

Images of Pain

Headache art lends a hand to science

By INGRID WICKELGREN

"The whole world turns black like with the ash from a huge volcano, and a Tyrannosaurus rex bites the head off a brontosaurus. I'm the brontosaurus."

In this nightmarish scenario, a 7-year-old boy captures the brutality of his recurrent headaches. Although verbal imagery can paint poignant pictures of pain, visual renditions can be even more revealing. In the first visual pilgrimage into the minds of U.S. headache sufferers, physicians have solicited works from more than 200 New England artists, including this poetic 7-year-old. They unveiled the traveling exhibition in June at the Boston Museum of Fine Arts.

The subjective nature of severe headaches makes these painful experiences difficult to describe, but it also makes them ideal fodder for art, as witnessed by the evocative works in the exhibition. Inspired by a series of British art collections depicting migraines, the new exhibition represents not only the first gathering of such works outside Great Britain but also the first attempt anywhere to apply this approach to headaches in general. Drawings, paintings, sculpture, prints, photographs and mixed media — created by amateur and professional artists alike — are all represented in the display.

Its initiator, Egilius L.H. Spierings of the Headache Research Foundation and John R. Graham Headache Center at Boston's Faulkner Hospital, says he hopes the collection will offer headache specialists fresh insights, as well as publicize the fact that headaches arise from real and treatable physiological abnormalities. U.S. headache researchers have greeted the exhibit with enthusiasm, saying it may represent the birth of a new tool for reaching patients and for defining the true nature of their illness.

A painting or drawing can portray a patient's suffering and some physical symptoms with a vividness that verbal descriptions lack, notes Ninan T. Mathew, director of the Houston Headache Clinic. By asking patients to "draw" their headaches, clinicians might gain a better picture not only of related problems such as visual disturbances — common in classical migraines — but also of the type of pain itself, whether twisting, burning,

pressure or pinprick. Art provides "a way for physicians to look into the nature of the pain from a different angle," Mathew says.

Although an estimated 15 percent of adults and children in the United States endure at least one severe headache a week, physicians lack effective equipment for tracking these painful episodes. X-rays cannot reveal the environmental causes or physiological mechanisms underlying most headaches. Instead, physicians typically rely on diagnostic question-and-answer sessions to determine the location, quality and quantity of the pain, its concurrent symptoms, and the factors that exacerbate or allay it.

Using this approach for the past 15 years has enabled Spierings and his associates to help many, but not all, of their headache patients. Although more than 90 percent benefit to some degree from medical treatment, only about half experience "a moderate level" of relief, and fewer than 35 percent find their symptoms gone after treatment, says headache specialist C. David Gordon, also at the Graham Center. "That means we have a limited understanding of headaches," Spierings says.

Part of the problem stems from the verbal approach, in which a physician's phrasing of questions — and thus conventional medical knowledge — biases a patient's description of the headache, according to Spierings. Such biases may lead physicians to miss significant symptoms reported by patients. For example, Spierings says, headache specialists tended to overlook the importance of blurred vision and eye strain in headaches until one of his associates noted that headache patients often complain of visual problems. Upon further investigation, Spierings found that fully 45 percent of chronic headache sufferers experience blurred vision during a headache.

"I was very concerned when I realized it works that way — that you don't hear what patients tell you unless you are receptive [to it]," says Spierings, who reported data from the study in June at a meeting of the American Association for the Study of Headache, held in Boston. "I thought the art could provide us with an excellent tool to allow patients to speak to

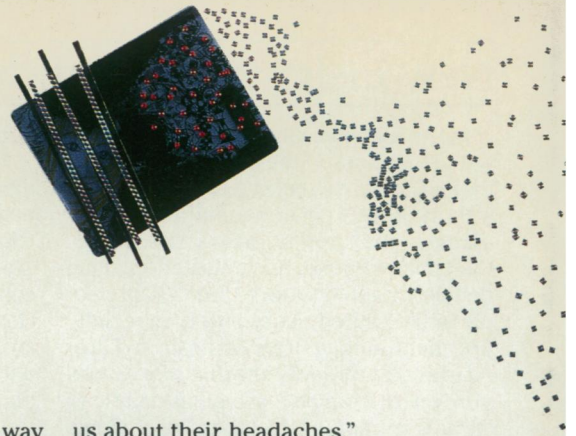
us about their headaches."

A doctor focusing primarily on pain, for example, might discover through a graphic depiction that the patient is more concerned with headache-associated nausea, depression or vision problems. "Maybe we'll see that these things are also important," says Alan M. Rapoport, a neurologist at the New England Headache Treatment Program in Stamford, Conn. "I'm very optimistic that we can use this type of research to understand what is important to the patients about their headaches."

Spierings, who just finished collecting the works last May, says he hasn't had a chance to investigate their medical implications in great detail. But he has noticed that many emphasize the involvement of the visual system. He now plans to make such art a therapeutic feature at the 39-year-old Graham Center, giving patients there a chance to view other people's portrayals of pain and asking the patients themselves to draw their headaches as a routine part of diagnosis and treatment.

While scientists have yet to reap any research results from the New England art, the scientific insights gleaned from the British migraine exhibitions augur well. Begun in the 1970s, that project focused on the classical migraine, in which patients experience half-hour hallucinatory periods just before pain begins. During these often-frightening episodes, sufferers may perceive extraordinary objects, brilliant colors, flashing lights and distortions of size and shape. In addition, their visual field usually becomes obscured by a migrating blind spot, which temporarily prevents reading and other sight-oriented activities, notes Lee Kudrow, who directs the California Medical Clinic for Headache in Encino.

The British art provided the first records of the visual apparitions in classical migraines and so confirmed their existence, says migraine-art pioneer Marcia Wilkinson, medical director of the City of London Migraine Clinic. "It wasn't until we started having [the art] competitions that we got enough art to know that [these bizarre visual experiences] are reproducible," she says.



Although the apparitions vary with each individual, the British collection revealed that they share certain features in about 20 percent of classical migraine sufferers, Wilkinson says. Physicians noticed, for example, that many of the paintings, drawings and sculptures displayed a pattern of zigzag lines, now known to represent a common apparition of sparkling zigzag bits of light. The observation prompted headache specialists to seek out a physiological basis for the zigzag phenomenon, leading to the discovery of a possible link between these imaginary images and the organization of a specific group of cells within the brain's visual cortex, Spierings says.

In the future, suggests Kudrow, patient-created art might offer researchers a new window into the blind spot, perhaps indicating the spot's brain location and revealing the direction of its electrical movement inside the brain. In addition, he says, if a person were to paint several pictures at regular intervals — say, every 10 minutes — during one of these fantastic ocular episodes, the paintings might help researchers determine the rate at which the blind spot marches across the visual field.

Headache art's ability to reach potential patients may carry even greater import than its contributions to research and diagnosis. Although 5 percent of Americans endure a headache every day, the majority of afflicted individuals suffer in silence, Spierings says. "Most won't talk about it because of the bad connotation that headaches have in our society. [People often] see it as a sign of mental weakness and so don't seek medical treatment," he notes. This appears especially true for the classical migraine patient because of the stigma associated with hallucinations, Wilkinson adds.

When a small part of the British series traveled to Boston in 1987, many migraine-prone viewers realized for the first time that they were not alone in their suffering, Spierings says. Moreover, in demonstrating that headaches are not imaginary, the art allowed sufferers to see their problems as *bona fide* medical disorders.

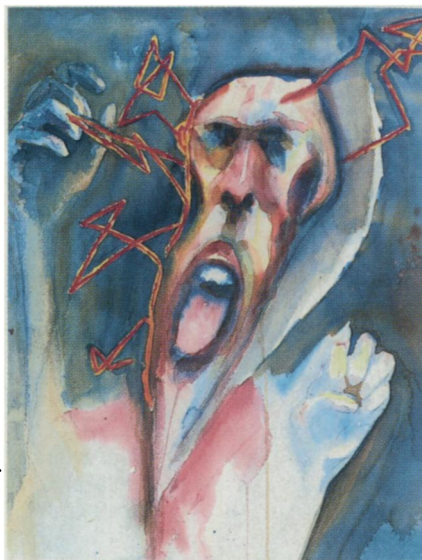
Such displays give headache-prone viewers a unique means of communicating their habitual discomfort to family and friends accompanying them to the



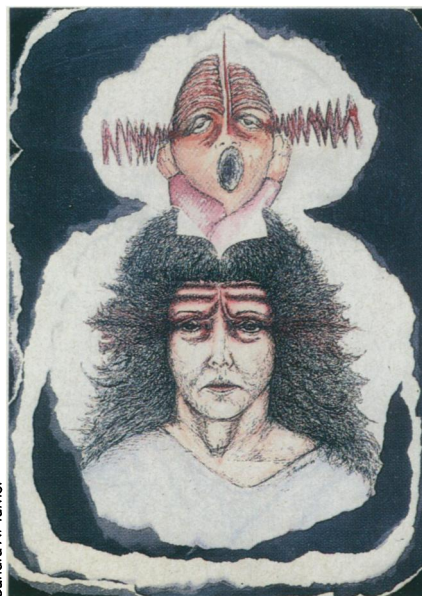
Facing Page: Sandra Jean Weis



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exhibit. At this summer's exhibition, Spierings says, several viewers told him, "This is exactly like my pain. I can't believe it."

The exhibition, sponsored by the Graham Center and Sandoz Pharmaceuticals Corp. of East Hanover, N.J., is scheduled to travel through the United States over the next two years. It should help alert potential patients that specialists exist

to treat them, Rapoport says. These people don't find a lot of understanding in the medical profession, Spierings contends, adding that many physicians lose interest quickly when confronted with a chronic headache sufferer.

The New England collection has prompted the Medical Association for the Study of Headache and the Foundation for Research in Head Pain to sponsor similar U.S. exhibits during the next year. Rapoport hails such efforts, emphasizing that it will take years to reach a large number of headache sufferers.

The exhibits might even stimulate some much-needed funding for headache research, according to Mathew. Although headache researchers worldwide have received increasing support over the last 15 years, their field remains a relatively neglected specialty in terms of funding. The neglect, Mathew says, is a carryover from the old belief that headaches are "all in the head."

Headache specialists have suggested that Lewis Carroll based parts of *Alice's Adventures in Wonderland* on migraine-induced hallucinations. At one point in the story, Alice's neck grows so long that she cannot reach her head. She succeeds, however, in curving her neck "down into a graceful zigzag" in order to reach her hands. This situation, although not totally satisfactory, is an improvement over her previous predicament, in which rapid shrinking left her chin pressed against her foot.

But Alice is relatively lucky: She can reverse her rather uncomfortable state simply by consuming a morsel of magic mushroom. While physicians have developed their own array of morsels to relieve many kinds of headaches, it just might take some artistry to reach the minds of their patients, enabling each to be matched with the appropriate remedy. With such help, many more sufferers might have cause to exclaim, as does Alice, "Come, my head's free at last!" □