimes even after losing the power of speech. Sacks thinks it likely that an insult to the dominant brain sphere can release "musical treasures locked away" in the non-dominant sphere.

Even the explosive movement disorder Tourette's syndrome can be tamed by music. On one extraordinary occasion, Sacks sat in on a Tourette's drum circle. At first the roomful of 30-odd people was "an eruption of tics, a contagion of tics." But not once the drumming began. Then the participants poured "their Tourettic energy, playfulness and inventiveness" into the music, and through it achieved a calm and focus that otherwise eludes them. Nor can any drug free Parkinson's sufferers from their immobility the way music does. Music, and often little else, offers balm across a vast range of neurological conditions, from autism to Alzheimer's.

New technologies now allow scientists to watch the living brain as people listen to, imagine and compose music. Much of the rapidly growing body of work on music's neural underpinnings is being done in Montreal. The Brain, Music and Sound lab "is a world centre of neuroscience," Sacks says, "an amazing coming together of people like [McGill professor] Daniel Levitin, who are both musicians and neuroscientists. I hope to be sending patients there soon—there's nothing else like it in North America. They're looking at all sorts of things I've wondered about for years."

Sacks is a scientist, and the new techniques of brain imaging are "exciting beyond measure" for him, but he is also a primary caregiver—a close, sympathetic observer of his patients, and the "strange fights and double lives" forced on them by their wounded or rewired brains. After seeing deeply demented patients weep to music they have never before heard, Sacks is moved to know they still have a self lost within, one that music alone can find. In human life, he concludes, "Music is no luxury, but a necessity." **M**