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The Fuzz (1999)

Michael Hicks

There was no point in trying to learn from him. You couldn't tell how he was doing it. It was like magic.

—Lemmy Kilmister of Motörhead remembering his year as roadie for Jimi Hendrix, whom he watched every night. (*Rolling Stone* 1090 (October 29, 2009): 64)

A characteristic element of rock's sound is the fuzz or distortion of an electric guitar. Michael Hick's history of fuzz suggests that this has been a basic part of the sound of rock from the very beginning. The reasons for this are aesthetic, technological and accidental. To begin with, horn players and, later, guitar players imitated the vocal "roar" of blues and gospel singers and revivalist preachers, a sound that conveyed raw power. The technologies of radio, vinyl records, and weak amplifiers added further noise to the sound of early electric blues and rock 'n' roll, as did accidental or deliberate speaker damage. Musicians could not afford to wreck their amplifiers to get such a sound, and so the fuzz box was developed around 1962. As Hicks, Professor of Music at Brigham Young University, notes, the guitar then went on to develop multiple personalities with a variety of special-effects pedals. Among the most influential fuzz guitar songs Hicks names are "Rocket 88" by Jackie Brenston (1951), "Rumble" by Link Wray (1958), "Zipp A Dee Doo Dah" by Bobb B. Soxx and the Blue Jeans (1962), "You Really Got Me" by the Kinks (1964), and "(I Can't Get No) Satisfaction" by the Rolling Stones (1965).

Just as rock singers refracted their voices into multiple personalities, rock guitarists transformed their instruments into surrogate singers. Aided by new technologies, rock guitarists exchanged the instrument's historically slight musical presence (with delicate timbres, low dynamics, and rapid decay) for a new, overwhelming presence (with rough timbres, loud dynamics, and the ability to sustain—or, as Paul McCartney puts it, to "flow").[1] At the center of the exchange was a warm, powerful, sonorous sizzle known as "fuzz."

[1]Quoted in "Distortion Tips from the Loud & Mighty," *Guitar Player* 26 (October 1992): 45.

Fuzz grew inevitably from the peculiar sonic world of mid-twentieth century popular music. In the 1920s and 1930s brass players in Duke Ellington's band popularized the "growl and plunger" style of playing, a raucous mimicking of the vocal roar. By humming, flutter-tonguing, or literally growling while playing, players like Bubber Miley and Cootie Williams got tones that sounded like a controlled, distorted scream.[2] In rhythm and blues music of the 1940s and 1950s (and Motown and Memphis soul recordings of the 1960s) saxophone players routinely emulated the trumpet growls of those earlier players; by combining various hard mouthpieces and stiff reeds, by blowing with extra force, and using the techniques of Miley, Williams et al., tenor and baritone saxophone players could make the already noisy timbre of their instruments sound even more ragged.[3] Such effects allowed a player to transcend conventional virtuosity—as measured in notes per measure—in favor of a more primal, direct expression. This so-called "boot" style of tenor saxophone playing offended many purists. One complained that through it "a player of very little improvisational talent can achieve instant success with the mob by playing three or four successive choruses on one note. Provided, of course, that he heightens the impression of inspirational fervour by blowing himself blue in the face and marking time like an epileptic sergeant major."[4] Despite such cynicism, the boot style prevailed.

Although boot style began by imitating the roar and buzz of rhythm and blues singers, saxes and voices gradually achieved a symbiosis. The techniques of each reinforced the other—as Screamin' Jay Hawkins explained, his ambition was to make his voice "duplicate the sounds I got off a tenor sax."[5] But sax playing required immense physical effort, as did the roar and buzz of the singers. In all cases the sound was terse and forced, as though great strength and resistance were required to give them utterance—and they were. During the early years of rock 'n' roll, vocal and saxophonal distortion complicated the sonorous edge of the music—an edge reinforced by the sizzle of ride cymbals, snare drums, and, occasionally, maracas.

That complex of distorted sound complemented the technological basis of the rock 'n' roll industry. Most people learned rock 'n' roll through the radio, where signals competed with one another for dominance of a particular wave band. The music often came through a sieve of white noise and electrical hum that made almost any instrument or voice seem to buzz. (This was especially true of the earliest rock 'n' roll, which first appeared on some of the weakest, most remote stations.) And the records that were broadcast had their own distortion. Not only was the music typically

[2]See, for example, the Ellington Band's 1927 recording of "East St. Louis Toodle-oo." My thanks to Brian Harker for providing me with recordings of this phenomenon. See also Barry Kernfeld, ed., *The New Grove Dictionary of Jazz* (New York, Macmillan, 1988), s.v. "Growl."

[3]Examples abound: some of the best are the buzzing baritone sax opening of Chuck Higgins's "Pachuko Hop" (1953), the playing of Joe Tillman in Lloyd Lambert's "Whistlin' Joe" (1955), and the two-note saxophone bass line in Little Anthony and the Imperials "I'm Alright" (1958).

[4]Humphrey Lyttelton, *New Musical Express*, quoted in Charlie Gillett, *The Sound of the City: The Rise of Rock and Roll*, rev. 2d ed. (New York: Pantheon, 1983), 258.

[5]Quoted in Karen Schoemer, "Screamin' Jay Hawkins as Pitchman and Actor," *New York Times*, 5 April 1991, sec. C, 15.

recorded at high levels on hissing tapes, but repeated playings wore out the vinyl and made the music even fuzzier. As the predominant media of rock 'n' roll, broadcasting and recordings turned what was once an undesirable flaw into the essence of the sound. That essence signified raw power, survivability in the face of interference.

In the early twentieth century dance bands began to include guitars with brass and saxophones, a situation that created a serious imbalance of sonority: the guitar was essentially a quiet instrument, the saxophone a loud one. So in the 1920s manufacturers experimented with guitar "pickups," magnetic coils that could vibrate sympathetically with the instrument's strings. In 1931 Rickenbacker issued the first commercial electric guitar, a lap-held Hawaiian model resembling a long-handled frying pan. Later in the decade, the National and Gibson companies devised more conventionally shaped electric guitars. Meanwhile, some players began to make their own electrics by installing pickups in their acoustic (i.e., non-electric) guitars. Finally, Les Paul and Leo Fender dispensed with the guitar's resonating cavity entirely, building the first solid-body electric guitars in the late 1940s and early 1950s. With their new designs (and more refined pickups) both makers hoped to increase the instrument's tonal "purity," reducing the hum and buzz of older electrics. In the process, they redefined the electric guitar by demonstrating to the public what electrical engineers had long known: the strings of an electric guitar provoked electrical impulses directly.

Trying to keep their prices competitive, makers of electric guitar amplifiers used low-cost "P.A. grade" transformers in their equipment. At normal volume levels these transformers distorted the signal about 5 percent. But when pushed beyond their capacity—"overdriven"—the distortion levels rose to around 50 percent.[6] Black rhythm and blues guitarists usually could afford only the smallest, least powerful amps. At the same time they had to play in some of the noisiest venues. Although evidence is scarce, Robert Palmer quite plausibly suggests that bluesmen such as Muddy Waters were forced to overdrive their weak amplifiers "just to cut through the din."[7] But at some point, probably in the late 1940s, the bluesmen discovered that, by turning their amplifiers up louder than they were designed to be, they could make the guitar's timbre resemble the raunchy, distorted timbre of boot saxophone playing.

Many of the records made at Chess Studios in Chicago in the late 1940s and early 1950s captured the sound. In Howlin' Wolf's "All Night Boogie" (1953), for example, Willie Johnson's overdriven electric guitar dovetails with a similarly overdriven miked harmonica and Wolf's own "overdriven" voice to paint a perfectly consistent timbral painting. (Sun Studios in Memphis harnessed a similar sound, particularly in the guitar playing of Pat Hare.) In such cases the capturing of live distortion on records required careful engineering, since the studios wanted to faithfully document the distorted sound of the *guitars*, rather than distort the *recording* by overdriving the microphones. Whether the listener would have discerned the difference is hard to say.

[6]The overdriving of the amplifier created, in effect, a band-pass filter that clipped the original signal's wave-form into something close to a square wave, full of high-amplitude overtones.

[7]Robert Palmer, "The Church of the Sonic Guitar," *Southern Atlantic Quarterly* 90 (Fall 1991): 656.

Writers generally point to Guitar Slim as the electric guitarist who played the loudest, most distorted blues of the early 1950s. Playing through the P.A. system (rather than through a separate guitar amplifier), Slim always kept his guitar at maximum volume—with the club doors open to attract customers.[8] His maniacally distorted sound became legendary, not only through his performances but also through recordings like his hit "The Story of My Life" (1954), in which the guitar solo, rather than the vocal—perhaps for the first time on a rhythm and blues record—seemed the real point of the song.[9]

Like electric blues players, rock 'n' roll guitarists almost inevitably overdrove their amplifiers, trying to project their music above the sound of drums and talkative audiences. Chris Dreja of the Yardbirds assessed the situation of many groups and their early stage equipment: "God, it was basic. Between the five of us we must have had all of twenty watts. It was so quiet I could hear myself hitting the strings of my electric guitar."[10] Nevertheless, upon hearing such groups in England in 1962, Muddy Waters remarked, "Those boys were playing louder than we ever played."[11]

If overdrive was almost inevitable, some kinds of distortion were not. In many cases, accidental (and later, deliberate) damage to amplifiers enhanced the fuzzy sound. As early rock 'n' roll groups toured from club to club, the frequent moving made it likely that the cardboard cones of the speakers might be torn, or tubes damaged. In most such cases a band would simply replace the damaged part or, if times were good, buy a new amplifier. In March 1951, however, Willie Kizart tore the woofer cone of his amplifier while driving to a Jackie Brenston recording session at Sun Records in Memphis. There was neither time nor money to repair it. When the group arrived at the session with the broken speaker, producer Sam Phillips stuffed a newspaper and a sack into the hole and decided to record with the speaker as it was.[12] Tellingly, Phillips remarked, "It sounded good. It sounded like a saxophone." Phillips added that he wanted the "authentic" sound that the broken equipment gave the recording: "If they had broken-down equipment or their instruments were ragged. . . . I wanted them to go ahead and play the way they were used to playing. Because the *expression* was the thing."[13]

The result was a simple boogie record noteworthy only for the strange fuzzy sound of the guitar, which (like the saxophones in many New Orleans recordings) merely doubled the walking bass line, outlining the triads of the chord progression. Brenston and Phillips entitled it "Rocket 88," a tribute to the 1950 V-8 Oldsmobile 88, which was advertised as "the lowest priced car with 'rocket' engine."[14] While the tune was unimaginative, the novel guitar sound attracted many listeners.

[8]See John Broven, *Rhythm and Blues in New Orleans* (Gretna, La.: Pelican, 1988), 54.
[9]See the discussions of Slim's high-volume technique in Jas Obrecht, ed., *Blues Guitar: The Men Who Made the Music* (San Francisco: GPI Books, 1990), 134; also Palmer, "Church of the Sonic Guitar," 663-66.
[10]John Platt et al., *Yardbirds* (London: Sidgwick and Jackson, 1983), 23.
[11]Quoted in Palmer, *Rock & Roll*, 115.
[12]Elizabeth Kaye, "The Rolling Stone Interview: Sam Phillips," *Rolling Stone* 467 (13 February 1986): 85.
[13]Sam Phillips, quoted in Robert Palmer, *Deep Blues* (New York: Viking, 1981), 222.
[14]For this and other background to the recording, see Jim Dawson and Steve Propes, *What Was the First Rock 'n' Roll Record?* (Boston: Faber, 1992), 88-91.

Five years later, another amplifier accident reshaped the sound of Johnny Burnette's Rock 'n' Roll Trio. Guitarist Paul Burlison recalls that the strap of his Fender Deluxe amplifier broke before a show in Philadelphia, dropping the amp on the floor. "When we started playing, it sounded fuzzy, but it wasn't enough to stop the show. So Johnny looked around and grinned and we just kept on playing. When I got back to the dressing room I took the back off the amp and looked at it, and what had happened was one tube had slipped about halfway out. So I pushed the tube back up and it worked fine; pushed it back down and it'd get fuzzy."[15] Burlison's accident had not produced permanent damage, as Willie Kizart's had. Instead, the loose tube had shown him a method of tone production that was controllable (i.e., it functioned as a rheostat). It was an effect that could be switched on and off, irrespective of volume or speaker quality. In that regard, it directly foreshadowed the fuzz "controls" of the early 1960s, by which players could turn the distortion on and off with a switch.

Burlison decided to use the fuzzy guitar sound on the group's 2 July 1956 recording session for two songs, "Blues Stay Away from Me" and "Train Kept A-Rollin'." The distortion was barely noticeable in the former song, but in the latter it was prominent. As with "Rocket 88," the distorted guitar was the record's principal novelty. As "Train Kept A-Rollin'" became widely known, according to Burlison, "I had engineers calling me from all over the country asking how I got that sound."[16] Despite the interest, Burlison exploited the sound in only one subsequent recording—the calypso-based "Touch Me" (recorded March 1957).

The role of the distorted guitar in "Blues Stay Away from Me" and "Touch Me" resembled its role in "Rocket 88": it was an interesting coloration of standard guitar ostinati. It outlined the chord, provided some contrapuntal interest, and articulated the beat. But in "Train Kept A-Rollin'" Burlison uses the guitar primarily to make loud low-register plunking sounds, effectively turning it into a powerful percussion instrument. The rapid reiterations create texture and sonority for their own sake, without a conventionally functional harmonic, melodic, or bass-foundational role. Dominating the other elements of the recording, the fuzz guitar seems to emulate the chugging of a train at full speed.

Still one more accident produced another legendary distorted guitar solo. In Bobb B. Soxx and the Blue Jeans' "Zip A Dee Doo Dah" (1962), Billy Strange's electric guitar part leaked into some of the live mikes around the studio, creating a strange, growling sound. Producer Phil Spector thought it a flaw, but left it in. As engineer Larry Levine explained, Spector "didn't care what the break was gonna sound like. We played a full chorus before we got to the break, and you don't sell a song with a solo on a break."[17] But he did not envision how important a voice the lead guitar was coming to be. Described by one writer as a "tinny coil of disembodied noise," Strange's guitar break became the record's most important contribution to rock—the first Top 10 fuzz guitar solo.

[15]Burlison quoted in Dan Forte, "The Pioneers of Rock Guitar," *Musician, Player & Listener* 43 (May 1982): 33.
[16]Quoted in Forte, "Pioneers of Rock Guitar," 33.
[17]This quote and the following one are from Mark Ribowsky, *He's a Rebel* (New York: Dutton, 1989), 126–27.

In the late 1950s some electric guitarists began to damage their equipment deliberately in order to create fuzz. This happened mainly among *instrumental* rock 'n' roll bands, who continued the tradition of the rhythm and blues dance bands of the 1950s. Early rock 'n' roll instrumental bands featured saxophone, but in the late 1950s guitars took over. Without words or a lead vocalist, instrumental hits often used gimmicks and sound effects to make them memorable.

In 1958 guitarist Link Wray drove a pencil through the speaker of his amplifier before recording a new instrumental record. According to rock lore, he damaged the speaker specifically so that the guitar sound would better represent the aggressive sound of a gang brawl—a "rumble." (The truth, however, is probably that the damage came first and the record's title, "Rumble," came later. The daughter of the owner of Wray's record label said that the untitled recording reminded her of the rumble scenes in *West Side Story*, then a Broadway play. Hence the title.)[18] "Rumble" is a slow, twelve-bar (sometimes eleven-bar) blues, in which the guitar primarily plays slow, clanging chords.[19] Given its relatively innocuous harmonic and rhythmic content, "Rumble" clearly demonstrates how one could produce a Top-20 hit with little else but the sheer sonority of fuzz. Wray tried (unsuccessfully) to duplicate the success of his first fuzz record in recordings that include "Raw-Hide" (1959), "Big City after Dark" (1962), "Black Widow" (1963), and "Deuces Wild" (1964).

But Wray did inspire many guitarists of the early 1960s to follow his example. Larry Parypa of the Sonics, for instance, "was always fooling around with the amps . . . . disconnecting the speakers and poking a hole in them with an icepick."[20] Deep Purple's Ritchie Blackmore claims to have kicked in a speaker (ca. 1960) in order to create a fuzz effect.[21] Around 1963 Dave Davies of the Kinks took the 8-inch speaker of a 4-watt amplifier and "proceeded to cut [it] into ribbons with a razor blade. Then I patched it up with Sellotape and stuck a few drawing pins into it." He set this on top of his 30-watt amp, keeping the smaller one at full volume and the bigger one as low as possible.[22]

With this arrangement the Kinks produced their initial hits "You Really Got Me" and "All Day and All of the Night" (1964), which together codified the technique of "power chords"—overdriven barre chords that were given a terse, grunting quality by relaxing the left hand just enough after each strum of the right so that the ringing of the strings would be stopped. This was the guitar equivalent of the stopped articulation of raucous soul saxophone players, except that it now applied to whole harmonies.

While many guitarists wanted at least an occasional fuzz effect, few could afford to wreck their amplifiers to get it. One alternative was the recording studio: guitarists could distort their sound by recording with the input levels in the red—even if their

[18]According to Duane Eddy, Phil Everly actually came up with the title after producer Archie Bleyer played him the finished recording. See Wayne Jancik, "The Definitive Duane Eddy Interview," *Discoveries* 71 (April 1994): 21.

[19]At the third cycle of the blues progression, however, Wray introduces a rapid-strummed tremolo. When it ceases, the *electronic* tremolo gradually takes over.

[20]Quoted in Notes to *Here Are the Ultimate Sonics* (Etiquette ETCD 024027).

[21]Jas Obrecht, "Effects on Records: Pioneers and Prime Movers," *Guitar Player* 17 (June 1983): 26-28.

[22]Jon Savage, *The Kinks: The Official Biography* (London: Faber, 1984), 32.

own amplifiers sounded clean. But this still left the problem of playing fuzz in concert. The solution came from the so-called "fuzz box," a small accessory to a guitar amplifier that severely "clipped" the peaks of the instrument's natural wave form.

While most of the documentation on early fuzz boxes has been discarded or lost, the earliest such devices appear to have been introduced in 1962. The best known from that year was the Maestro Fuzztone FZ-1, a triangular brown footswitch that resembled a door stop. It allowed guitarists to control not only the tone of the instrument (i.e., treble and bass), but also the amount of distortion. Unsure of how to market such a device, the Gibson company (a distributor for Maestro) told prospective buyers that the Fuzztone would make a guitar sound like a cello![23]

The Ventures—the most popular rock 'n' roll instrumental band—probably used the Maestro device in "The 2,000 Pound Bee," parts 1 and 2, recorded in October 1962. In part 1 of this track the group plays a modified twelve-bar blues, with a single riff transposed to the level of each of the harmonies; part 2 differs only slightly. Nothing distinguishes this novelty record except for the fuzzy guitar that plays the melody. Although "2,000 Pound Bee" sold relatively poorly (only the B-side made the charts—Number 91), the Ventures continued using the fuzz box on other records. In their *Surfing with the Ventures* album (1963) they use some degree of overt distortion on nine of the twelve tracks—sometimes in accompanimental patterns, but usually in the lead melody (most prominently in the track "Barefoot Ventures"). Two subsequent singles—"Journey" to the Stars" (1964) and "Pedal Pusher" (1965)—use heavy fuzz. But both failed to chart.

The "2,000 Pound Bee," however, had caught the attention of three British guitarists and a young technician who lived near them. In 1963 seventeen-year-old Roger Mayer began working for the British Admiralty as an assistant experimental officer in sound and vibration analysis. While evaluating types of distortion for his job, Mayer tried to emulate and improve upon the Ventures' fuzz guitar sounds. Making fuzz boxes soon became his hobby. He gave some of them to his friends Eric Clapton and Jimmy Page, the latter of whom passed along a fuzz box to Jeff Beck. Other guitarists also took interest in the boxes. One, Jim Sullivan, became the first to use a Mayer fuzz box on a record—P. J. Proby's minor hit "Hold Me" (1964).[24]

Jeff Beck joined the Yardbirds and used a Mayer fuzz box on one of his first recordings with the group. The three-pitch lead guitar riff of "Heart Full of Soul" (recorded February 1965) had originally been conceived for a sitar, and producer Giorgio Gomelsky hired two sitarists to play the riff at the recording session. But despite the exotic timbre, the delicacy of their sound and their rapid decay prevented the sitars from carrying the idea effectively. Beck suggested that with his fuzz box he

[23]My dating of this device comes from telephone conversations with Walter Carter and J. T. Riboloff (both at Gibson Incorporated), 7 August 1995, and the comments of Roger Mayer in John Seabury and Charles Shaar Murray, "In Search of Volume: Guitar Amplification in the '60s," in Paul Trynka, ed., *The Electric Guitar: An Illustrated History* (San Francisco: Chronicle Books, 1995): 85.

[24]The information in this paragraph comes primarily from Jas Obrecht and Bruce Bergman, "Roger Mayer: Electronics Wizard," *Guitar Player* 13 (February 1979): 47.

could get an overtone-rich sound similar to that of the sitars, but with more volume and less decay. His version prevailed.[25]

The Rolling Stones forcefully brought the fuzz box to public attention in their hit "(I Can't Get No) Satisfaction." Keith Richards recalls that his own three-pitch guitar riff for the song was "actually a horn [i.e., saxophone] riff," one that was "in essence not meant for the guitar." Richards used no fuzz for the riff in the first several takes of the song (made in spring 1965). But, as he explained, "that riff needed to sustain itself."[26] A fuzz box provided the solution. Although Richards always considered the fuzz sound on "Satisfaction" a "bit of a gimmick," it generates much of the song's expressive power.[27] As David Dalton put it, the distorted riff "balances neatly on the borderline of menace, arrogance and incitement"—traits that entwine with the lyrics and Jagger's delivery.[28]

The music of "Satisfaction" oscillates between the two basic sonorities introduced in its opening. One is the grainy, medium-pitched buzzing and jangling blend of tambourine, snare drum, and fuzztone. The other is the smoother, darker sound of the bass. At the beginning of each verse, Richards switches off the fuzztone, and Jagger baby talks the line "I can't get no satisfaction," matching his vocal timbre to the bass and (now fuzzless) guitar. Then he and Richards sing the words "'Cause I try and I try and I try and I try," singing higher and louder until their voices recede into the recorded mix of instrumental timbres. At the highest sung pitch the voices closely resemble the fuzztone, which Richards then switches back on. Jagger sings solo for the duration of the verse, matching his voice to the fuzztone timbre. He begins the next verse in baby talk and the entire process begins again. The polar sonorities of the rhythm section remain constant, with the melodic bass distinctly separated from the mechanistic snare drum and tambourine. But electric guitar and voice modulate from darker, throatier sonorities to brighter, raspier sonorities, then back again.

In the wake of "Satisfaction," fuzz became a standard color in the palette of electric guitar sounds by late 1965. "Distortion" controls and switches appeared on amplifiers, "fuzz" knobs on guitars. Several electronics companies began to issue their own versions of the fuzz effects pedals—with names ranging from the "Distortion Booster" and the "Tone Bender" to more metaphorical titles, such as the "Astrotone" and the "Pep Box." One could hear fuzz guitar in everything from cheaply made garage band records to slick pop and even prime-time television themes.[29]

By the end of 1966 the "distorted" sound of fuzz became a standard of stylistic purity—as suggested in the magazine *Popular Electronics*. For years the magazine

[25]See Platt et al., *Yardbirds*, 55. Both versions may be heard on several compilations, e.g., *The Yardbirds: The Studio Sessions, 1964-1967* (Charly Records CD 187).

[26]Quoted in Dalton, *Rolling Stones*, 53.

[27]His comment about it being a "gimmick" may be found in Victor Bockris, *Keith Richards: The Biography* (New York: Poseidon, 1993), 93.

[28]This and all the Richards quotes in this paragraph are taken from Dalton, *Rolling Stones*, 53.

[29]The show was *Green Acres*, which premiered September 1965. The guitar was played by Tommy Tedesco, who used a Maestro pedal.

showed amateurs how to build sound equipment that minimized distortion. Now an article suggested that fuzz was no longer a sign of damage but a hallmark of musical achievement: "As you listen to rock 'n' roll by the big time performers, do you often wonder how they can get that fuzzy, raspy, piercing sound from an electric guitar while nonprofessional groups sound distinctively small-time?" The article went on to instruct amateurs how to build a device that would "sound as if [it] were tearing your speaker to shreds"—for less than three dollars.[30]

The Seattle-born guitarist Jimi Hendrix turned fuzz from a mannerism into an art. In late 1966 he moved to London, partly because he wanted to learn how to make his guitar sound like Beck's in "Heart Full of Soul."[31] Fortuitously, Hendrix met Roger Mayer after a January 1967 performance and experimented with some of Mayer's guitar effects-boxes in the dressing room. Thereafter, the two collaborated on fuzz and other effects until Hendrix's death in 1970. Mayer made over a dozen fuzz boxes for Hendrix, using several different designs customized to the sound Hendrix wanted. Hendrix became increasingly fastidious about fuzz; one of his road managers recalls him occasionally "screaming" that "this fuzz box isn't right" and trying several before he found the one with the right distortion.[32] As the flamboyant and virtuosic Hendrix became the most influential rock guitarist of the late 1960s, he alerted listeners to a widening palette of fuzz guitar subtleties.

Through fuzz the guitar assumed a new identity in rock music. What was the model for that identity? Robert Palmer suggests that amplified guitar sonorities such as fuzz turned the guitar into a huge bell—a resonant, overtone-laden chiming sound, full of a "clanging" that "ritually invoke[s] sonic space."[33] And this is precisely what Link Wray had created in "Rumble"—a massive, carillon-like instrument that made the guitar sound both majestic and ominous. By simply defacing his amplifier speaker, Wray seemed to intensify the natural overtones of metal strings, creating what Carlos Santana called distortion's "rainbow effect."[34]

But there is ample historical evidence to suggest that distortion was designed to change the guitar into a saxophone—not just a sustaining instrument that can "solo" (a point that Palmer readily concedes), but a wordless variant of the buzzing, roaring voice that exemplified African American ideals of singing as dramatic expression. While the saxophone required a huge amount of physical exertion and dexterity to produce its effects, the overdriven guitar made a similar sound with ease, as electrical energy supplanted bodily force. Players no longer had to coordinate throat, tongue, and lungs. Instead they could turn on a switch and pick the strings. One could play with the buzzing instrumental sound almost endlessly (the only limitation being the durability of one's fingers).

This transformation assured rock's connection to what in the early twentieth century was known as futurism—an aesthetic that glorifies the sounds of technology. In the

[30]Craig Anderton, "Build a 'Fuzzbox' for Under $3," *Popular Electronics* 26 (January 1967): 87-92.

[31]Mitch Mitchell with John Platt, *Jimi Hendrix: Inside the Experience* (New York: St. Martin's, 1990), 43.

[32]Eric Barrett, "A Roadie's Nightmare," *Guitar Player* 9 (September 1975): 33.

[33]Palmer, "Church of the Sonic Guitar," 651.

[34]Quoted in "Distortion Tips," 45.

early twentieth century it was the technology of machinery; in the late, the technology of electronics. Thus, Johnny Ramone explains that he "always wanted to get a sound like electricity" on his guitar;[35] that fairly well sums up the futurist aesthetic. Moreover, futurism seeks to incorporate some of the inadvertencies of technology into its aesthetic—accidents, wear, breakage, ruin. Thus Andy Parypa proudly notes that his distorted playing made his group the Sonics sound "like a trainwreck"—a standard futurist image.[36]

Nevertheless, fuzz imbued the electric guitar with a soul it had not had. As many guitarists have observed, distortion gave the guitar a sense of personality—it "enlivened" the sound, gave it "character," to the point where, as Eddie Kramer remarked, the particular distortion a player used became "synonymous" with his or her "individuality."[37] In this way fuzz arose from both the western tradition of developing a "singing" tone on one's instruments and the African tradition of developing a distinctive "personal" sound on one's instrument. From the mid-1960s on, electric guitar players used countless variations on the fuzz idea to give themselves unique, inimitable basic sonorities.

Through fuzz, a guitarist could give his or her instrument a voice. It might be the transcendent, Middle-Eastern voice of "Heart Full of Soul," the brassy, urban voice of "Satisfaction," or anything in between. It might even be the voice of another species—the barking of "Train Kept A-Rollin'," the snarling of "Zip A Dee Doo Dah," or the buzzing of "2,000 Pound Bee." In every case, whatever the means of distortion, fuzz gave a guitar its own peculiar vocal "grain."

In the process, the guitar—once known as the "queen of instruments"—became an intensely masculine expressive tool. Through distortion its tone became, as one guitarist put it, "testosterone-laden."[38] That pretense of virility in the sound of the guitar corresponded to the aggressive images in the titles of guitar instrumentals—gangfights, rockets, trains, buzzsaws, and 2,000-pound bees.[39] The primary emotion was anger, a point observed even in Guitar Slim's overdriven playing, of which one observer commented, "it really sounds like he's mad at somebody."[40] The next generation found in fuzz the "overdriven-ness" of youth, the explosive hormonal diffusion in creatures whose social status was rigorously contained by their elders.

Through its aggressive, futuristic sound, fuzz was at the core of the machismo aesthetic of a new rock avant-garde—garage rock. Moreover, in psychedelic rock, the guitar would effectively exchange places with the voice, gaining its own multiple personalities through electronic special effects of which the fuzz box was only the beginning.

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[35]Quoted in ibid., 47.
[36]Quoted in Notes to *Here Are the Ultimate Sonics.*
[37]Quoted in Chris Gill, "Dialing for Distortion: Sound Advice from 10 Top Producers," *Guitar Player* 26 (October 1992): 86.
[38]Kim Thayl, quoted in "Distortion Tips," 46.
[39]The term "buzzsaw" comes from the fuzztone record of that title by the Gee Cees (led by Glen Campbell), issued ca. 1962.
[40]Unattributed quote in Obrecht, *Blues Guitar*, 134.