

SIX

“Roll Over Guitar Heroes, Synthesizers Are Here . . .”

At the height of new wave’s popularity in the early 1980s, no musical instrument symbolized the movement’s modern identity more fully than the synthesizer. The synthesizer had first found its way into rock music at the end of the 1960s, and from the very beginning its ability to produce striking timbres and fantastical sound effects ensured that it would be viewed as a futuristic musical technology. As one new wave keyboardist put it, “As soon as synthesizers came along, everyone said ‘Oh, wow, outer space!’”¹ The instrument’s reputation eventually extended beyond these first impressions, especially when musicians realized that the synthesizer could also be used to create grandiose arrangements and solos that imitated and even surpassed the flexibility and powerful volume of the electric guitar. With its novel sound design and versatility, the synthesizer would become an integral part of the 1970s popular music landscape. For the most part, however, the synthesizer players who held in their hands the “keys to the future” existed as secondary members of the rock band.² Not until new wave did a legion of synthesizer players truly usurp the lead role traditionally accorded the guitar player and push the synthesizer’s modern associations fully into the foreground.

England’s Gary Numan emerged in 1979 as the first fully-fledged synthesizer star of the new wave era, largely on the strength of his international hit single “Cars” and the influential accompanying album *The Pleasure Principle*, which eschewed electric guitars completely in favor of lead synthesizers. He was soon joined in the early 1980s by a whole host of British groups such as Depeche Mode, the Human League, and Orchestral

Manoeuvres in the Dark (OMD) who began assigning the majority of the melodic and rhythmic features of the band to synthesizers, sequencers, and drum machines. In recognition of the synthesizer's impact on the new wave, *Trouser Press* ran a feature in the May 1982 issue entitled "Roll Over Guitar Heros [sic]: Synthesizers are Here," which explored the reasons behind the instrument's newfound popularity. Partly, the synthesizer's spread could be attributed to significant changes in the keyboard industry. When the Minimoog, the first popular retail synthesizer, appeared in 1971, its list price was \$1,500, a daunting investment that for most fledgling and amateur rock groups would have been roughly the equivalent of purchasing a new touring van.³ But by 1980 the incorporation of more efficient micro-processing designs and ensuing competition among keyboard manufacturers had diversified the industry to the point where one could buy a basic synthesizer for roughly \$200.⁴ With this new affordability and accessibility came new views about musical expression as well. As Andy McCluskey of OMD explained to *Trouser Press*, "Someone who's been playing synth for 10 minutes can easily sound as good as someone who's been playing for years, provided the ideas are there."⁵ Dave Gahan of Depeche Mode likewise emphasized the importance of ideas over skill and instrumental proficiency: "In pop music nowadays you don't need technical ability, you need ideas and the ability to write songs. That's the main thing."⁶ What McCluskey and Gahan appeared to be suggesting was nothing less than a seismic paradigm shift, one wherein a whole level of amateur music makers could find their way to pop stardom via the synthesizer's new level playing field.

Given these rather bold projections, it was unsurprising that the *Trouser Press* article would elicit some harsh reactionary criticisms. As one irritated reader complained:

Regarding the [*Trouser Press*] article on synth Muzak: Why don't these dressed up, elitist closet queens just send their instruments to the gig and not even bother leaving home to perform? Sure, synths are cheap, convenient and easy to play—but whatever happened to love, passion, skill and sweat in the creation of modern music? These white, middle-class, get-rich-quick trendies playing mindless, regurgitated disco licks can kiss my ass.⁷

Such statements serve as a strong reminder that musical genres are intimately bound with cultural values and taste. In the reader's view, these new

synthesizer bands appeared as an affront to the time-honored work ethic associated with rock music. In a musical culture where displays of passionate skill and energetic sweat are taken to be commensurate with bodily authenticity, the apparent musical simplicity and preprogrammed, push-button ease of the new synthesizer players failed to meet rock's symbolic standards. The reader casually refers to the synthesizer players as "closet queens," essentially "queering" the musicians and throwing their masculinity into question. By drawing attention to the synthesizer's "regurgitated disco licks," the reader also implicitly invokes the lingering echo of the homophobic "disco sucks" refrains that had haunted disco and dance music throughout the late 1970s. On the whole, there is a sense that the new synthesizer players, through their refusal to work and "sweat," had betrayed the possibilities that rock music offered for one to "perform" their gender.

To understand more clearly the unease that the new "synthpop" created in music fans like the *Trouser Press* reader, this chapter examines how the rise of the synthesizer forced a new consideration of the intertwined connection between rock music, work, and identity at the turn of the 1980s. Rock's relationship with work has long been conflicted. On the one hand, rock musicians have commonly taken a rebellious stance and portrayed work as "a form of dystopia to be escaped from" or "a false utopia whose promises have been broken."⁸ In this instance, the pleasures of rock music promise a liberating romanticist release from the drudgery of the workplace. On the other hand, the discourse of rock has long valorized the rigors of autonomous self-discipline, the type of work that elevates the accomplished professional musician from the ranks of the fumbling novices.⁹ Through their countless stories of hard work, dues paid, and relentless practice, and their subsequent displays of demonstrable skill and technical mastery, rock musicians have embraced work as a means toward artistic freedom and integrity. It is this latter notion of work that the new wave musicians surveyed in the *Trouser Press* article were most quick to reject as an outmoded myth of rock authenticity. In its place they opted for simple, repetitious melodic and rhythmic patterns and robotic bodily poses that stressed the mechanized work of the synthesizer's machinery rather than the transcendent work of the virtuosic musician.

If we are to make sense of the radical changes that accompanied the synthesizer's ascendance within new wave, we ultimately must explore the

ways in which this new generation of keyboard players conceived the relationship between the performing body and the synthesizer. In recent years scholars across the disciplines have turned their attention toward “the body in the music,” hoping to understand how the gestures and bodily presence of performers have influenced the sound, reception, and significations of music.¹⁰ In the case of new wave, we could ask what it meant for synthesizer players to renounce the frenetic bodily motions and emotional exuberance that had signified a “hyperbolic” and “self-disciplining” keyboard virtuosity dating back to the appearance of pianists like Franz Liszt in the mid-nineteenth century.¹¹ Any such investigation of the body, however, should also consider the synthesizer as part of a “practice” of production and consumption where, as media studies scholar Paul Théberge suggests, “the musical, the socio-cultural, and the economic intersect in a variety of concrete ways.”¹² It is important, for example, to look at how new wave musicians adopted the synthesizer as part of a preexisting symbolic domain already well established by the keyboard-manufacturing industry. While the synthesizer’s design suggested certain practices and technological possibilities that influenced new wave’s style, at the same time new wave musicians reconfigured the synthesizer’s meanings in ways that suited their specific needs. This chapter traces the circulation of the synthesizer’s uses and reception as the instrument came to the foreground of the new wave movement. I begin with an initial discussion of the synthesizer’s various meanings in the 1970s, after which I turn to Gary Numan, the artist who more than any other proved pivotal to the new wave’s reorientation of the synthesizer as a modern signifier.

The Synthesizer in the Early 1970s

Prior to the emergence of the synthesizer in the early 1970s, the prevailing image of the rock keyboardist was that of someone seated at a piano or hovering over an electric combo organ. During the 1950s and 1960s, when these two keyboard instruments were at their peak, the synthesizer lingered on the periphery of the rock world, associated primarily with academic art music composers like Vladimir Ussachevsky and Milton Babbitt. The synthesizer at that time existed as an unwieldy assemblage of oscillating tones,

filters, and patch cords, more coveted by research universities and electronic music studios than performing musicians. In the mid-1960s, however, Bob Moog reshaped the instrument's design, outfitting the synthesizer with a keyboard interface that more closely resembled that of the organ. Soon news of this expensive electronic “toy” began to circulate among high-profile rock groups ranging from the Beatles and the Byrds to the Doors and the Monkees, all of whom sought to include the synthesizer on their latest recordings.¹³ The true breakthrough came in 1968 when composer and keyboardist Wendy Carlos released the wildly influential *Switched-On Bach*, a collection of Bach classics arranged for the Moog synthesizer, which signaled the instrument's versatility and musical legitimacy (while also opening the floodgates for such curiosities as *Switched-On Santa* and *Music to Moog By*). Before long the synthesizer had found its way into the hands of classically inspired progressive rock keyboardists like Keith Emerson, who employed the instrument to create orchestral textures of “simulated trumpet fanfares” and long, flowing thematic lines and dazzling solos.¹⁴

Emerson was soon followed by progressive rock keyboardists like Rick Wakeman and jazz rock keyboardists such as Jan Hammer and Herbie Hancock, all of whom embraced the synthesizer for its capabilities as a lead or solo instrument. It was no accident that the synthesizer should encourage such performance practices. Throughout the first half of the 1970s, the only synthesizers available were monophonic, capable of playing only one note at a time, which made them poor accompaniment instruments. Given this constraint, a certain type of keyboard player evolved: what one musician aptly referred to as “the one-handed piano player.”¹⁵ The keyboardist would use the right hand exclusively to play the synthesizer keyboard, while the left hand would be reserved to “play” the instrument's control panel and make pitch adjustments, or to play chords simultaneously on a polyphonic instrument such as the organ or electric piano. These were minor inconveniences, however, considering what the synthesizer offered in return. A popular synthesizer like the Minimoog, for example, featured a wheel with which one could bend the pitch, and the ability to swoop effortlessly between low and high registers, which created an impressive portamento effect. Run through the appropriate amplification, its intensity of timbre, volume, and pitch-altering possibilities could not only match, but in many ways exceed the electric guitar's prowess. It is understandable,

then, why rock and jazz keyboardists would happily substitute the chordal palette of the piano and organ for the synthesizer's ability to compete with the powerful, dexterous single-line fluency of such well-established solo instruments as the guitar, saxophone, and trumpet.

As the monophonic synthesizer came to be associated with a specific type of soloing, so it also began to attract certain kinds of musicians, those whose technical proficiency gave them the latitude to play intricate solo lines with one hand. In a 1984 retrospective article entitled "The Power and Glory of the Lead Synthesizer," *Keyboard* magazine painted a portrait of the kind of keyboardists who had helped forge a "mono synth tradition" at the beginning of the 1970s.¹⁶ As the article described, it was clear that in the hands of these skilled performers the synthesizer had attained a strong masculine symbolism:

One can almost draw a composite sketch of the type conquered by this electronic seductress: young, but already a veteran on the piano; raised by jazz, but intrigued by rock and roll, or vice versa; blessed with quick hands able to scatter rapid runs over the keys, and with ears left restless by the familiarity of this terrain. Most of them had stood outside the gates that separated fixed-pitch players from guitarists, saxophonists, singers—those artists who were unbound by ties to the familiar tones that had been grounded for centuries in the well-tempered scale.¹⁷

Keyboard's evocation of the synthesizer as an "electronic seductress" likely comes as little surprise, as it is simply a recognition that the majority of 1970s rock musicians (keyboard or otherwise) were male and part of a music scene that was undeniably patriarchal in structure. Inspired by the synthesizer as some sort of bewitching temptress, it follows that these male musicians would embark upon virtuosic solos of "rapid runs" on the keyboard that demonstrated their prodigious masculine powers. Such masculine displays followed in the footsteps of the virtuosic rock guitar solo that had emerged with performers like Jimi Hendrix at the end of the 1960s, but with an important difference. Where the rock guitarist wielded his instrument as a decidedly phallic symbol, the synthesizer player's powerful musical exhortations worked to quash the feminine *and* feminizing associations that had been linked to the keyboard for centuries.¹⁸ Crucially, the

depiction of the synthesizer as seductress helped to wipe away the piano's association with parlor rooms and “little old ladies and pigtailed pupils.”¹⁹

There were other more subtle ways, however, beyond the obvious spectacular demonstrations of skill and mastery, in which the synthesizer reinforced a masculine identity. For one, the technology and design of the synthesizer, which was in its nascent stages, often necessitated excessive manual labor. New synthesizer owners often had to assemble, tinker with, and learn how to operate the instrument that they had purchased. In this respect, they fit squarely within the traditionally male electronic hobbyist culture associated with the early development of other twentieth-century consumer technologies such as the radio, hi-fi systems, and personal computers.²⁰ The majority of early synthesizers also required the player to define the sound through a carefully determined manual manipulation of various knobs, dials, and wheels. In the era before the digital presets of the 1980s, the keyboardist had to negotiate a tangled maze of patch cords in order to move from one sound to another, and even streamlined models like the Minimoog were subject to wild timbral fluctuations depending upon the alignment of its numerous knobs and controls. The synthesizer thus required an active physical stance, one that emphasized the determined effort and work behind its sound production.

Those professional touring keyboardists who succumbed to the synthesizer's novel allure, quickly discovered that its limitations necessitated that they accumulate numerous instruments in order to have a wide range of sounds readily available at their fingertips. On the one hand, they found that the *types* of sound that any one synthesizer model could produce were particular to the individual instrument. As Keith Emerson complained in 1974: “If I could find one instrument that could get the sound of each of them, I would use that. People are working on it, but the synthesizers are still limited.”²¹ His solution? Emerson surrounded himself with thirteen different keyboards. As excessive as that might seem, it pales next to Rick Wakeman, whose frustration with the synthesizer reputedly compelled him to acquire thirteen separate Minimoogs, “each with its knobs superglued into position to make a different sound.”²² Given these circumstances, early 1970s progressive rock keyboardists like Wakeman soon found their bodies hidden and immobilized on stage, their head peering from behind a towering wall of bulky synthesizers.

Keith Emerson was the first rock keyboardist of note to grapple, quite literally, with the problematic relationship between the performer's body and the stationary design of his instruments. As early as the 1960s when he was playing for the Nice, and his main instrument was the Hammond organ, Emerson developed a reputation for a stage show filled with astonishing physical feats, whereby he asserted his dominance and control over the instrument: He "would use knives to sustain notes on the keyboard, then, while riding the [Hammond] L100 across the stage as if it were a horse, he would bury knives in the speaker cabinets. He would pour lighter fuel over the organ and set fire to it, and play it from behind, inside, or even with it lying on top of him."²³ When Emerson formed the progressive rock trio Emerson, Lake and Palmer in 1970, he approached his new array of keyboards, which included the Moog manual synthesizer, in a way that once again placed his performing body squarely in the foreground. Rather than surrounding himself with keyboards, Emerson separated them into two sides. He would then situate himself between the two keyboard banks so that he could play them simultaneously with his unobstructed body and bare, open shirt torso facing out toward the audience. Emerson's most celebrated gimmick, however, involved the use of the Moog's remote-controlled pitch modification device called the "ribbon controller," which allowed him to *play* the synthesizer while wandering about the stage. The ribbon controller was a slender three-foot-long device that was used most often to create sliding pitch effects, but in Emerson's hands it became a suggestive phallic stage prop. As he stroked the ribbon controller vigorously, and slid it repeatedly between his thighs, he reimagined the keyboardist on a level with the cock rock superstars of the day.

Eventually the keyboardist Edgar Winter took a more reasoned approach to solving the synthesizer's problem of limited mobility and attached a shoulder strap to his ARP synthesizer so that he could move more freely with it around the stage. Keyboard manufacturers were sensitive to these concerns and soon began marketing custom-designed portable models so that synthesizer players could exert a degree of bodily control over their instruments. Inevitably, the genesis of the strap-on synthesizer encouraged the same masculine posturing and array of hip-grinding phallic poses that electric guitarists had been doing with their instruments for years, a connection that was implicit in the generic "keytar" name by

which these instruments came to be known. In general, most new wave musicians would come to renounce these excessive and sexualized associations that both the guitar and the keyboard had accrued over the course of the 1970s.²⁴

The Synthesizer in the Late 1970s

By the mid-1970s the synthesizer had become an accepted part of the popular music landscape and the keyboard industry had experienced a substantial boom. This growth was reflected in part by the launching in 1975 of *Contemporary Keyboard* (which would eventually change its name to *Keyboard* in 1981), a practicing musician's magazine spanning the worlds of rock, classical, and jazz that featured interviews, expert columns, reviews, and advertisements, all with a focus on the latest keyboard technology. Unsurprisingly, in its early years the magazine routinely featured such storied progressive rock keyboardists as Keith Emerson, Rick Wakeman, and Tony Banks of Genesis. By the late 1970s, the magazine's coverage had expanded to include keyboardists like Kerry Livgren and Steve Walsh of Kansas, Al Greenwood of Foreigner, David Paich and Steve Porcaro of Toto, and Dennis DeYoung of Styx, all of whom were part of a radio-friendly American progressive rock movement that popular music studies scholar Kevin Holm-Hudson has since dubbed as "prog lite."²⁵ Beginning in 1980, the magazine extended its reach even further as it started to feature interviews with new wave keyboardists ranging from Jimmy Destri of Blondie and Greg Hawkes of the Cars to Mark Mothersbaugh of Devo and Gary Numan, a trend that would continue into the mid-1980s with profiles on Duran Duran's Nick Rhodes, Thomas Dolby, and others.

In 1985, surveying the various musicians who had graced *Keyboard's* pages during its first ten years, the magazine's assistant editor Bob Doerschuk drew a sharp distinction among the musical movements that they represented. To the generation of late 1970s American progressive rock bands like Kansas and Styx, he affixed the label of "new romantics."²⁶ As Doerschuk described, like the early 1970s progressive rockers that had preceded them, the "new romantics" had devolved into a "Barnumesque approach to performance, with intricate props and stage designs, breakneck

instrumental cadenzas, immaculately rehearsed arrangements, and predictable ‘Do-you-feel-all-right’ raps.” The result had been a general malaise, a “betrayal of the music, a sell-out of spirit for showbiz.”²⁷ As an answer to this troubling trend, he labeled the new wave keyboard players as a revolutionary group of “new classicists.” In their search for an aesthetic based in simplicity and uncluttered formal melodicism, these new classicists, Doerschuk argued, represented a conscious rejection of the previous generation of “new romantics.”

Doerschuk’s polemical designation of the “new romantics” and “new classicists” draws much of its obvious rhetorical power from its roots in the study of art music, where the alternating flow between subjective, grandiose “romantic” statements and a coolly objective “classical” approach has long provided a convenient, if reductive, template for projecting the linear flow of style and history. As he points out, new wave’s “new classicists” renounced the virtuoso solos of the progressive rock era in favor of keyboard parts that were devoid of ornamentation and filigree and could serve the song in more fundamentally direct ways. Beyond this, Doerschuk mentions two further “classical” attitudes that proved crucial to the new wave keyboard style. First, as he explains, new wave keyboard players revolted against the synthesizer’s excesses of the 1970s by turning to older, “classic,” electronic keyboards from the 1960s such as the Vox Continental and Farfisa combo organs that had fallen out of favor in recent years. With their lean, economical design, and stabbing chords and trebly timbres, these instruments perfectly suited the new wave’s evocation of garage bands and AM radio hits of the past, and also offered an alternative to the Hammond organ’s soulful, gospel-associated sound, which had become the dominant rock organ of the 1970s. Second, those new wave musicians who did embrace the synthesizer vehemently disavowed the overt pitch bending, vibrato, and nuances of tone shading that had made the instrument seem so “musical” or “expressive” in the hands of progressive rock keyboardists. Instead, they relied on a range of “steely sounds, more obviously electronic and less orchestral in texture.”²⁸

Much as the return of the Vox Continental and Farfisa organs was a reaction against the Hammond, so the new wave keyboardists’ turn toward “steely” and “electronic” synthesizer settings marked a departure from the seemingly warm and expressive synthesizer timbres that had

prevailed throughout the 1970s. In this instance, though, the change resulted less from a difference in keyboard choices than from the ways in which new wave musicians subverted many of the marketing assumptions and practices that had built up around the synthesizer through the course of the decade. As a case in point, consider the ARP line of synthesizers, which along with Moog had dominated the electronic keyboard industry throughout the 1970s. By the latter part of the decade, ARP was increasingly turning toward the production of synthesizer models that featured polyphonic capabilities. One of the first of these, the ARP Omni (and its upgrade, the Omni-2), found its way onto numerous recordings, and figured prominently in the setup of both “new romantics” such as Foreigner’s Al Greenwood and “new classicists” like Greg Hawkes of the Cars. Given the monophonic synthesizer’s already established role as a lead instrument, manufacturers like ARP naturally assumed that players using a polyphonic synthesizer such as the Omni would want an instrument that improved upon the monophonic’s strengths and could also more ably fill the musical texture or provide background accompaniment. ARP thus packaged the synthesizer with violin and viola settings imitative of orchestral instruments, which the company believed would enhance a keyboardist’s accompanying needs. ARP accented these “orchestral” aspects in the marketing of the Omni, claiming that its synthesizers possessed a timbral quality equivalent to “real” instruments and a creative flexibility that could accommodate the performer’s musical goals. Bolstered by a hyperrealized language of verisimilitude, ARP addressed the Omni-2’s potential audience directly: “You want *authentic* strings, horns, and a big sound” (emphasis added). ARP also attempted to soften the musical technology by humanizing the synthesizer’s mechanical features. Everywhere in these advertisements one finds crucial keywords—“flexibility,” “variety,” “creativity,” “unlimited expression”—that assure prospective buyers that this is “a synthesizer that plays as good as you do.”

New wave musicians found the new range of synthesizers like the ARP Omni captivating, but in ways that the keyboard manufacturers had likely not anticipated while contemplating the instruments’ design and marketing. In a 1980 profile for *Contemporary Keyboard*, for example, Hawkes praised the ARP Omni not for its purported “authentic” imitative capabili-

ties, but rather for its glaringly *artificial* string sound, a quality uniquely attuned to his own particular aesthetic:

Greg relies on his other polyphonic synth, the Omni, for string sounds, which he considers the instrument's strongest feature. When playing them, he generally uses the viola setting. "But I'm not even looking for an accurate string sound," he points out. "Again, I like the fact that it sounds somewhat electronic. To me it sounds like an even more electronic version of the Mellotron sound. If I was looking for an accurate string sound, I would write out string parts and record them that way, using real string players."²⁹

Hawkes's comments illustrate the perverse relationship that new wave musicians enjoyed with the keyboard industry, as they gravitated toward an electronic artifice that the manufacturers were attempting to conceal in their marketing campaigns. While ARP and other manufacturers may have wished to emphasize a warmth in their synthesizers akin to the resonance of acoustic instruments, more and more new wave keyboardists began to echo Hawkes's sentiments. As Billy Currie of Ultravox explained, the synthesizer was ideal precisely for its range of "chilly string imitation sounds. . . . [which were] very synthetic and cold."³⁰ Given these relationships, it becomes apparent that much of what new wave musicians revolutionized in the use of the synthesizer can be explained vis-à-vis their appropriation of a preexisting symbolic domain linking the players and the music industry. Through the ways in which they adopted the synthesizer to their specific attitudes and modes of performance, new wave musicians resituated in dramatic fashion the synthesizer's rhetorical power. Crucially this shift extended beyond the qualities of the synthesizer's sonic features and into the *production* of the sound itself. It is important to remember that when new wave keyboardists jettisoned the bends, slides, and vibrato that a previous generation of rock keyboardists had employed to add some measure of warmth and touch to the synthesizer, they rejected not just a timbral idiom, but the physicality and work required to achieve those particular sounds. In this new context, the synthesizer's cold, icy legato timbres seemed to emanate from outside a bodily context, emphasizing instead the instrument's unadorned machinelike nature.

This is not to say, however, that new wave keyboardists broke completely with all of rock's synthesizer habits. While new wave keyboardists may have held the solos associated with the progressive rock style in suspicion (as Hawkes summarized, "I do get bored by endless soloing . . . in the Minimoog sort of tradition of fake guitar-style playing"), one can nonetheless find a good number of synthesizer and keyboard solo sections in various new wave songs, such as the Cars' "Bye Bye Love" (1978) or Split Enz's "I Got You" (1980).³¹ The difference lay in the view of the solo itself. For someone like Devo's Mark Mothersbaugh, for example, the synthesizer allowed the means to explore more abstract musical structures: "When I'm doing a solo on a synthesizer, I opt for more of a sonic Lysol effect than a cake icing effect. I guess my songs are closer to musical erector sets than to musical pastry."³² Mothersbaugh's statement borders on the absurd, but his point is fairly clear. In general, new wave musicians harbored a basic mistrust of the excess and wanton display that had come to characterize the synthesizer. In some respects they embraced instead a new asceticism, a denial of the keyboard's and synthesizer's accumulated symbolic capital as an instrument of flashy spectacle, on which one was obliged to "perform."

In Doerschuk's view of this stripped-back "new classicist" ethos, the band that best embodied the new wave's musical sensibilities ironically was one that operated on the fringe of the movement itself. Specifically he singled out Kraftwerk, a reclusive German quartet whose thoroughgoing use of synthesizers and electronic percussion instruments, many of them self-built, provided a guiding light for many Anglo-American new wave artists at the turn of the 1980s. In place of the bombastic progressive rock synthesizer solo or the ambient atmospherics of fellow German keyboard artists like Tangerine Dream and Klaus Schulze, Kraftwerk shifted its musical emphasis toward clipped staccato rhythms, simple, repetitive melodic figures, sequencer patterns, and insistent beats. In doing so, the group showed how an exclusively synthesized texture could provide the structural groundwork for a new generation of keyboard musicians.

Equally important, Kraftwerk wedded its minimalist musical vision to lyrical themes and a visual presentation that dealt exclusively with themes of technology and modernity ranging from the German Autobahn and "Trans-Europe Express" to Geiger counters and computers. This was not

necessarily a new phenomenon. Composers have for centuries employed music's unique expressive power to imitate the qualities of our technological environment, whether it be the rhythms and timbres of clocks, trains, and factories or some other machinery. It is precisely this connection that led Doerschuk to hear "the cyclic rhythms of the assembly line" and "the soulless wails of shortwave interference" in Kraftwerk's music.³³ But music has also provided a conceptual space in which we can imagine the symbolic representation of technology that is less obviously sonorous or rhythmically repetitive, and it is here where Kraftwerk especially excelled. Utilizing a variety of angular and tonally abstract melodic contours, unwavering rhythms, and accented bursts of processed noise, Kraftwerk suggested the technological "otherness" associated with "The Robots" of 1978's *Man-Machine* or the "Pocket Calculator" of 1981's *Computer World*. To Kraftwerk, such depictions pronounced the welcome fusion between humans and machines. They also, however, reinforced the perception that the technology of a "robot" or "calculator" marked a breach that exceeded the boundaries of certain human capabilities. Machines such as these possess an advanced logic, intelligence, and precision, characteristics that the synthesizer could connote through its seemingly mathematical pitch arrangements, random melodic patterns, and insistent repetition. Such representations proved to be popular with the new wave, and one can hear the synthesizer's abstract sequenced patterns convey everything from playful anxiety on Gary Numan's "Praying to the Aliens" (1979) to the bustling exotic tourism of Wall of Voodoo's "Mexican Radio" (1982).

It is helpful to remember just how different such representations were from the more typical flights of synthesizer fancy favored by Doerschuk's legion of mid-1970s "new romantic" rock keyboardists. Consider, for example Top 10 singles like Gary Wright's "Dream Weaver" (1976), the Steve Miller Band's "Space Intro / Fly Like an Eagle" (1976), and Styx's "Come Sail Away" (1977). All of these foreground the synthesizer as a means of representing majestic space travel and soaring, graceful flight, or as rock historian John Covach has aptly put it—"hippie dreams of fantastic voyages into the bright technological future."³⁴ Bolstered by reverb and delay, and saturated, washed tones, each song's synthesizer arrangement swoops along on a gliding portamento, and hovers and envelopes the listener with warm timbres. In the true tradition of nineteenth-century romanticism,

the synthesizer here tends toward sublime figurations and hints of dreamy reverie. It is a sonic world far removed from that of Kraftwerk.

Kraftwerk’s unique visionary output would prove to be a great influence on other new wave musicians, but at the same time we should be cautious of overstating its historical impact. In recent years Kraftwerk’s reputation has reached an almost mythical status, as it has assumed a place of hyperbolic prominence in the histories of disco, EDM (electronic dance music), hip-hop, and rock itself. The band’s biographer, Tim Barr, asserts that “Kraftwerk’s modest output has provoked a paradigm shift in modern music that has been unequalled since The Beatles,” a sentiment echoed by *All Music Guide*’s Jason Ankeny, who states that Kraftwerk’s “self-described ‘robot pop’ . . . resonates in virtually every new development to impact the contemporary pop scene of the late-20th century.”³⁵ However, during its period of greatest activity in the late 1970s and early 1980s, Kraftwerk was marginally successful at best in the United States, where it remained a favorite predominantly of critics and select audiences. After the surprise Top 40 breakthrough of its “Autobahn” single in 1975, none of the band’s albums managed to crack the Top 100 until 1981’s *Computer World*, a six-year period when the band did not tour the United States. Instead, its singles landed primarily in disco clubs and on black radio, where it wielded a significant, yet marginalized influence. For all of its undeniable importance, Kraftwerk would not be the band to propel the synthesizer and its futuristic symbolism into mass awareness as part of the new wave. That honor would fall to someone else.

New Wave’s First Synthesizer Star

When I arrived at the studio the previous band had left behind a Mini-Moog synthesizer and so I asked if I could have a go before it was collected by the hire company. I had never seen a real synth before and, to be honest, had never really thought about them very much. Although I liked some electronic music I still associated it mainly with pompous supergroups, like Yes and ELP. To me they conjured up visions of disgusting, self-indulgent solos that went on for half an hour. Pressing that first key changed my life. Luckily for me it had been left on a heavy setting, which produced the most powerful, ground-shaking sound I had ever heard. I realized immediately that this was what I had been looking for.

—Gary Numan, describing his first encounter with a synthesizer in July 1978³⁶

In 1978 Gary Numan was a member of a fledgling punk-inspired band being courted by a small independent label, Beggars Banquet. As his anecdote reveals, Numan's discovery of the synthesizer at that time was an epiphanic affair. Realizing that the Minimoog offered a new sense of power unattainable through his main instrument, the guitar, Numan switched allegiances and concocted a blend of synthesizer-based rock with imagery and lyrics inspired by science fiction, making him an instant star. By 1979 he had three albums lodged simultaneously in the U.K. Top 20 and two chart-topping singles. One of those, "Cars," would propel him to popularity in the United States, where it entered the Top 10. While that song would stand as his lone American hit, he remained hugely successful in his homeland of England. By the time that Numan decided to retire from touring in 1981, at the age of twenty-three, his stature was such that he could hold a series of mammoth sold-out farewell concerts in Wembley Arena, embellished with an extravagant stage design steeped in new wave's modern and futurist tropes. Complete with "a spectacular spaceship landing" modeled on *Close Encounters*, seventy-two sheets of colored Perspex panels, radio-controlled robots, a radio-controlled car, and a film of Numan flying his own airplane, it was an unabashed technological spectacle. As journalist Myles Palmer observed of the occasion, "Space was no longer science fiction. It had become cabaret for suburban teenagers."³⁷

Numan's presence within new wave was unavoidable at the turn of the 1980s, most of all because he successfully arrived at an image and sound that resonated with new wave's modern aesthetic. The reviews and features that accompanied Numan drew constant attention to the ways in which his music captured the tensions surrounding urban life, a direly ineffective British government, and a new technological age filled with both promise and dread. Writing in *Melody Maker*, Ray Coleman claimed that Numan was making "uncomfortable sounds for a neurotic age . . . anthems to mirror our world of computers and calculators and multi-storey car parks, advanced technology, self-service petrol and two million on the dole."³⁸ Numan also proved to be a polarizing figure, one whose celebrity status, attitude toward the synthesizer, and distinct musical mannerisms inspired a vociferous and often antagonistic critical reception. Numan's influence was substantial, and for that reason, his brief reign as new wave's first synthesizer star is worth examining in some detail.

Like many other new wave performers, Numan first entered the British music scene through the doors initially opened by punk, singing and playing guitar under his given name of Gary Webb in the group Tubeway Army. As Numan has stated, he initially gravitated toward punk primarily because at that time "everybody was signing punk bands."³⁹ Numan (Webb), however, never truly felt comfortable in his punk skin, first because he found the music's stylistic limitations to be stifling, and second because he wanted a degree of success that seemed at odds with punk's declared distrust of pop stardom. The synthesizer provided a fortuitous means of escape. After his chance encounter with the Minimoog, Webb began to adapt Tubeway Army's new material to the instrument, adopted the futuristic ring of *Numan* as his name, and placed the synthesizer at the heart of the "new and unusual" style of music that he envisioned.⁴⁰

From the beginning Numan downplayed his abilities as a keyboardist, stressing that he had only recently switched to the synthesizer from the guitar. As he casually confided in an interview with *Contemporary Keyboard*, his keyboard technique was severely limited. He was more adept at operating the synthesizer than playing it:

Well, I'm not really much of a musician anyway. I approach the piano or the keyboard as a guitar player. My brother took piano lessons and he said that all my fingers are wrong. Apparently you have to use certain fingers for certain notes. Well I don't know none of that [*laughs*]. I'm very much limited to a one-finger motion, two at the most. To be honest, I'm not that good a player at all. I can get quite nice sounds [however]. I know what the dials do on a Minimoog. I know what the gadgets are and can work them quite well.⁴¹

Numan's nonchalant admission of his nonmusicianship predictably ruffled the magazine's readership. As one reader summarized in a terse, two-sentence letter: "Gary Numan in the same magazine with Glenn Gould? Come on now!"⁴² At one level, the readers were upset by the astonishing stardom that Numan had attained with his seemingly marginal skill, a development that overturned the expectations of work, skill, and professionalism that had been deemed necessary to become a successful keyboard musician. At another, more symbolic level, Numan's statements hint at the

drastically different ways in which new wave musicians approached the relationship between the synthesizer and the performer's body. By the turn of the 1980s, readers of *Contemporary Keyboard* had grown accustomed to reading profiles of "one handed" keyboardists whose heroic technical prowess had allowed them to overcome the handicap that the monophonic synthesizer presented. Numan, however, subverted that connotation and took the meaning of the one-hand player to its more literal extreme: that of a physically debilitated player limited to a singular, simplistic hand motion. Because many new wave synthesizer players like Numan initially approached the instruments not as trained pianists but as converted guitarists, nonmusicianship became, just as it had in punk, a politically potent badge. If the punk guitar manifesto had been "This is a chord, this is another, this is a third. . . . now form a band," then the new wave synthesizer equivalent might have been expressed in similar terms: *This is a finger, this is another . . . now write a song.*⁴³ The composite picture of the new wave synthesizer player that Gary Numan presented was thus someone short on technique, but long on creative curiosity.

Just as Numan presented a radically different portrait of the synthesizer player as a creative musical artist, likewise his accompanying visual image eschewed overtly expressive or emotional bodily displays for a more modern and minimalist demeanor. This was apparent early on from Numan and Tubeway Army's first performances in 1979 on Britain's two premiere televised music shows, *The Old Grey Whistle Test* and *Top of the Pops*. As Numan has explained, he carefully plotted the group's appearances on these programs. He was determined not to repeat the "huge mistake" that one of Britain's first new wave synthesizer bands, Ultravox, had made when performing its single "Hiroshima Mon Amour" on television in 1978, when the lead singer dressed in a decidedly inappropriate Hawaiian short-sleeved shirt.⁴⁴ To set the right atmosphere, Numan instructed *Top of the Pops* to replace their familiar flashing multicolored light show with cold, bare white lights in order to create a more stark stage setting. He also gave his band members specific instructions on how to act: "Most of the pop stars in the late '70s smiled all the time and looked sickeningly happy, which I found very naff and resolved to avoid . . . [For the television shows] I had the band dress in black and I told them there was to be no looking at the camera unless it was appropriate, no smiley faces mouthing Hello Mum."⁴⁵ The result

was a performance that stood in stark contrast to the other musical acts on the television, one that emphasized music making as a job or task rather than an act of direct communication. As Numan describes:

The night we were on, there was a band of dudies, who looked very clean cut and conservative, and then there was some punk band, jumping up and down and trying to look very outrageous. Suddenly there was us, and we just stood there and stared; it was all very, very cold, just the way we always are. The boys have their machines, and they have [to] stand there and play them, they very rarely look up and they never smile, because they've got to concentrate. They've got an awful lot to do, no time to stand around smiling and carrying on. There are always two or three synthesizers going at once, sometimes four.⁴⁶

Placed at the center of the band, Numan stood out with his rigidly "wooden" mannerisms, an "unnatural" appearance that was partly by design, but also partly because he was unsure of how to maneuver his body performing for the first time without a guitar.⁴⁷ Caked in a sheen of ghostly white makeup (applied at the show's behest to hide his acne) and black mascara, Numan presented an emotionally detached, unsmiling visage that would set a striking precedent for his future stage shows.⁴⁸ Taken as a whole, the players' stiff postures, black uniforms, and "concentrated" approach to their instruments made them appear as if they were technicians in a work cubicle rather than musical performers. There was no sense of masculine mastery over the synthesizer; rather they undertook their musical roles in a dispassionate, robotic manner. The presumably separate realms of humans and machines had bled over into one another in Tube-way Army's presentation. In many ways the band had left behind rock's normal expressive domain, and was closer in spirit to the performing automata of the eighteenth century or Frederick Winslow Taylor's early twentieth-century conception of "scientific management," which equated industrial human labor with mechanical efficiency.

The combination of Numan's synthesizers and his robotic appearance provided a suitable opening for the music press, which quickly filled it with a host of futuristic references, many of them directly reflecting Numan's expressed interest in science fiction. A review of a Numan live show in *Sounds*



Figure 13. Gary Numan, rigid and unsmiling, on the *Old Grey Whistle Test*, 1979.

magazine, for example, ran under the heading of “Do Sheep Dream of Electric Androids?,” a play on Philip K. Dick’s science fiction novel *Do Androids Dream of Electric Sheep?*, while a Numan cover feature in *Melody Maker* entitled “The Numan Who Fell to Earth” conjured the specter of David Bowie’s cinematic alien in the 1976 film *The Man Who Fell to Earth*.⁴⁹ Numan had managed to fill the role of both android and alien, and while obviously there are differences between the two, that mattered very little, as the main significance was that they both represented a sense of “otherness.”⁵⁰ This came to the fore most strongly in Tubeway Army’s 1979 album *Replicas*, a loose concept album that drew its inspiration from the dark dystopian science fiction of J. G. Ballard, William Burroughs, and Philip K. Dick. With *Replicas* Numan presents a scenario set in a futuristic city cohabited by humans and machines. The machines are engaged in a covert project to rid the earth of the error-prone humans, and at their disposal are menacing an-



Figure 14. Tubeway Army keyboardists Chris Payne (*foreground*) and Billy Currie (*background*), both dressed in black, concentrate on their synthesizers, on the *Old Grey Whistle Test*, 1979.

droid “Machmen” who serve as a form of law enforcement. There are other androids available to humans as a service, and these are referred to as “friends.” As Numan has explained, “You can call for a Friend to play chess with, or indulge your most obscene sexual fantasies, or anything in between. No one else will know because they all look the same. As anonymous as a brown paper bag.”⁵¹

These “friends” form the subject of “Are ‘Friends’ Electric?,” the song that first catapulted Numan’s career in England.⁵² The song’s lyrics unfold in a desolate and decaying urban landscape, with the singer sitting isolated in a room with paint peeling off the walls. The (presumably human) singer opens the door to find a “friend” that he invites inside. As we learn, the singer’s old “friend” has broken down, and now he has no companion to keep him company; he has, as he sings, “no one to love.” Numan’s lyric approach lends the song a subtle sense of melancholy. At the same time, the

rhythm and tempo are propulsive, pushed and prodded during the verses by the familiar motion of an alternating I–VII mixolydian chord progression (C–B \flat) and a recurring high-pitched descending tritone riff (b \flat –e) in the synthesizer that accents the song’s “alien” otherness.⁵³ Numan twice interrupts the song’s main verse sections with an unrelated, more personal, monologue, one that he had originally written as part of a different song, in which he details his feelings of rejection in the midst of an unrequited love. Placed within the framework of “Are ‘Friends’ Electric?” the juxtaposition with the imagery of the broken-down “friend” deftly adds an air of vulnerability to the protagonist’s sense of loss.

Though this dual lyric construction is an anomaly among Numan’s songs, its shifting nature hints at one of the main reasons why Numan was able to achieve and maintain his status as a futuristic new wave pop star: in his delivery and overall image he presented himself as a combination of both the human protagonist and the electric “friend.” On the one hand, the listener is aware of Numan’s subject position as a sensitive musical artist who experiences emotional isolation and alienation, as someone who perhaps suffers in his social relationships.⁵⁴ On the other hand, the listener hears Numan’s clipped, pinched vocal style and sees his dour, unsmiling visage, and it is easy to position Numan in the role of the android “friend” as well. Contradictions as such are absolutely fundamental to the ways in which celebrities, musical or otherwise, are constructed. The majority of stars possess an ambiguity, a slippage between the intimacy of their “real” selves and the staged complexity of their “public” personas. This contradictory nature allows the media to disseminate and dissect celebrities from a variety of angles, in the process offering their fans a multitude of connections and interpretations.⁵⁵ In the case of Numan, his choice of the android as a stage persona ensured that he would be perceived through a basic doubleness. An android, after all, is by definition a robotic machine cast in the image of a human. So it should come as little surprise that Numan’s reception in the press often revolved around the singer’s apparent contradictory qualities. As the title of *Melody Maker*’s very first feature on Numan declared, he was an alienated pop star, “Alone in a Crowd.”⁵⁶ A similar headline in the British *Daily Star* tabloid trumpeted “Gary—We Love You! But Numan is So Alone.”⁵⁷ As Numan’s 1982 biography proclaimed, the pop star was “shy, cocky, hard, soft, cruel, kind, infu-

riating, neurotic, obsessive, introspective . . . and, for all his machine-based sounds, a very human guy."⁵⁸

What is perhaps less obvious is the way in which these dualisms also figured into the very means through which Numan, the synthesizer star, produced his music.⁵⁹ The synthesizer of the rock and pop world, it should be remembered, is a hybrid invention, one that combines the familiar keyboard and tonal melodic possibilities of the acoustic piano with the electronic circuitry of sound synthesis. The synthesizer's construction, as such, mirrored the doubleness of Numan's persona. This extended as well into the very design and conception of the synthesizer's range of sounds. As we have seen in the case of Greg Hawkes and his ARP Omni, while manufacturers conceived their synthesizers with settings that reflected the natural acoustic world of strings, brass, and other instruments, musicians themselves often embraced the sounds for their blatant artificial quality. One of Numan's signature synthesizers, the Polymoog, was no exception. It remains a great irony that the one synthesized string sound that would come to most signify the cold, alien artifice of his particular sound world on songs like "Cars" was found under the Polymoog preset label of "Vox Humana." Even Numan's band itself embodied a certain doubleness. While the press focused most of its attention on Numan's synthesizer arrangements and his alien vocal presence, his group also featured a conventional rhythm section with a drummer and bassist, both of whom accented the music's rock orientation with funk and dance rhythms. The combination created an alluring, yet distancing, disjunction for fans like hip-hop legend Afrika Bambaataa, who observed that "the beats were there but the singing was so weird, so gone, so off, people were freaked."⁶⁰

The song that inspired Bambaataa's comments, and the one that in many ways best captures the multiple contradictory levels on which Numan's music operates, is "Cars." Released in 1979 on *The Pleasure Principle*, as its automotive title suggests, "Cars" deals with one of rock music's well-worn tropes. The automobile has long been a popular lyric subject among rock musicians, for it symbolizes the "high living and conspicuous consumption" attached to the rock and roll lifestyle, while also providing a measure of freedom and independence, an "easy escape route" from the restrictions of home and domesticity or the drudgery of the everyday workforce.⁶¹ Numan's "Cars" captures both these dimensions of the automotive

experience. On the one hand, the song's repeated refrain, where Numan sings that "the only way to live" is in cars, confirms through its material relationship the status and empowerment that the automobile offers its driver. Its forceful streamlined message reads like a virtual tagline for an automotive marketing campaign. On the other hand, Numan hints that the car may offer a getaway when he confides his thoughts about "leaving tonight." It is thus easy to see how one could interpret Numan's car as a representation of his individualism and identity within an overcrowded modern society.

Musically, the song's propulsive, syncopated bass riffs, layered acoustic/electronic backbeat and thick, loud, multitiered synthesizer textures act as a convincing aural analogue to the automobile's speed, power, and motion. That this connection is so strong can be attributed in large part to the song's unusual form. The first 1:45 of "Cars" is fairly standard, consisting of an introduction that showcases the song's powerful, piercing Polymoog melody followed by an AB form that alternates two lyric verses (A) with a brief instrumental section (B). For the song's remaining two minutes, however, Numan's vocals drop out and with the exception of a momentary return to the B section the band plays a lengthy instrumental extension and variation of the Polymoog introduction. As this climactic closing section swells and expands, one can easily imagine the magnificence and vastness of the unfolding open highway, a powerful effect that lingers as the song fades into the studio mixing board, suggesting the ceaseless motion of an automobile disappearing into the distant horizon. A vessel of leisure and open possibilities, Numan's car promises a voyage without destination, echoing the liberating sentiments of a legion of automotive anthems ranging from the Beach Boys' "I Get Around" and the Who's "Going Mobile" to Steppenwolf's "Born to be Wild" and Judas Priest's "Heading Out to the Highway." It is obvious why the song has achieved an iconic "car song" reputation, featured in everything from the *Grand Theft Auto: Vice City* video game to advertisements for Oldsmobile and Nissan.

If, however, as journalist Gerri Hirshey suggests, the car has traditionally served two symbolic functions within rock music—"as lust wagon and as redemptive chariot"—then it is easy to understand why Numan's song has also been depicted as a striking departure from the grand romanticism of that particular automotive musical canon.⁶² As the song's lyrics reveal,



Figure 15. The synthesizer as modern motif. Gary Numan(s) “driving” across the keys of the Polymoog, from the video for “Cars” (1979).

the narrator of “Cars” is not out for a joyride, but rather hidden away inside his car, securely distanced from the outside world. Numan explained his view of the song to *Rolling Stone* magazine in 1980: “I feel very safe in cars. . . . You can lock the doors and they can’t get to you. I don’t like people gettin’ to me. Bein’ in a car keeps me safe. It’s a cocoon.”⁶³ Numan would elaborate on this theme even further in his 1998 autobiography, as he compared “the modern motor car” to a “personal tank,” one that would allow a quick exit “at the first sign of trouble.”⁶⁴ While Numan potentially complicates this reading in the song when he professes that he welcomes “a visit,” at the same time he presents himself as an isolated individual incapable of reciprocating any real communication. Tucked away in his modern mechanical technology, he can “only receive.”

The technological dichotomies and contradictions at the heart of “Cars” would ultimately serve as a strong unifying theme for the album on

which the song appeared, 1979's *The Pleasure Principle*. While the subjects of the song "Metal," for example, are technologically advanced robotic creations, they yearn to be more human, to be "a man." In the song "Conversation," Numan looks for a point of communication but finds his efforts to be ineffectual, mediated to the point where he may be nothing more than a photograph looking back at a picture of another person. Many of the songs present Numan as a passive subject, as in "Observer," where he stands for hours and days, even a "lifetime" watching and waiting. This technological ambivalence trickled over into the album's reception in the music press. While many critics were quick to praise *The Pleasure Principle's* musical technology—its "extraterrestrial cascading" and "synthesized buzzes sprinkled like jimmies on an electric sundae"—some also lamented its oddly static and lethargic tone.⁶⁵ Writing in *Trouser Press*, Ira Robbins savaged the album, complaining of its "overwhelming tedium."⁶⁶ Phil Sutcliffe of *Sounds* likewise lamented a turn in Numan's songwriting style that was particularly on display in songs like the instrumental "Airlane," which he called "the worst of what's happened to Numan's music since he stopped writing on guitar and became infatuated with synthesizers on which he admits to being a primitive one-finger operator."⁶⁷

Sutcliffe's observation is worth considering more closely, for indeed the result of Numan's simple, one-handed (or one-finger) approach was a slowing of the music's harmonic pulse, which emphasized even further the reduced physical effort or work behind his music making. This can best be demonstrated by comparing Numan's approach to songwriting before and after his discovery of the synthesizer. Working within the restrictions of the monophonic Minimoog, and limited as well by his own modest abilities as a keyboardist, Numan was led to write in a certain way. Whereas before, as a guitarist in the early manifestations of his band Tubeway Army, Numan had centered his songs on fairly standard chord progressions, with the switch to the one-finger lines of the synthesizer he made the keyboard's melodic line the song's focus. In the absence of Numan's guitar, which had previously provided an active, driving chordal structure, the new synthesizer songs, led along by Numan's simple keyboard lines, seemed comparatively stationary in their harmonic motion. Numan the synthesizer star had an entirely different conception of phrasing and harmony than Numan the guitarist.

To illustrate the difference between the two styles, consider first an early Tubeway Army guitar song such as "Bombers" (the band's second single from 1978). "Bombers" features a verse with a repetitive chord progression that moves underneath and pushes Numan's vocal melody. Example 4 shows how the progression, which proceeds at a speed of two chords per bar, runs underneath one single vocal phrase. At this pace, the progression moves at two cycles per vocal phrase.

The image shows two staves of music. The top staff is labeled 'Vocals' and contains a melodic line in 4/4 time with a key signature of three sharps (F#, C#, G#). The bottom staff is labeled 'Guitar' and shows a chord progression in the same key signature and time signature. The chords are C#, G#, B, F#, C#, G#, B, F#.

Example 4: "Bombers" verse vocal melody and harmonic progression

With its alternating tonic–dominant construction, from C# to G# and B to F#, all of which establishes a strong key area of C#, "Bombers," like many rock songs, possesses a firm horizontal logic and a cycling harmonic progression that propels the listener along at a brisk clip.

In Numan's synthesizer songs, however, the harmonic motion no longer drives the melody. Rather, the harmony slows to the point where chord changes usually take place only when one complete phrase in the keyboard melody has shifted to the next. Very rarely does the harmony change within, or in anticipation of, a phrase. As a result, the chord progression does not determine the phrase, as in "Bombers." Rather harmony emerges as a distinction of the phrase, and the listener is left with the sensation that the music is moving in large harmonic blocks. This is especially evident in "Airlane" and "Cars," where the synthesizer's melodic phrasing creates formal units that slacken the harmonic motion to a crawl. Examples 5 and 6 show the main synthesizer lines from these two songs and the implied tonal centers that correspond with each song's different sections:

Various details emerge from these two musical examples. First, as one might expect of a player of Numan's abilities, all the synthesizer lines fit very easily within the hand. They are predominantly "white key"

Synthesizer

Section 1: D tonal center

Section 2: C tonal center

Section 3: G/F alternation, tonal center

Example 5: “Airlane” three sections

Synthesizer

Section 1: A/G alternation, tonal center

Synthesizer

Section 2: D dorian, tonal center

Example 6: “Cars” two sections

melodies—none of the tonal centers are on “black keys”—and when black keys do appear within the melodic lines, they are firmly anchored in the hand, paired next to a direct neighbor white key. Second, the implied harmonies tend to sit in a tonal center often for four measures at a time, which draws attention to the simple figuration of the melodic line rather than the harmonic motion. To compensate for this static horizontal harmonic motion, Numan develops his songs more along vertical textural planes, often by stacking melodies and drones on top of one another to create a layered,

at times more contrapuntal, arrangement. This layering effect occurs most famously during the extended coda that closes “Cars,” where Numan weaves together at least three synthesizer lines. One of the most prominent of these is a drone that begins on c♯, hovering over the main riff’s A major tonality, before shifting to c-natural as the riff changes to G major. Heard on top of the G major harmony, the c-natural drone acts as a dissonant suspended fourth, left hanging in the air. Given the slow procession of the chord changes, the overall effect in the coda is as if we are continually modulating back and forth between A major and G major.

Not all new wave musicians would follow Gary Numan’s lead and veer toward such harmonically static settings. But in Numan’s case, the end result seems somewhat less like a deliberate aesthetic choice than like an inevitable side-effect of the situation in which he found himself, where the combined limitations of the monophonic synthesizers that had prompted his musical epiphany and his own technical limitations steered him toward a certain way of playing. As a result, he arrived at an idiosyncratic style and the types of songs that a more proficient rock keyboardist likely would have never thought to compose. Numan circumvented the expectations of skill, work, and mastery that had accompanied the reception of rock keyboardists throughout the 1970s and in the end presented a different type of synthesizer musician, one that would wield a great influence over the next wave of British “synthpop” bands in the early 1980s.

Coda: Synthpop after Numan

In April 1981, the month that Gary Numan officially retired from touring with a series of sold-out Wembley Arena shows, the Human League entered the charts with its first Top 40 U.K. hit, “The Sound of the Crowd.” As spring turned to summer it was joined by a number of similar new acts—Depeche Mode, Soft Cell, Heaven 17—all of whom had cast guitars and drums completely out of their ensembles in deference to a lineup consisting exclusively of synthesizers and electronic percussion. Whereas Numan had never fully committed to a synthesized sound, always opting for a conventional rock rhythm section and occasionally returning to the guitar in his stage shows, these new groups embraced the new technology com-

pletely. Human League records, for example, bore a declaration of purity: “contains synthesizers + vocals only.” A new type of pop musician emerged: one versed solely in electronics. As Philip Oakey of the Human League summarized, “We use synthesizers because they’re simple. Once you get a grip on them you can do pretty much anything you want. We can’t play any other instruments.”⁶⁸

As with Numan before them, the new synthesizer players refused to engage with the specific modes of masculine mastery and virtuosic display that had typified the keyboard and synthesizer players of the early 1970s. The members of *Orchestral Manoeuvres in the Dark*, for example, deliberately wanted a neutral image that blended in with their modern technology, so they cut their hair short, and wore “nondescript clothes . . . ties and white shirts.” They ended up looking, in their words, more like “bank clerks” than musicians.⁶⁹ Groups with multiple synthesizer players, such as the Human League and Depeche Mode, divided them up into specific functions, so that in live settings one player might be responsible primarily for playing simple, repetitive bass lines. The image of the synthesizer player was transformed into that almost of a wage laborer. As *Musician* magazine described Patrick O’Hearn of Missing Persons, most of the time he was “bent over his keyboards at the back of the stage, looking like a *nouveau punque* auto mechanic fixing a particularly stubborn carburetor.”⁷⁰ Alternatively, some synthesizer groups simply took to the stage with the vast majority, or even all, of their music prerecorded, refusing to pretend to any authentic representation of work and labor. As Vince Clarke, the sole instrumentalist for the synth/vocal duo Yazoo described his live performances: “All of the actual riffs and bits and pieces are preprogrammed and the sounds presampled. . . . On stage I do very little actually. I might smoke a cigarette, drink a bit. I might clap my hands occasionally.”⁷¹ Through his nonchalant attitude, Clarke mocked the seriousness of rock’s artistic pretensions and its professionalized work ethic, acquiescing to the mechanization that had become an indelible part of new wave’s live synthesized aesthetic.

Clarke’s scenario, of course, is extreme. But it gives a good indication of just how much synthesizers had begun to change in the early 1980s. A transition was under way, and the days of the 1970s monophonic synthesizers and simple one-handed motions were being left behind as the production

of new digital synthesizers with polyphonic, sequencing, and sampling capabilities entered the marketplace. In this new context, many new wave musicians embraced an energy-conscious push-button attitude toward the synthesizer and remained content simply to stand relatively motionless behind the keyboard, initiating sequencer patterns, hitting noisy effects, and playing rudimentary lines. At the same time, the new sampling technology and polyphonic capabilities encouraged a shift away from the deliberately electronic and “artificial” tones favored by the early new wave synthesizer players toward more “naturalistic” settings. Synthesizers were now increasingly used to imitate not just string backings, but horn hits and choruses, stingers and any number of conventional arranging clichés that had been in the bag of rock and pop tricks since the 1960s and 1970s. While there were still genres such as heavy metal that declared that synthesizers were “gay” and decidedly unmasculine instruments, by the end of the 1980s the synthesizer had become the dominating sound of popular music.⁷² As the new digital synthesizers became more versatile, flexible, and reliable, ultimately allowing keyboardists to preside over one or two instruments rather than a forbidding tower of technology, the labor that went along with operating the synthesizer largely vanished. The new wave ushered in a new view of the synthesizer as a modern musical technology and reconceived what it meant to *work* at one’s instrument.