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INSIDE

Playable Art

"Trifles make perfection, and perfection is no trifle."
– Michelangelo

This has been said before... right here in these pages, but like we also said not too long ago, we 21st century schizoid men are sooo distracted. So pardon us for reminding you once again that the Beatles are what messed up the guitar business. Yes, Gibson, Martin, Fender, Gretsch and Guild had already bowed up considerably as America's youth lost their minds to surf music and rock & roll, but before all that went down guitar making in America was largely a craft, and 'professional' guitars were made by craftsmen employed by companies whose heritage was steeped in craftsmanship and art. This is the way things were in the better part of the last century, and the very fabric of American life was woven by such people – hardworking middle class folk just trying to make a living, doing they best they could, which, in hindsight, was pretty damn good.

"I Wanna Hold Yer Hand" and supply and demand snuffed out any remnants of old-world tradition in the guitar business pretty quick, but without John, Paul, George and Ringo a lot of the guitarists and songwriters who have so deeply touched our lives would have wound up doing something else altogether, so there you go. We traded mass-produced guitars for great music. Fair enough. More recently, a resurgence of sorts emerged in the business of building and selling guitars, generically described as the 'Custom Shop.' This term originally grew from the practice of building 'one-offs' for certain high-volume dealers, influential artists, and anyone else who was willing to pay a stiff premium for something different and unique from the standard catalog models. Inevitably, the concept of 'custom-built' guitars shape-shifted to represent prettier, or distressed instruments with somewhat more historically 'correct' vintage appointments, but now built

and assembled by line workers who were neither guitar builders, or players. 'Custom' often became a justification for a higher price, but not always a better instrument.

Far beneath the radar of commercial elitists preoccupied with obtaining mass-produced, heirloom collector-bait, the craft of guitar building is still pursued by brave artisans whose obsession with the guitar supercedes the common sensibilities imposed by spreadsheet projections and corporate profits. The return on investment from an artist's work is, afterall, the work... Any man willing to spend an entire day carefully working a single piece of wood or metal for the sheer joy of it does so off the clock, in the timeless space that betrays the difference between an object made to be sold, and art. In this edition of the quest we re-visit an exceptional builder who served his apprenticeship among the sprawling concrete and brick canyons of Manhattan, where guitarists brought their axes to be repaired, optimized or in some cases, re-finned in hot pink. Today, his work reveals the uncommon vision and skill of a man possessed – vision that joins form with function to create nothing less than playable art.

Ken Parker

If you think you know Ken Parker, you do. Founder of Parker guitars, Ken revolutionized the modern electric guitar industry with his Fly design and variations on the theme utilizing basswood/carbon/glass/epoxy composition neck and fingerboard construction, stainless steel frets bonded to the fingerboard, and poplar bodies, all of which produced an incredibly player-friendly and toneful instrument unlike anything we had ever seen. Parker's spruce-bodied Artist model still resonates in our mind as one of the most spectacular acoustilectric guitars we have ever played, and of course we graced our March 2001 cover with a whimsical image of a Parker being played by a vaguely familiar fellow... Unfortunately, Parker's innovative vision surpassed the average guitarist's capacity to depart from the past, and Parker Guitars was sold, leaving Ken Parker free to chase another dream – the resurrection of the acoustic archtop guitar. We traveled to Ken's workshop an hour or so north of New York and spent the day with Ken, his tools and his toys on your behalf. *Enjoy...*

TQR: That tailpiece you've made is a work of art, Ken.

Thanks. I had a client here the other day and he said, "Wow, I've seen a lot of tailpieces, but nothing like that. Could you make one for my guitar?" And I said no, not really, and you wouldn't want to pay me to make it anyway because it takes about three days. It's called *Mokume Gane*, which is a forge-welded stack of different kinds of metal – like layers of foil. I moved up here to develop a modern acoustic archtop guitar – build prototypes, test these new ideas that I hadn't had time to build, and it's been a very, very big project.

TQR: Was your goal to design a single new benchmark?

What I've done is to devise a system to build archtop guitars that allows me to do virtually anything. So if someone wanted me to build a dark, rich, wet sounding archtop with lots of mystery in its voice, I understand and can build that. On the other hand, it has always seemed to me that the form of the archtop is so open and versatile that to confine yourself to that end of the spectrum seems old-fashioned. Gibson was making archtop guitars in the twenties that were OK, but they weren't really exceptional. Then Lloyd Loar came along and he applied his considerable talents to optimizing the proportions and making some design changes, and it was as if he had wandered into the shop with a magic wand. The F5 mandolin and the Mastertone banjo came out of that, and the L5 guitar… The examples that were signed by him and similar guitars that were built by people that he trained to follow his designs are some of the most wonderful instruments you would ever

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hope to hear – the 16" rail-braced L5s, specifically. They are very versatile and lively acoustic instruments that are so much fun to play. Charlie Christian came along and began using a pickup, and then the guitars were asked to do almost the exact opposite thing – to behave like electric guitars, to play loud and not feedback – not that an electric can't be lively, responsive and light… but it can't have a big air chamber. So because it was a commercially viable product and a lot of people wanted that warm electric guitar sound for jazz playing, they just stopped building acoustic archtops. It can be argued that they were still built, but they were really just electric guitars with no pickups, and they stopped caring about the acoustic archtop.

TQR: Well, the acoustic archtop in the big band era was a rhythmic percussion instrument… you couldn't really hear them that well. Ultimately, they fell out of fashion… things changed.

It happened before that, and it may be helpful to add some historical perspective related to guitar building…The Depression had a fabulous effect on the Martin guitar company, because they let go everybody that wasn't a genius. They had a half a dozen guys that were just the best guitar builders on the planet, and during the Roaring Twenties they had people cutting Brazilian rosewood and they had access to all of this beautiful spruce in the Adirondacks… They had a stock of wood. Well, when the Depression hit and they were selling one guitar instead of seventeen, all of a sudden they had seventeen times as much wood to pick from, so of course they were building phenomenal guitars in the '30s. They had the best wood and the best guitar builders. For some reason, at Gibson that didn't happen, and as a repairman years ago, I had two beautiful L5s – one from 1929 and the other from 1930, and they looked almost identical. One of them sounded unbelievably great – warm and sweet with this beautiful voice and a wonderful dynamic range, and the 1930 guitar sounded as if it were under water… It just didn't have any clarity, focus, or any sparkle.

TQR: Did you figure out why?

Yes, I did. We had strung up both guitars with new strings and I go into the 1929 with a light and a mirror and there are beautiful little braces that are carefully graduated and nicely cleaned up – just lovely, like a cello. Then I look into the

1930 and not only is the top disk-sanded in the crudest possible way, but the braces were kerfed – hacked in there with the top planed off and a curly maple veneer added for strength with glue dripped all over the place. The thing was just a mess. I took the back off, carved off the junky braces, re-graduated the top from the inside and glued in some beautiful rail braces and it was the equal of the other guitar when I was done. So Gibson did what they did, but the people that were making these wonderful instruments in the '20s just went away, and after the Depression, Charlie Christian came along and blew everybody's mind. Then they introduced the cutaway, and the guitars began to become really heavy, and there are a lot of reasons to leave them heavy. First, it's easier. Taking less wood off is always less risky, and they were less likely to feedback. So, except for a few guys like John D'Angelico, Elmer Stromberg and Jimmy D'Aquisto, that was the end of the acoustic archtop guitar. There were only a few people doing this and it was all focused in the Northeast.

TQR: It seems as if the styles of music that were played on an acoustic archtop were more focused in the New York area, and it survived.

Well, that may be true, and this is the crux of one of the things I wanted to talk about… What *is* the style of music you play on an acoustic archtop guitar? What's an acoustic archtop? If it is what came out of a factory in the mid '50s, I beg to differ. As a group, those guitars are not fun to play – they are sluggish and they don't feel lively or dynamically responsive, while, if you had a nice Martin from the same period, it will blow your mind with its responsiveness and the way it just explodes with sound.

TQR: Well, to answer your question, you can find a '50s Gibson L50, which is a smaller box with no cut away, and that can be a great blues guitar. You can play slide on them, and fingerpick, and they're phenomenal…

Yeah, I agree. Some of those are totally great, and you're making my point, which is that the *form* of the acoustic arch-

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top guitar is a successful and very interesting form as an acoustic instrument. There are some really nice guitars that came out of those 'student' models – the ones where the fingerboard extension is glued to the top. That isn't one of my favorite features, but I have to say that functionally, some of those instruments are very fun to play and they are short money. For me, it's important to judge each guitar on its own merit.

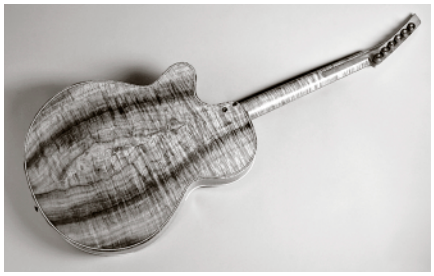
TQR: So your goal is to build an acoustic archtop that is more versatile than being suitable for just one style of music – jazz.

Yeah, and you can go to the web site and the soundclips will convince any doubters. It fingerpicks beautifully, and normally, fingerpicking an arch top isn't recommended… As a group, archtops are so heavy that you need to use really heavy strings to drive them at all. The guitars I'm building now are designed for .012s or .011s, and it's a low-tension set

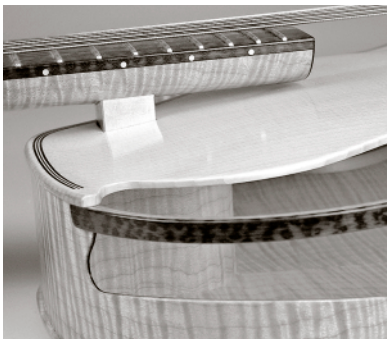
up where the string break angles over the bridge and the headstock are low and the string length tends to be long beyond them. I'm using a 25.5" scale because I really believe in it, and the guitars are very easy to play. Also, because of the adjustable neck joint, you can lower the action so it plays like an electric, or raise it and play slide, and you don't have to re-tune.

TQR: Describe some of the other specific features you've designed into the guitar…

Let's start with the box. I'll defend the idea that the violin is the most successful of all stringed instruments. It's powerful, has a huge dynamic range, and is unsurpassed as an expressive instrument. Remember, though, that the violin is really a



two part instrument, as it is played with a bow. The guitarist doesn't have the bow, which frees the guitar to be truly polyphonic, but it puts a tremendous burden of efficiency solely on the guitar. While the bow can energize a string nearly indefinitely, the guitar is driven by a short impulse from a fingertip, fingernail, or little chip of something. It's the box that has to do all the work, and this is a huge challenge for the guitarmaker. My way is to look at every part of the structure and ask, "What is its job, and how does it relate to the whole?" Let's take the lining inside the body of the guitar as an example of a 'neglected' or unexamined element. Here is the perfect example of design being driven backwards by manufacturing concerns. Factories use kerfed lining, which is very easy to install. In my opinion, it is also grotesquely oversized and does a very good job of spoiling the intersection of the plates and the rim. Read about it online, and you'll learn that the lining "doesn't matter," or that it "can't contribute to the sound of the guitar." Horsefeathers. Here is an essential element connecting the big parts, and in the search for efficiency, every part must be optimized. My way of thinking is that the parts must operate as a choir... a blues band... a sax quartet... a group of individual elements that find it easy to cooperate and can aspire to greatness. The words that sum this up in my mind are "impedance matching" – that is, a kind of internal agreement.



It seems to me that the sides of the guitar body also need to be thin and flexible to promote the true low-end of the instrument. That's certainly what the cello makers believed… I'm building it strong enough to hold together and take some knocks, but not so strong to be competing with the very small amount of energy generated by the strings. So the sides are really thin – like two thirds or half the thickness of a production guitar. Wood has a lot of elasticity and give when it's thin that it doesn't have when it's thick, and it also allows the top and back to move more easily. If you put your fingertips on the guitar while someone is playing it, there isn't one place where you can't feel the guitar resonating and vibrating.

TQR: Let's pause for a minute and switch gears… Speaking of resonance, some people seem to believe that the most desirable situation for a solid body guitar is one in which the body does not res--onate at all – that vibration of the body impedes or dampens sustain. You've probably read that at one time during the development of the Les Paul, Ted McCarty and company strung up a steel rail from a train track as a gonzo extension of Les Paul's

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original 'log,' and they weren't too impressed. We've always played solidbody guitars first unplugged, since doing so is the ultimate mojo detector. The more you feel going on unplugged, the better. What you don't want is a dead plank. What are your thoughts on *solidbody* tone and resonance?

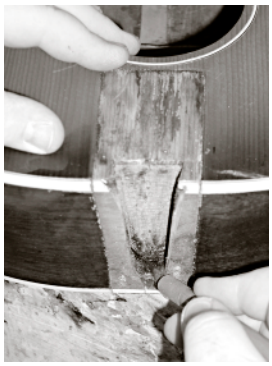
I couldn't have said it better. *All* guitars are acoustic guitars, and when people are judging materials, everybody wants to talk about stiffness and density (weight)… The third property we really care about is 'damping,' or a kind of internal friction. What does the material do when you energize it with motion? Does it reflect and have relatively low losses of vibration? How much energy is the material absorbing and how much is it reflecting? All motion creates internal friction and heat. If you hit a kitchen pot, it responds instantly, there is very little damping and you get a very high-pitched sound that is immediate. If you hit a piece of cardboard, it does something completely different – there is a lot of damping. So when you choose materials for a guitar, you're always thinking about those properties of weight, stiffness and damping. If you disregard damping, you're not going to have a lot of control over the result. As a builder, you are tuning the instrument so that all the parts can cooperate to create the best possible musical result. You have to pay attention to how an instrument or materials absorb energy in addition to reflecting it. A lot of this stuff seems mystical because it is complex and not easily measured. I'm not a mystic – I'm a science booster, but I will say that a lot of these little relationships are so complex that it would be really difficult to measure them. The fact is, *every* piece of wood is different and has a unique identity. You could take a board and saw different sheets off of it in different directions and they are wildly different in their damping characteristics, so we evaluate those differences with our own personal 'bio-computer.' We pick up a piece of material and we bonk on it, drop it on the bench, we grab it in our hands and flex it to see how stiff it is… The big thing that I'm saying is that I'm not building to a recipe – I'm inventing a new cuisine using combinations of materials that are well-proven to make the most out of that tiny bit of energy produced by the string.

TQR: We've learned something that was a revelation, but may be old hat for you… We play every guitar we can put our hands on, and we have always wondered why we can walk into a store and play 15 more or less identical guitars models, and only one or two will be ringers… The guitars with a steeper neck pitch that require you to raise the height of a tune-o-matic bridge or a wrap-around tailpiece too far seem to lose something because the geometry is wrong.

You're singing my song. You're describing the neck pitch, but it's really about the break angle over the bridge. I always felt that those guitars sounded best with the tailpiece slammed all the way down on the body and the bridge set low. But a lot of guitar companies really don't hold close tolerances – they allow wide variations to specific parameters that are really very important. So you play ten of the same models and maybe one is magical, two are pretty good guitars, five are not that great, and two should never have left the factory. There is a range of optimal relationships in guitars, and when you venture outside of them you get decreased performance. It's the same thing with mandolins and banjos and every other instrument.

TQR: Is this your glue pot? We've heard that one reason old guitars sound better is because of the hide glue.

I agree. Do you know why? Because it dries hard and crystalline. Yeah, there is one prominent flat top builder who you can pay an extra $750 and he'll build you a guitar using animal hide glue. Hide glue is so good… First of all, it is the only thing that violin makers don't argue about. It's water soluble and can be removed with heat and water or a little grain alcohol. The most expensive instruments on the planet – Italian violins that are 300 years old – have all been taken apart multi-



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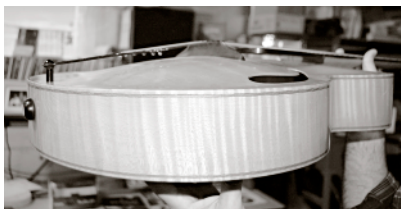
ple times for repair and modification. I had a Stradivarius in my hands a couple of days ago. Try taking a flat top guitar with plastic binding apart ten times…

TQR: So what types of glue have been used for guitars in its place?

Aliphatic resin glue, also called 'yellow glue' or Titebond – or as we used to call it – 'slightbond,' or 'timebomb' (laughing) No, it's good stuff for putting together furniture. When I came up, no one was using hide glue because it was just associated with what the old guys used. When I was a kid, shoemakers were the only guys using hide glue. Here's another kind of glue – listen to this (dropping a piece of black material)… Try and bend this. It's all carbon and epoxy, and this is a pickguard I made with a mold. Carbon is a really interesting material… it doesn't seem like it would be very strong just looking at the fibers, and when people refer to composite materials, they are referring to carbon and epoxy. Wood is the *original* composite material.

TQR: Do you have an adjustable bridge on your archtop?

Don't need it, because it has an adjustable neck. I can change the tailpiece to a different size, weight or material. I can change the height to alter the string tension… There is a rule of thumb… You know about the ASDR curve, right? Attack, sustain, decay, release. It's the audiophile's method of graphing a note. When you talk about that and refer to 'cutting power' with a guitar, the classic attribute of an archtop guitar is its cutting power – maximum attack and less sustain. If you want the guitar to 'bark,' which refers to cutting power, then you design the guitar to accept heavier strings and use bigger break angles over the bridge and nut. When you raise the tailpiece or lower the bridge to reduce the break angle over the bridge, the attack is less abrupt, the amplitude might not be as high, but you'll get more sustain.



With the guitars I'm building, the bridge height is a given, and then I aim the neck and the tailpiece at the bridge the way I want. Having done that, you can raise or lower the entire neck from the heel adjustment.

TQR: Another debatable topic of discussion is the role that nut material plays in tone (or not).

OK… in regard to sound, and not issues of durability, etc… How many notes can the nut possibly affect in terms of tone? Now let's put a capo at the first fret… Does the guitar sound different? Not to me! When I was doing repairs in New York in the late '70s and '80s I made thousands of nuts – thousands of them! It was during the *brass/mass/kiss my ass* phase… Who cares? It's six notes! I did all these experiments with part brass and part bone nuts with the same gauge strings on them and no one could tell the difference. This is one of the things that drives me crazy! It's like a belief system… creationism. Let me just say before we move on that I use wood for the nut. Now, if we go back to the old wives tales and lore about guitars, what are people talking about? The bridge… the wood in the body… the *nut*? I now use the pelvic bone of a virgin, and boy does it make a difference. But you have to catch them yourself (laughing).

TQR: That's fine. Riverhorse was wandering around the downstairs food court with a bottle of chloroform in Grand Central Station just this morning.

So I always wondered… a guitar is *this* long, and the neck is *this* long… and why aren't people talking about the neck? How does the *neck* sound? In a Fender guitar, the neck is largely or all maple, and people think of maple as a hard material. Remember when we were talking about fret wear and its hidden properties – hardness is just one thing… toughness and elasticity, resistance to this or that… And that's where things get really interesting in woodworking and picking wood for guitar building. If we have a piece of hard maple that is a half inch by a half inch thick and perfectly straight, you can take it and lean on it for awhile, let go and it's not straight anymore, and it will never be straight again. Maple is goo in my mind. It's not a stiff, resilient material. *Mahogany* is a stiff, resilient material. You know why all the

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Plek machines are out there whacking away at Fender guitars? Where the neck and the body join, the maple creeps – that's the engineer's term for a permanent deformation in response to a long-term load. That's why so many Fender guitars need a fret job. I paid my bills for fifteen years straightening that shit out. The classic deformation is, it hinges at the end of the neck joint, and it twists to put an undesirable amount of relief on the treble side, so the first fret ends up looking high. The preferred way to deal with that is to hang the neck in 100-120 degrees for a month or so and let the neck do what it wants to do. Then you remove the frets, string the neck up and look at it, make a map of where you have extra material, and you take that material off. Re-string the neck and make sure the neck is now true, then re-fret it.

Every time we play, we modify the neck with a bony bag of protoplasm, each one a little different than the other. It seems to me that the neck can best contribute to efficiency by holding perfectly still and reflecting the string's energy back to the bridge, and not turning it into heat. To this end, I do everything I can to make the neck and neck joint light and extremely rigid, while minimizing mass – particularly in the tuners. I use the wonderfully accurate Waverly gearset, and make everything else from wood and aluminum. I hold really tight tolerances, so I can get away without any metal bushings in the peghead face – another weight savings.

TQR: What about saddles?

That's a little different (laughing). The saddle really is the other end of the string. There are a lot of guitar players that rarely play open strings and others that are using open strings a lot. Maybe there is some room for reasonable men to disagree, but I think the whole thing related to nuts has taken on a berserk life of its own. But I think saddle material is a big deal, and when I was building electric guitars, I auditioned all kinds of materials for the saddles and I found some that I really liked and others I didn't like at all. I wound up using stainless steel. On my archtops, it's still kind of open season on bridge and saddle materials… I built one guitar that has a spruce saddle with a little curved piece of pernambuco and it sounds great, however, I make most of my bridges with hardwood and an ivory saddle. After I build an acoustic archtop guitar, although the character of it is pretty well-defined, I can change the bridge, I can change the tailpiece, I can change the composition of the strings…

TQR: But once built, is there an inevitable fine-tuning process that must compensate for the inherent variability of 'identical' components? In other words, as much as you manage every little bit in the creation of a guitar, you can never assume that "if I build every guitar this way, with this material, they will all come out sounding the same. There will be no variables in the end result."

No, that doesn't happen – it *can't* happen. I'm developing a recipe but I love to change the ingredients. For example, I built a guitar for the first time with this amazing curly Aspen, which I had never even seen before, and it just sounds incredible. With very few exceptions, archtop guitars have been traditionally built with spruce and maple, and there is nothing wrong with that, but if you're a cook, you buy the best stuff. If you plan on using rapini in a recipe but there isn't any good rapini that day, you don't use the bad stuff. In the early '80s I worked a little bit with Carline Hutchins, who was a brilliant instrument builder and the charismatic head of acoustic research in the violin family. One of her long-term experiments was the study of the materials used for the back and sides of these instruments. She and her students built 20 violas, and they got all the tops for them out of the same tree and tuned them all the same and braced them the same way, but all the backs and sides were made out of different species of wood. So she would have us listen to these instruments and pass out a score card we would use to rate each instrument.

She'd have a really great musician come in and play all of these different instruments and the differences were amazing! It just blew my mind how different they all were, and it was a seminal moment in my education.

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