

THIS JUST IN
by Stuart F. Brown

Is it curtains for gutta-percha?

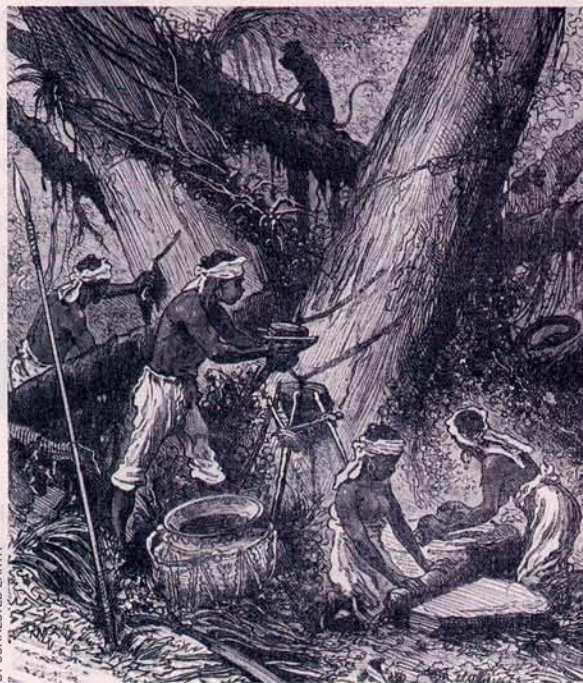
Through a fog of nitrous oxide, I asked the endodontist about the toothpick-like thing he was about to put in my mouth. "That's a gutta-percha point," replied the doc. "We use them to fill up the root canals after

we get the bad stuff out of there."

Gutta-percha! Images of pith-helmeted British adventurers slashing their way through unexplored jungles in pursuit of vast natural riches filled my humming brain. But ... what is this stuff that I will be carrying around in my skull forever? Does it involve some sort of odious guts? Perhaps the guts of birds that perch somewhere?

Not at all. It is a tree sap. *Isonandra gutta*, a handsome tree native to Borneo, Java, and Sumatra, is tapped to release a milky, rubbery sap that is concentrated to form the wondrous material known as gutta-percha. Here, I thought, was an old material that was still hanging on to a niche market. But I needed to know more, so I poked around a bit. My new permanent lodger has, I am proud to report, a glorious past.

Gutta-percha was a hero of the communications revolution that changed the world when the telegraph was invented. Telegraphy pioneers attempting to link nations via undersea cables were at first stymied by the lack of a suitable electrical-insulating material. Then, in 1843, one Robert Montgomerie sent samples of dark-brown gutta-percha gathered on the Malay Peninsula to London, where they were exhibited at the Royal Society of Arts. (The name comes from the Malay words for the gum of the percha tree, according to the *Oxford English*



BY CONNECTED EARTH

Dictionary.) Just two years later S.W. Silver & Co. of Stratford developed an extruding machine to coat the stuff onto copper wires. The insulator worked so well that the firm renamed itself the India Rubber, Gutta Percha & Telegraphy Works Co. and began producing miles of insulated cable. A successful cable was laid across the English Channel in 1851, and other, longer undersea cables soon followed.

At the same time that gutta-percha was helping to shrink the world through light-speed communications, it was also transforming the sport of golf. In the late 1840s the first gutta-percha golf balls went into production. They flew

farther and cost much less than their feather-stuffed, leather-jacketed predecessors, helping make golf an affordable pastime for more players. Dinged-up "gutties," as they were known, could even be repaired by softening them in boiling water, then squeezing them in a hand press to restore their spherical shape. Gutties put the makers of "featheries" out of business and totally ruled until 1898, when B.F. Goodrich Co. introduced an even better ball made from a rubber thread wrapped under tension around a rubber core, then coated with a rubber skin.

Gutta-percha made its appearance in dentistry in the mid-1800s, when it was first used for filling cavities. In their classic endodontics book, *Pathways of the Pulp*, Stephen Cohen and Richard J. Burns report that in 1887, S.S. White Manufacturing Co. began producing "points" of

The sap of the *Isonandra gutta* tree made intercontinental telegraphy possible.

rolled gutta-percha for stuffing root canals. The material was valued for its plasticity when heated, which permits it to be stuffed into the odd nooks and crannies that remain after infected tissue is removed by the dentist. And that's how they still do it today, with a material derived from the sap of a tropical tree. The annual market for gutta-percha in the U.S. is estimated to be

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\$30 million to \$40 million, and most of it comes from Brazil, where tappers harvest sap from trees growing in the rain forest. To make points for filling root canals, it is mixed with various waxes, resins, and a zinc-oxide filler.

Having this splendid substance embedded in my head, sealed with a special cement, protecting my once-troubled canals from bacterial assault, made me proud. I felt personally connected to the vast sweep of history and invention. I began to think of gutta-percha as being in a class with other unimprovable materials like mahogany or granite, stuff that is eternally top-drawer.

That is, until I called up Dr. Gerald Glickman, chairman of the endodontics department at Baylor College of Dentistry in Dallas. "We all want to get rid of gutta-percha," he proclaimed. "Even though it is the closest thing we have to an ideal root-canal filling material, it is hard to work with, and sometimes it still leaks. Developing a better material is what's on the horizon in our specialty." Indeed, the big dental-supply firm Denstply International, based in York, Pa., is working on a synthetic replacement for gutta-percha that it hopes to introduce in the near future, and so are its competitors.

Say it isn't so, Doc! The final retirement of a storied material with a magnificent name seems too sad to contemplate. Well, it turns out that there is still hope for gutta-percha, thanks to the "hickory hackers," golfing's equivalent of Civil War reenactors. "There's a whole subculture of people in America who play golf with 19th-century equipment," reports Rand Jerris, director of the museum and archive at the United States Golf Association in Far Hills, N.J. "Almost every weekend, someplace in this country, you can find tournaments where people play with hickory-shaft clubs and gutta-percha balls."

Let's say you wanted to take up hickory hacking. Where could you find some authentic gutties? GlenCall International Golf Ltd. in—of course—Scotland offers balls made in original old-time molds from solid gutta-percha for £85 sterling per dozen. Damn good. I think I'll have another hit of that nitrous oxide. **F**

MARC ASNIN—REDUX

