It’s ironic in this day of constantly evolving technological wonders, that the strongest dental adhesive in the world has been on the market now for almost two decades. Even more remarkable, the formula has remained virtually unchanged since the day it was introduced.

Dr. Nelson Gendusa, Parkell’s Director of Research noticed a material called 4-META/MMM-TBB repeatedly mentioned in Japanese technical papers. The inventors of C&B-Metabond (called ‘Super-Bond’ in Japan) had spent eight years trying to persuade American companies to market it as a general adhesive cement.

“From the day we met Nobuo (Nobuo Nakabashi, PhD, designer of the 4-META molecule, inventor C&B-Metabond and creator of the hybrid layer theory of bonding) I knew we’d found a kindred spirit.” says Gendusa. “And over the years we developed a fantastic working relationship.” Parkell offers marketing and clinical testing support and the Japanese provide their formidable chemistry and manufacturing ability.

Dr. Gendusa, author of the company’s Adhesive Newsletter, says only minor modifications have been made to C&B-Metabond over the years. It was first introduced in Japan in 1982. In 1995, a technique was discovered to make the cement film radiopaque, and just last year chemists managed to extend its notoriously short working time. But the adhesive system itself remains exactly the same.

“C&B-Metabond certainly isn’t for everybody,” says Gendusa. “It’s expensive and until you get the hang of it, C&B-Metabond can be tricky to use. But when you need drop-dead bonds to dentin for non-retentive crowns or walk-in emergencies, nothing holds a candle to C&B-Metabond. I still get letters and photos from astonished dentists that begin “Hey, Nelson, you ain’t gonna believe THIS one!”

Today, C&B-Metabond has by far the longest track-record of any adhesive resin cement and Amalgambond arguably has the longest track record of any bonding agent. In a world where the life-span of a typical bonding agent can be measured in months, Amalgambond (a modification of C&B-Metabond’s chemistry) was introduced in 1989.

It was the first bonding agent that adhered to both resin-composite and amalgam. Despite the decline in amalgam use, Amalgambond remains a major player in the bonding field, indicating either there’s considerably more amalgam being used than generally believed or that despite its name many dentists are using Amalgambond for resin restorations.

According to Gendusa, initial hostility at some universities to the concept of bonding amalgam was remarkable. “They hadn’t actually tried it, of course. But being experts, they ‘knew’ it was impossible. We were even the subject of a long editorial in the August issue of General Dentistry entitled- “Forsake the Untried and Untrue.”

Fortunately for Parkell, the concept of adhesive amalgams made a lot more sense to general dentists than to professors. And according to CRA, by 1995, 65% of the dentists responding to their survey were bonding alloy restorations. Even the dental schools were slowly coming around. By that year 23% of the schools had begun teaching bonded amalgams.

According to Gendusa, dentists show terrific loyalty to Amalgambond and C&B-Metabond. Before Parkell introduced it to North America, Dr. Izchak Barzilay, a Toronto Prosthodontist, was having C&B-Metabond shipped all the way from Japan. And just a few weeks before this article was

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bonding. If the surface is too wet, you get dampness in the dentin for proper sensitivity. They require a precise level of moisture-content adhesives have dramatically reduced the number of bottles the dentist had to use. Adhered with 5th-generation "materials reduced the 'It's simply not true. The so-called "5th-generation" materials reduced the number of bottles the dentist had to use. Adhered with 5th-generation "materials.

"We believe this is the direction bonding is heading. No-etch systems will force out the 5th-generation by natural selection," says Gendusa. To demonstrate this conviction, Parkell recently announced that it was discontinuing EasyBond, its 5th generation bonding agent. Because it speeds the bonding procedure, preparations have less time to become contaminated. This makes Touch&Bond ideal for hard-to-isolate spots. Or for patients such as children and gaggers who can't tolerate extended procedures. After returning from a recent dental mission to Mexico, Dr. Thomas Zupancic (Joliet, IL) wrote a nice note to Parkell reporting how much easier Touch&Bond made life for a dentist performing a lot of dentistry in the field without access to a dental facility.

But perhaps the biggest benefit of Touch&Bond is the virtual elimination of sensitivity.

The introductory advertising for T&B emphasized its speed, simple technique and great economy. When the Parkell technical department surveyed early users they received a surprise. Seventy-six percent of the respondents said Touch&Bond lived up to the advertising claims. But 23% said that the bonding agent performance actually exceeded the advertising claims. Exceeded the claims? Considering the manic nature of Parkell's ads, that was hard to understand.

It turned out that what the users hadn't expected was Touch&Bond's almost total elimination of post-op sensitivity. Touch&Bond advertising now features a number of quotations concerning sensitivity from users (incidentally, several are drawn from the DentalTown message boards!)

"Complaints of sensitivity after bonding were never a big issue for me," says Dr. Mark Goodman (New Milford, NJ). "But since switching to Touch&Bond, they're a NON-issue."

Another new 4-META-based adhesive from Parkell is TotalBond, a dual-cure adhesive cement. It doesn't deliver the awesome bonds of C&B-Metabond, but it's much less expensive and much easier to use. According to Gendusa, where C&B-Metabond is an extraordinary cement for extraordinarily demanding cases, TotalBond is intended for bread-and-butter bonding, where dentists might otherwise use a resin-ionomer. TotalBond comes in three shades as well as Clear for cosmetic bonding.