

the racket Evolution ...or Revolution?



In Lydia Netzer's recent *New York Times* Op-Ed piece on the history of space flight technology, "The Man in the Moon," she reasons: "Most technological advances are actually just improvements. First you had a carriage, then a car, and then an airplane; now you have a jet."

French monks in the 12th century, responsible for tennis' first incarnation, used gloves to hit hand-made balls against walls. Then they had wooden paddles. By the 1500s, it's believed the Italians came up with what could be considered the first wooden racket with strings in a game that could be characterized as squash in a courtyard. In 1874, British Major Walter C. Wingfield registered a patent not only for the rules of "lawn tennis" – the true forerunner of the game we play today – but also its racket, which remained virtually unchanged in concept for nearly 100 years.

Beginning around 1970, the metals came into being (Jimmy Connors with his steel alloy Wilson T-2000 along with the aluminum Prince Classic, the first oversized racket, used very successfully by 16-year-old Pam Shriver), followed by a lone composite (the Head Comp popularized by Arthur Ashe) inspired by ski "sandwich" technology, all of which ultimately led to the graphite-carbon fiber sticks that completely took racket construction to another level in the early '80s and still keep on ticking right along with every possible new space-age material in the mix.

My own first top-of-the-line racket in 1960 was not the popular, now iconic, Wilson Jack Kramer Autograph, or the flashier Dunlop Maxply Fort with its exceptional feel and craftsmanship. It was the Pancho Gonzales Autograph by Spalding (which actually produced the Kramer for Wilson), a Kramer identical twin, strung with blood red Victor Rob Roy gut. No, not "cat gut," as it was commonly referred to by non-players back then. In reality gut string was, and still is, processed lamb or calf intestines which you can not get wet, or its many wound strands will first fray and then completely unravel before you can finish your match. Nylon, or "synthetic gut" as it eventually became generically known (first introduced in the '60s by a fishing line company in Rhode Island), was far less expensive, did not play nearly as well, and was not looked upon favorably.

Some look back nostalgically at the woodies, like a classic wire-wheeled roadster in the garage. Truth be told, these rackets were Neanderthal "clubs" compared to the magic wands that we whip around today. They were very heavy and unwieldy, with slippery leather grips and tiny 68-square-inch heads. Mere four-cylinders next to today's enabling, turbo-charged V12s – shot-making on steroids.

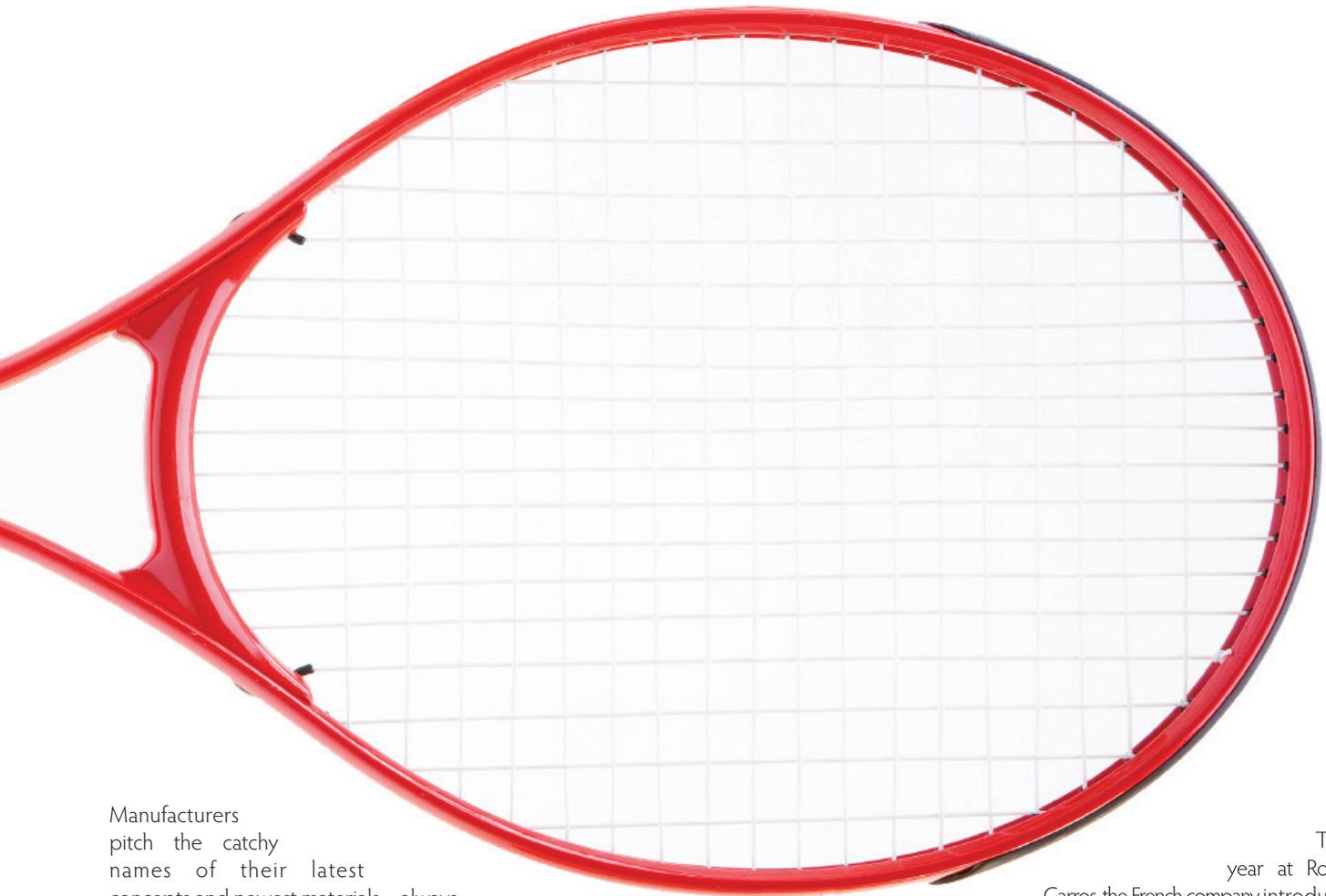
In a preview of the 2012 U.S. Open, renowned sports writer Harvey Araton noted not only the "enhanced physicality of the sport since the days when shorts were really short," but also that back then "the rackets did not pulse with power." An understatement at the very least.

Ball striking was more massaging than bashing, which required highly developed finite motor skills. Those little 68-square-inch heads demanded impeccable technique along with "good hands" in every phase of the game. You had to have all the shots, because those rackets could not cover up mechanical inefficiencies.

Today's hopped-up, hi-tech weapons, with their dramatically larger heads and more forgiving string beds of super-playing synthetics, have not only made the game lethal in the hands of today's tour pros, but also less difficult and more appealing for recreational players at public parks and clubs. That's been a very good thing for the club game, and especially for its older players.

The mood in today's battle-of-the-rackets among the big three manufacturers – Head, Wilson, and Babolat – is one of a dead serious corporate cold war for market share. "There is an arms race," according to Wilson Racquet Sports' Jon Muir. "If we don't continue to innovate, we are going to fall behind."

That sentiment is nothing new, and just about everything has been tinkered with in the past in seeking to hyper-jump the competition. Rackets with two handles attached to a single shaft. Ones with heads tilted at 45 degrees (the same angle at which ocean waves break – something about universal physics?), models with interchangeable screw-on heads at different string tensions, and even one with a feature to lengthen the shaft another inch, if desired, from its standard 27 inches. The list goes on.



Manufacturers pitch the catchy names of their latest concepts and newest materials – always lighter with breakthrough strength-to-weight ratios – predictably promoted as providing, like never before, the ultimate balance of power, control, and maneuverability with a more forgiving sweet spot. There's Hybrid Beam technology, Organix carbon nanotubes, MicroCore, Cortex, and Adaptive YouTek, just to name a few.

Since topspin has become the hallmark of the game at the highest level, Wilson built its Innovation Center outside the O'Hare Airport in Chicago to measure, in addition to spin revolutions per second, ball speed and flight patterns – based on both new string patterns and tweaks in racket frame design – on a special court with live players, versus laboratory-only results, for the first time with a goal of enhanced spin without the necessity of stroke changes. A January release date has been announced for rackets with this new technology. Still, it's still just an airplane.

Wilson's business director for rackets, Cory Springer, acknowledged as much. "Instead of revolutionary," he said, "it's been more evolutionary. Is there another revolutionary advance in our future? I'm sure there is, but those things don't come along every day."

Not so fast.

Netzer's theory of methodical next-step improvement just might be in question – hearkening back to Thunderclap Newman's '60s anthem lyrics, "Call out the instigators, the revolution is here." With Babolat boldly doing the instigating, looking to turn racket technology on its head, well beyond the airplane becomes the jet – the revolution is here.

This year at Roland Garros, the French company introduced and demonstrated a prototype that looks and feels like a normal racket, but it's far, very far from it. The "Play & Connect" frame will not be on the market until 2013, and reportedly only Rafa Nadal, Kim Clijsters and Li Na, Babolat players all, have hit with it.

So what's the big deal? It houses a computer chip in the handle that records biomechanical information – spin, swing speed, impact points, shots struck, actual playing time, and more still in development. It will wirelessly link to your computer, smartphone or tablet for post-play analysis and the establishment of a playing profile that, down the road, can be compared to both peers' and professional player's data. Now that's revolutionary.

Locally, we're fortunate to have two excellent tennis specialty shops, long standing Wrigley's Tennis and newcomer Grand Slam Tennis Company, led by racket tech heads Will Wrigley and Matt Protz respectively. Both are also accomplished players whom you can talk to in order to insure that you are currently playing with a racket that's well suited to your game and your physicality – which makes all the difference – without having to rely solely on all the manufacturers' repetitive, promise-you-everything marketing hype.

Although I haven't made a racket change in 10 years – my trusty old Head Intelligence iS2 Mid has remained a perfect fit for me despite trying the latest and greatest periodically – I'm personally looking forward to (despite an occasional bout of technological aversion) getting my hands on one of these "chip-sticks" and comparing my data with Rafa's.

On second thought, maybe that's not such a great idea. 