



The *Guitar Player* (c. 1672), by Johannes Vermeer, is more famed for its off-center composition than the detail lavished on the early version of the guitar, then just coming into its own as a solo instrument. *Public domain*

resonating bodies and fretted necks. (So far, no depictions of screaming groupies.) Over the centuries, these instruments spread west across the Mediterranean, along the south evolving into the Arab *al'ud* and *qitara* and, in the north, the European lute and gittern. At the far western end, in 11th century Andalusia, the Renaissance lute and Moorish oud came together again in the Spanish vihuela, a flat-backed lute with a narrow waist, movable frets made of gut, and five or six courses (pairs of strings). Played with a bow, the vihuela was the progenitor of the viol; plucked with a quill or fingertips, it became the four-course Renaissance guitarra. By the 17th century, the ornate, inlaid, five-course Baroque guitar had become a favorite of the nobility. The Sun King, France's Louis XIV, was a guitarist.

FRETBOARD VS KEYBOARD

Already the tuning of the courses corresponded to the five highest strings of a modern guitar. In the late 1600s, Italian luthiers (makers of stringed instruments, including the violin and guitar) added the bass sixth. In the late 1700s, ivory or brass frets were fixed to the neck, which was still too short to carry more than 11 — less than a full octave. By the early 19th century, with the courses simplified to single strings, the modern guitar was born.

Instruments appealing to the human ear mimic the range of the average human voice: about two octaves. An 88-key piano spans

THE GUITAR

WRITER/HISTORIAN/ASPIRING GUITARIST DON HOLLWAY STRUMS THE INSTRUMENT THAT SHAPED THE 20TH CENTURY

Say “rock star” and kids today picture a swaggering rapper shouting along with a beat box, or a barely legal, surgically enhanced minx twerking and warbling corporate synth-pop. Darn those crazy kids! The older generation remembers when “rock star” meant tight pants, long hair and — slung low across the hips like a six-string phallic symbol — the instrument that gave voice to an era: the guitar.

ROCK OF AGES

The primeval rock star had to have been the Pleistocene cave-man who noticed his hunting bow

hummed when plucked. Four thousand year old Babylonian clay tablets depict musicians playing stringed instruments with

seven octaves, with one middle-C note. A standard six-string, 22-fret guitar offers not quite four octaves, but no less than five middle-Cs. Unlike on a keyboard, on a fretboard, the same note can be played on different strings, at different points on the neck. Highs and lows are not at opposite ends of the instrument, but mere inches apart; a guitarist can hold a whole octave in one hand.

LEARNING TO SING

The guitar soon found its way across the Atlantic into the log cabins of America, backing up the banjo, mandolin and fiddle. In 1838, Christian F. Martin, a son of German cabinet makers, set up shop in Nazareth, PA to make handcrafted guitars. In 1902, in Kalamazoo, MI, woodcarver Orville Gibson began turning out guitars with violin-style arch-tops and oval soundholes. In 1929, Martin introduced the 14-fret neck and big “dreadnought” body for increased volume and range

— now the industry standard. And in the late 1930s, Gibson’s L-4 and dreadnought Super 400 offered cutaway lower bodies, allowing access to the 17th or 18th fret. Eddie “Father of the Jazz Guitar” Lang (“April Kisses”) began playing his L-4 up high, and across the pond Django “Minor Swing” Reinhardt did likewise, with just two fingers of his semi-paralyzed left hand, on his cutaway Selmer-Maccaferri. The guitar was ready to step out of the rhythm section and sing its own song.

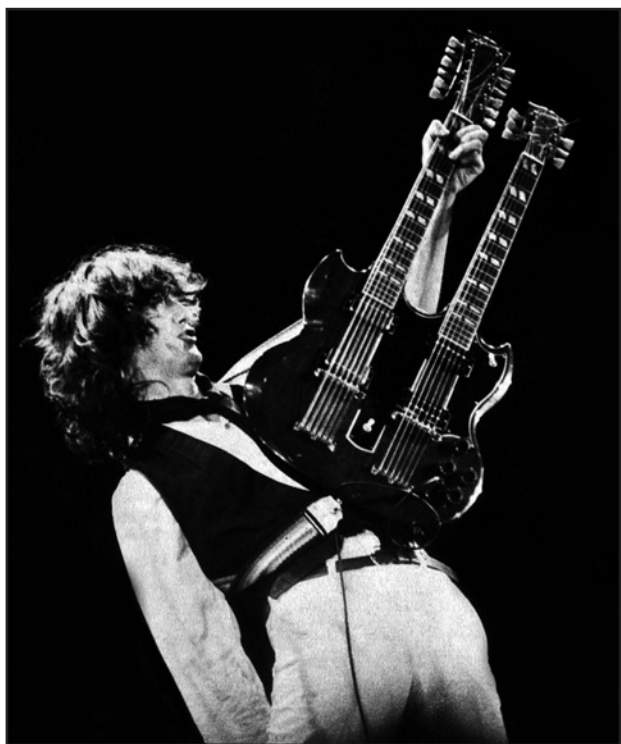
SEARCHING FOR ITS VOICE

All it lacked, compared to the rest of the orchestra, was volume. In the 1920s, Gibson began experimenting with magnets inducing electric fields in vibrating steel strings, and coils turning those fields into a signal that could be played back much louder. Amplified sound, though, makes a hollow-bodied guitar itself

vibrate, which makes the strings vibrate, which the pickups re-amplify, which makes the guitar body an endless feedback loop, building to nothing but a speaker-blowing howl.

Several inventors realized, almost simultaneously, that an electric guitar no longer needed a hollow body — in fact, it was an impediment. In the 1940s, country-jazz star Les Paul fixed pickups and six strings to a piece of solid pine, telling himself “I would make this instrument into the leader of the band.” Gibson called his idea a “broomstick with pickups”. So in 1950, it was country music fan Leo Fender, who couldn’t even play guitar, who turned his electrical-repair business into a factory for his Fender “Telecaster” — the first commercial solid-body electric guitar.

Gibson belatedly recalled Les Paul. Together (though to this day, nobody agrees exactly who was responsible for what), they came up with their own idea of a solid



LEFT: Led Zeppelin was not the first: double guitar from luthier Alexandre Voboam, Paris, 1690. Photo: © 2007 Jorge Royan, Wikimedia Commons RIGHT: Django Reinhardt, November 1946. After the third and fourth fingers of his left hand were paralyzed in a fire, he used only the index and middle fingers to solo. Photograph by William P. Gottlieb, public domain



Blues master B. B. King with his Gibson ES-355, "Lucille." Hamburg, Germany, November 1971. Photo: Heinrich Klaffs, Wikimedia Commons

body. The "Les Paul" featured two pickups, one near the neck for rhythm and one near the bridge for lead work, with a deeply undercut body giving access to a full 23 frets: almost two octaves per string. It averaged, however, over nine pounds — a lot to have hanging off a shoulder for more than a few hours.

GIBSON VS FENDER

And Leo Fender wasn't resting on his laurels. His Telecaster-based Precision Bass, with a 34-inch neck, required an extended upper bout or horn for a balanced hang point. The same design gave a six-string the slim-line, swoopy '50s look of a Sabre jet or finned Cadillac (not hurt by Fender's use of pastel automotive colors). The light, sleek "Stratocaster" was as technically advanced as it looked. It even had a tremolo lever — more accurately, a vibrato, informally, the "whammy bar" — that could fractionally tighten or loosen the bridge itself.

Players could change pitch in mid-note, without even touching the strings. The Strat hit the market in 1954, just as rock-and-roll took off.

Gibson hollow-body electrics powered jazz/swing guitarist Charlie Christian ("Solo Flight"), blues master B.B. King (who started out on a Telecaster and named all his Gibsons "Lucille") and proto-rocker Chuck Berry ("Johnny B. Goode") to stage-front.

But even more than Elvis, it was geeky, bespectacled Texan Buddy Holly and his Strat that took rock-and-roll mainstream. "We like this kind of music," Holly said of his band, the Crickets. "Jazz is strictly for stay-at-homes!"

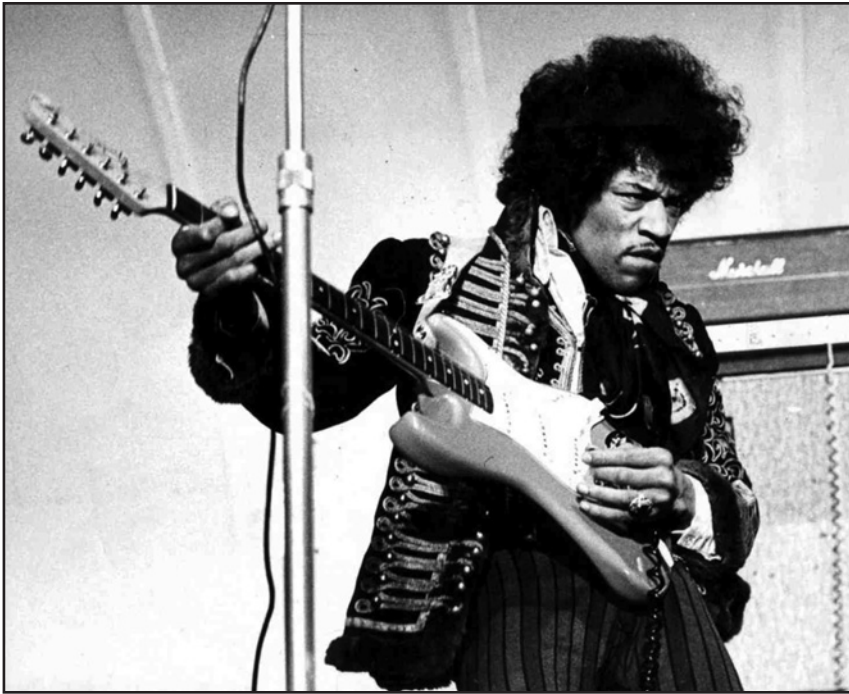
"If it wasn't for them," Paul McCartney admits, "there wouldn't be any Beatles."

Holly perished in that day-the-music-died February '59 plane crash. By then, Gibson had outfitted the Les Paul with double-coil pickups with reversed magnetic polarities, electrically out of phase to cancel interference ("humbuckers"), and adorned it with a deep multihued finish. These "sunburst" Les Pauls may have been the peak of six-string perfection, but were simply out of reach for aspiring rock-and-rollers. With sales flagging, in 1961, Gibson ditched the LP for the more utilitarian SG (Solid Guitar), modernistic Explorer and even more radical Flying V. The Les Paul fell to unloved, dirt-cheap, used-instrument status.

THE ROCK ERA

Classical guitar never went away (remember Mason Williams' "Classical Gas"?), but in the mind-altered 1960s, guitarists realized that electric signals could not only be amplified, but transformed. Distortion, delays, echoes, and a multitude of other effects dazzled drug-addled listeners. Folk-rock legend Bob Dylan literally shocked fans, setting aside his acoustic for a sunburst Strat at the July 1965 Newport Folk Festival, which "electrified one half of his audience, and electrocuted the other".

By the time everyone's hair was down to their shoulders, the electric guitar had gone global, with makers in England, Germany, Italy, Japan and Brazil. Meanwhile, Keith Richards of the Rolling Stones used a late-'50s Les Paul on "(I Can't Get No) Satisfaction". Eric "is God" Clapton accompanied the Beatles on "While My Guitar Gently Weeps" with a '59 sunburst LP he later gave to friend George Harrison.



Left-handed Jimi Hendrix played his right-handed Fender Stratocaster upside-down. Public domain

When Gibson revived the model in 1968, American guitarists practically separated into opposing camps.

Left-handed virtuoso Jimi Hendrix played a right-hand Strat upside down (not to mention behind his back and with his teeth,

though never at the same time). At the 1967 Monterey International Pop Festival in San Francisco, he poured lighter fluid on it and set it afire onstage, raising guitar playing to performance art. Led Zeppelin's Jimmy Page and Pete Townshend of The Who used



The metal extreme. Michael Angelo Batio playing his Double-Guitar in Mexico City, 2012. Photo: Jorgesys12, Wikimedia Commons

Les Pauls; Black Sabbath lefty Tommy Iommi, an SG. In 1970, Clapton put down his SG, bought six Strats for \$200 to \$300 apiece, gave away three and used the best parts of the rest to make his famous "Blackie". The generation's most legendary guitar power riff, Deep Purple's 1972 "Smoke on the Water" was done on a Strat, though Deep Purple guitarist Ritchie Blackmore has since gone full circle and now plays a Russian lute in a Renaissance ensemble. Above the fray, the Beatles favored Rickenbacker, Gretsch and Epiphone (later a Gibson subsidiary), though George used an SG on *Revolver* and John Lennon used it again on *The White Album*. Harrison would later use a custom Telecaster on *Let It Be* and in the Fab Four's famous January 1969 rooftop concert.

Throughout the '70s, guitars and guitarists were the veritable gods of sex, drugs and rock and roll. The iconic axe in the iconic song must be Page's custom Gibson SG double-neck in "Stairway to Heaven," with twelve strings on top and six below. (On a recent *Late Show* appearance, Page admitted, "I could never play both necks at once." David Letterman chided, "Then you'd have had a career!")

EXTREMES

Since then, guitar makers and guitar players have vied to outdo and one-up each other. Aluminum-necked guitars. Seven-string guitars. Cheap Trick's Rick Nielsen plays a five-neck, probably the practical limit; its lowest requires arms at full stretch just to reach it. The extreme has to be the "Rock Ock", a 40-pound eight-neck with 51 strings and 154 frets, built by DGN Custom Guitars for the National Guitar Museum. Less an instrument than a self-contained chordophone band, the Ock

consists of a mandolin, ukulele, 6-string, fretless bass, standard bass, 12-string, baritone guitar, and 7-string. It accommodates eight players, just barely.

Eddie van Halen went the other way. His homemade “Frankenstrat” had only one neck, but he played it like he had two left hands, using his right as an extra left to hammer notes up on the fretboard. Now every aspiring guitar hero needs tapping on his résumé. Michael Angelo Batio plays both necks of his V-form Dean Double Guitar simultaneously, and even a Quad Guitar with seven-string upper necks and six-string bottoms. Alas, he still only has two hands.

SPEED DEMONS

The title of “world’s fastest guitar player” is even more contentious. Years ago, the Guinness Book of World Records, using Nikolai Rimsky-Korsakov’s frenetic “Flight of the Bumblebee” as the standard, closed its YouTube channel on the subject. Guitarists claim to play “Bumblebee” at speeds of up to 4,000 beats per minute, about 66 strokes per second (even a hummingbird’s wings beat at a maximum 80b/sec), at which rate the 1:20 song is reduced to a few seconds of meaningless static. “The quality of performance (i.e., clarity of individual notes, etc.) is dramatically reduced at these speeds,” understates Guinness. “Unless the performance is flawless, it is not a record.”

THE BUBBLE

Today, manufacturers like Ibanez, Paul Reed Smith, Dean, and Kramer have given players and buyers more quality choices than ever. Demand makes Guitar Center the world’s largest chain of music instrument retailers; there is no comparable Piano Center or



Eric Clapton with his Fender Stratocaster, Blackie, in Rotterdam. June 23, 1978.

Photo: Chris Hakkens, Wikimedia Commons

Violin Center. In many ways, though, Martin, Gibson and Fender nailed it the first time. C. F. Martin & Co., family-owned for 180 years, still makes the most revered acoustics; the Les Paul and Strat remain the most popular solid-bodies.

Before the last economic downturn, vintage guitars even entered into a speculative bubble. Those unloved, late-’50s Les Pauls hit six figures. With provenance, the numbers jumped even higher: John and George’s SG sold for \$570,000, Clapton’s Blackie for \$959,540. The Strat Hendrix burnt at Monterey went scorchmarks and all for \$380,000; the one he played at Woodstock got a reputed \$2 million.

The bubble inevitably popped, but fortunately — or ominously — is re-inflating. In December 2013, Dylan’s Newport Strat reaped \$965,000. The custom black Les Paul on the cover of Peter Dinklage’s *Clapton Comes*

Alive! was thought lost in a flaming Venezuela plane crash and only recently recovered, complete with burns. Who can put a price on that? Frampton insured it for \$2 million.

Speculation begets copies, fakes and forgeries, a market luthiers now tap themselves. In addition to “signature” models, Fender and Gibson sell painstakingly accurate re-issues of vintage or even specific guitars, right down to the belt-buckle rash, finish cracks and worn frets.

THE FUTURE

Today, there are guitars that tune themselves, guitars with MIDI and USB computer interfaces and mouse pads, and guitars that can be programmed to sound like other guitars, or even other instruments. The most recent, and hugely popular, revolution in guitar playing doesn’t even require a guitar. Thanks to *Guitar Hero* and *Rock Band*, a generation raised on “musicians” playing nothing more than turntables has rediscovered the six-string. Sure, they learned finger work with a game controller and TV screen, but with computerized instruction programs like *Rocksmith*, they’re going beyond games. They’re picking up guitars and starting to play. Darn those crazy kids! *EH*

FURTHER READING

The Gibson Les Paul Handbook
by Paul Balmer and Les Paul.

The Fender Stratocaster Handbook
by Paul Balmer.

The Guitar Handbook
by Ralph Denyer.

Frequent contributor
DON HOLLWAY taps computer keys with fingertips callused from guitar playing.