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Sounds of Futuristic Nostalgia: The Cultural Legacy of *Blade Runner* (1982) and the Yamaha CS-80 Synthesizer

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“She’s a replicant.” On its online landing page, the French company Arturia quotes Harrison Ford’s character, Rick Deckard, referring to a bioengineered humanoid in Ridley Scott’s film *Blade Runner* (1982). Arturia, however, invokes the catchphrase to refer to its software emulation of the legendary analog polyphonic Yamaha CS-80 synthesizer, released in 2003.¹ The reference is fitting, as the composer Vangelis’s utilization of the CS-80 in the film’s celebrated soundtrack marked a significant milestone in the instrument’s history. From preset emulation sounds labeled “Blade Runner Blues” to physical recreations of the CS-80 synthesizer named “Deckard’s Dream,” *Blade Runner* has left a significant impact on the cultural legacy of the Yamaha CS-80. Conversely, the CS-80 is inextricably linked to *Blade Runner*’s signature sound, which prompted Hans Zimmer and Benjamin Wallfisch to bring back this vintage synthesizer for the soundtrack of Denis Villeneuve’s sequel *Blade Runner 2049* (2017). The endurance of the CS-80’s association with *Blade Runner* is particularly remarkable, considering the modest evidence that Vangelis used the CS-80 among the many other synthesizers at his disposal in his London studio. How did these two artifacts—a prized electronic musical instrument and a science-fiction cult classic film—become so intertwined?

In this article, I explore the intricately linked reception histories of the *Blade Runner* soundtrack and the Yamaha CS-80 synthesizer by integrating approaches from film music analysis and organology. First, I explore how instrument-related factors encouraged the enduring association between the CS-80 and *Blade Runner*. I outline how the instrument lends itself well to the film, serving as a metaphor for themes within the film’s narrative as well as on a meta-narrative level. Next, I explore how *Blade Runner*,

1. “CS-80 V,” Products, *Arturia*, <https://www.arturia.com/products/analog-classics/cs-80v>. The author gratefully acknowledges the funding provided by the Leibniz Association via the “Materiality of Musical Instruments” research group at the Deutsches Museum, Munich, and wishes to thank Dr. Rebecca Wolf for her support and invaluable feedback throughout the research project.

especially with regard to its status as a cult film, keeps the CS-80's legacy alive. I map out how the activities of relevant communities continue to nurture the CS-80-*Blade Runner* connection. Ultimately, I argue that the cult status of the film and its soundtrack, as well as the CS-80 as a cult instrument, have synergistically reinforced the cultural significance of the CS-80 and *Blade Runner* in the intersecting fields of science-fiction film, electronic music, and analog keyboard synthesizers. More generally, I aim to demonstrate that the cross-fertilization between film music studies and organology can yield new insights into how artifacts of popular culture acquire meaning.²

“The Heavyweight Champion of the Early Polyphonics”

With its eight-voice polyphony produced using sixteen oscillators,³ along with its velocity- and pressure-sensitive keyboard, the CS-80 was—and still is today—renowned for its remarkable expressivity and playability. Released in 1977, the CS-80 (see fig. 1) was the flagship model of Yamaha's “combo synthesizers” CS-Series.⁴ Along with the CS-50 and the CS-60, Yamaha promoted the CS-Series's “tremendous versatility, playability and portability,” enthusing that these “advanced new instruments expand the creative abilities of *any* keyboard musician.”⁵ Targeting wider accessibility and appeal, the CS-80 owner's manual stresses that “controls and functions are explained in terms that should be comprehensible

2. I draw on Kevin Dawe's view of musical instruments as “objects existing at the intersection of material, social, and cultural worlds, as socially and culturally constructed, in metaphor and meaning, industry, and commerce, and as active in the shaping of social and cultural life,” and respond to his call to consider the contribution of “other fields” (such as film music studies in this case) towards understanding the significance and meaning of musical instruments. Kevin Dawe, “People, Objects, Meaning: Recent Work on the Study and Collection of Musical Instruments,” *The Galpin Society Journal* 54 (2001): 220.

3. An oscillator is an electronic circuit that generates a single periodic waveform and is thus the basic sound-generating source of an analog synthesizer. For a more detailed explanation of analog sound synthesis, see Thom Holmes, *Electronic and Experimental Music: Technology, Music, and Culture*, sixth edition (New York: Routledge, 2020), 61–87.

4. “History: [Chapter 1] Origins of the Yamaha Synthesizer,” *Yamaha Synth 40th Anniversary*, https://de.yamaha.com/de/products/contents/music_production/synth_40th/history/chapter01/index.html.

5. *CS-Series Synthesizers*, brochure number 78610, Yamaha, Japan [n.d.]. Emphasis by the author.

to non-technical and technically oriented players alike.”⁶ It reassures the instrument’s owner that despite the high technology incorporated into the instrument, one does not “have to know about electronics to understand how to use the CS-80.”⁷

The playability of the CS-80’s weighted keyboard, which mimics the touch of a traditional acoustic piano, is taken a step further by its touch response options. By changing the speed with which the key is struck, one can not only change the tone’s volume but also the extent of the pitch bend effect, which is also regulated via a dedicated lever. Employing Yamaha’s original “AC Sensor,” the keyboard also gives the player the opportunity to modify the quality of the tone post-strike: the harder the key is depressed, the greater the stipulated effect is manifested. According to the levels assigned to the three “sub oscillator after” controls—the speed, VCO, and VCF⁸—under the “touch response” section of the front panel, the characteristics of the tremolos, vibratos and wah-wah effects generated can be varied according to the pressure exerted on the keys. As Bob Moog noted in the 1980 July issue of *Contemporary Keyboard*, this pressure-controlled modulation, brightness, and loudness that facilitated more continuous nuanced playing was unique, as other polyphonic synthesizers at the time offered only velocity response or lacked touch sensitivity altogether.⁹

Going beyond studio environments, Yamaha designed the CS-Series synthesizers for live performances, boasting of the convenience of accessing the CS-80’s twenty-two preset sounds at the touch of a button for such situations. Appealing to devout synthesists, the CS-80 also offered a programmable panel comprising straightforward slider type controls and switches for each of its two separate channels. Additionally, the CS-80 enabled its users to easily save up to four custom sounds in the miniature memory bank for instant recall (see fig. 2)—an attractive feature around the time of its release, as programmability in synthesizers was not yet commonplace.

6. “How to Use This Manual,” *CS-80 Polyphonic Synthesizer: Instruction Manual*, Yamaha, Japan [n.d.].

7. *Ibid.*, “Introduction.”

8. The voltage-controlled oscillator (VCO) and the voltage-controlled filter (VCF) change the pitch and harmonic structure (and thus, timbre), respectively, of the tone.

9. Bob Moog, “On Synthesizers: Currently Available Polyphonic Synthesizers,” *Contemporary Keyboard* 6, no. 7 (July 1980): 64.

(a)



FIGURE 1. (a) Exterior and (b) interior views of the Yamaha CS-80 in the Deutsches Museum, Munich, Inventory No. 2017-562. The block diagram is printed on the top left side of the front panel. Photos © Deutsches Museum, Archives, Munich, CD 75301 and CD 75302, reproduced with permission.

(b)





FIGURE 2. Close-up view of the Yamaha CS-80's programmable memory bank, located inside the cover, under the block diagram. Photo © Deutsches Museum, Archives, Munich, CD 75305, reproduced with permission.

Being the “heavyweight champion of the early polyphonics,” in the words of Mark Vail,¹⁰ it may seem startling that the 83 kg CS-80 would be considered mobile. This, however, is worth putting into context: the body alone of Yamaha’s massive GX-1 concert-model Electone weighed 300 kg; hence the CS-80 was far more portable in comparison. The integrated circuitry used in the CS-Series’s tone generators and controllers, replacing the transistor assemblies in previous SY and GX models, effectively reduced its weight besides significantly cutting down cost.¹¹ Despite its lofty price tag of \$6,900, it was markedly more affordable than the GX-1, which launched in 1975 at around \$60,000.¹² Nonetheless, its weight, along with the endemic analog problem of tuning instability, exasperated musicians and technicians alike.¹³ In other words, the CS-80 was a charming but unruly instrument that has reached a mythical status as a “beast” to be tamed, rather than a machine one could perfectly control.

Although the CS-80 was conceived as the more economical and compact successor to the GX-1, the high cost put it out of reach for the average synthesist. Nonetheless, many high-profile musicians and their creative teams turned to the CS-80 to create bespoke sounds for some of their most famous recordings. On one of his best-selling albums, *Thriller* (1982), Michael Jackson himself played the four-chord basis of the multi-layered synth string vamp of the track “Billie Jean” on the CS-80—an iconic sound bearing what session musician and synthesizer specialist Michael Boddicker calls the “nice little CS fuzz.”¹⁴ On the same album, keyboardist Steve Porcaro of the band Toto capitalized on this particular tonal quality, employing it for the signature synth string glide on the track

10. Mark Vail, *Vintage Synthesizers: Pioneering Designs, Groundbreaking Instruments, Collecting Tips, Mutants of Technology* (San Francisco: Miller Freeman Books, 2000), 178.

11. Yamaha, “Origins of the Yamaha Synthesizer.”

12. List prices in US\$ quoted from Vail, *Vintage Synthesizers*, 179, and Mark Jenkins, *Analog Synthesizers: Understanding, Performing, Buying from the Legacy of Moog to Software Synthesis*, second edition (New York: Routledge, 2020), 83.

13. Despite Yamaha’s emphasis on oscillator stability, as relayed by Yamaha’s representatives in Dominic Milano’s article, tuning still proved to be a challenge to its users, according to the account in Mark Vail’s chapter on the CS-80. Compare Dominic Milano, “Polyphonic Synthesizers, Part 2,” *Contemporary Keyboard* 4, no. 11 (November 1978): 66, 72, and Vail, *Vintage Synthesizers*, 180.

14. According to Michael Boddicker, “Michael Jackson himself played that part on a CS-80 in one take. No punches. No repairs. No sequencers or time correction. Seven minutes. Perfect performance.” Michael Boddicker, “THEN: The Vintage Keys of Thriller” *Keyboard Magazine* 35, no. 9 (September 2009): 24.

“Human Nature.”¹⁵ Porcaro also used the CS-80 on his own band’s *Toto IV*, another highly impactful album released earlier in the same year.¹⁶ The CS-80 was even featured in the music video of “Rosanna” from the same album. Besides its timbral offerings, the CS-80 possessed particular features that attracted top musicians. The CS-80’s ribbon controller in particular found favor with Stevie Wonder, the owner of four CS-80s, who wore its fabric off through frequent use.¹⁷ The CS-80’s ring modulator, equipped with five levers that offered greater control over the modulations produced, notably contributed to the CS-80’s coveted dynamically varying, “organic” sonic character.¹⁸ The versatility and ease of manipulating the CS-80’s ring modulator appealed to Peter Howell at the BBC Radiophonic Workshop, who used the CS-80 to produce several unique sounds in his modernized arrangement of the title theme for the science-fiction television series *Doctor Who* in 1980. The CS-80 also supplied the “aggressive,” “metallic” voices of the extraterrestrial characters called “Daleks.”¹⁹ The spontaneity offered by the CS-80’s controls made it attractive to musicians: in an interview with Mark Jenkins, Tony Banks of the band Genesis recounts using the CS-80 frequently on the album *Duke* (released in 1980) but he eventually sold it, as it was superseded by other synthesizers, namely the ARP Quadra and the Sequential Prophet-5 (both introduced in 1978), which rank among his favorite keyboards.²⁰ Indeed, these two synthesizer models, along with the Polymoog and the Oberheim Four-Voice, both launched in 1975,²¹ provided strong

15. Ibid.

16. The album sleeve lists the CS-80, the Yamaha GS-1 digital synthesizer, and the Roland Jupiter-8 polyphonic synthesizer among other instruments and equipment used by the band members and their creative team. Although the album sleeve does not state the specific instrument models used on each track, Porcaro is said to have used the CS-80 for the iconic brass on the track “Africa”; see “The Synth Sounds of Toto’s ‘Africa,’” *Reverb*, June 28, 2018, <https://reverb.com/news/the-synth-sounds-of-totos-africa>.

17. Vail, *Vintage Synthesizers*, 180.

18. Peter Forrest, “80 Days,” *Music Technology* 4, no. 10 (September 1990): 65.

19. On his website, composer Michael Price, who is currently in possession of the CS-80 used by Peter Howell, provides a link to a YouTube video in which Howell explains how he created the theme music. Michael Price, “Yamaha CS80: Studio & Reviews,” July 16, 2020, <http://www.michaelpricemusic.com/blog/2020/07/yamaha-cs80/>.

20. Jenkins, *Analog Synthesizers*, 156.

21. Although the Polymoog was sometimes derided for not being a “true” polyphonic synthesizer, as it operated on divide-down oscillators instead of individual oscillators, it managed to achieve a striking degree of complexity in sound and was taken up by leading artists such as Abba, Genesis, Kraftwerk, Klaus Schulze, and many others. See Milano,

competition to the CS-80 in the increasingly polyphonic synthesizer domain of the late 1970s.

The CS-80 did not possess one particularly distinct sound that one could trace through the decade's greatest hits, unlike, for example, the Yamaha DX7's E.Piano 1 preset, which Megan Lavengood has identified as one of the defining sounds of the 1980s.²² Indeed, accurately picking out the CS-80 within a record's mix proves tricky, posing a challenge to the clear attribution of a sound to any one synthesizer model. Nevertheless, by corroborating various written, oral, and visual sources, it can be established that the CS-80 made its way into the studios of prominent artists, thus playing a significant, albeit sometimes concealed, role in shaping popular music in the decade following its release.²³ Musicians' archives prove a valuable source: Paul McCartney has been photographed playing the CS-80.²⁴ Album sleeves often provide details of the synthesizer models used or other visual clues: on his album *Directstep* (1979), Herbie Hancock is pictured with a CS-80 prominently featured amid his collection of synthesizers.²⁵

Despite being well received, the CS-80 met with ample competition from other contemporaneous analog synthesizers that offered other appealing features at more competitive prices. For instance, the Sequential Prophet-5, which was introduced in 1978 at \$3,995, had the advantage of being fully programmable, despite only offering five-voice polyphony as compared to the CS-80's eight; its sonic results more than compensated

"Polyphonic Synthesizers," 64, and Jenkins, *Analog Synthesizers*, 64. Notably, Oberheim leverages its "pure" synthesis principle (as opposed to an "[essentially] hybrid organ-synthesizer design") when advertising its "genuinely" polyphonic synthesizers. See for example, Oberheim's printed advertisement in *Contemporary Keyboard* 4, no. 11 (November 1978): 67.

22. Megan Lavengood, "What Makes It Sound '80s? The Yamaha DX7 Electric Piano Sound," *Journal of Popular Music Studies* 31, no. 3 (2019): 73–94.

23. Besides the myriad of online articles listing the CS-80's most famous users, see also Vail, *Vintage Synthesizers*, 178, and Jenkins, *Analog Synthesizers*, 84. For a helpful overview of the CS-80's reach in the popular music domain, see Josh French, "An Introduction to the Yamaha CS-80 and 10 Records It Helped Define," *The Vinyl Factory*, February 6, 2019, <http://thevinylfactory.com/features/yamaha-cs-80-in-10-records/>.

24. See the photograph captioned "Paul at the studio on the farm, Campbeltown, Scotland, 1979" under "McCartney II" at "The Paul McCartney Collection," *Paul McCartney*, <https://www.paulmccartney.com/the-collection/mccartney-ii>.

25. An image thereof can be found at the user-built database of music Discogs: <https://www.discogs.com/de/release/12278990-Herbie-Hancock-Directstep>.

for its limited polyphony.²⁶ The more affordable Roland Jupiter-4 (released in 1978 at \$2,800) offered only four-voice polyphony with a rather thin oscillator sound, but its interesting chorus and arpeggiator functions coupled with its attractive price contributed to its popularity, even among professional musicians.²⁷ By the end of the CS-80's production period in 1979, about 2,000 units had been manufactured.²⁸ Following the CS-80, Yamaha produced more affordable synthesizers in its CS line, focusing on providing faster programmability and more memory capacity on their M-suffixed models.²⁹ With the runaway success of the DX7, Yamaha's first frequency modulation (FM) synthesizer,³⁰ in 1983, Yamaha crossed over to digital synthesis. Eventually, with the advent of more stable, cheaper, and increasingly more impressive-sounding digital synthesizers and samplers, coupled with the establishment of the MIDI (Musical Instrument Digital Interface) standard in 1981, both major and minor companies ceased production of analog synthesizers by the late 1980s.³¹ Despite the proliferation of digital instruments, analog instruments were cherished by musicians well into the following decade,³² subsequently leading to an "analog revival" that saw vintage analog instruments commanding high prices.³³ To meet the increasing demand of musicians, rack-mounted MIDI conversions of older analog instruments, virtual analog instruments, and,

26. Milano, "Polyphonic Synthesizers," 27, 72, and Jenkins, *Analog Synthesizers*, 79.

27. Milano, "Polyphonic Synthesizers," 25, and Jenkins, *Analog Synthesizers*, 97.

28. Vail, *Vintage Synthesizers*, 179.

29. Jenkins, *Analog Synthesizers*, 85–6.

30. Although the Yamaha GS-1 digital keyboard (released in 1981) employed digital FM synthesis, it was not marketed as a synthesizer due to its lack of sound-editing functions. See "History: [Chapter 2] FM Tone Generators and the Dawn of Home Music Production," *Yamaha Synth 40th Anniversary*, https://de.yamaha.com/de/products/contents/music_production/synth_40th/history/chapter02/index.html.

31. Jenkins, *Analog Synthesizers*, 134, and Trevor J. Pinch and Frank Trocco, *Analog Days: The Invention and Impact of the Moog Synthesizer* (Cambridge, MA: Harvard University Press, 2004), 316–17.

32. As Julian Colbeck wrote in 1991, "the digital revolution has not quite killed off the analogue synthesizer, and vintage or vintage-style instruments have an enduring appeal." For contemporary insights into this period, see Julian Colbeck, "Analogue Synths in the Digital Age," *Sound on Sound* 6, no. 10 (August 1991): 62, 64, 66; and Nigel Humberstone, "Analogue Lives! The Enduring Appeal of Classic Synths," *Sound on Sound* 8, no. 1 (November 1992): 30, 32, 34, 38.

33. For musicians who have embraced analog synthesizers amid the predominantly digital music recording industry, see Pinch and Trocco, *Analog Days*, 319–23.

later, analog emulation software were produced.³⁴

As for many other prized vintage synthesizers, software emulations of the CS-80 have been developed, offering present-day musicians surrogates for this unwieldy (and rare) analog instrument. In general, the marketing of synthesizer emulations commonly involves name-dropping distinguished musicians who have used the original hardware synthesizers on famous music records and live performances. Among the many prominent users of the CS-80, the Greek musician Evángelos Odysséas Papathanassiou, who goes by the name Vangelis, is commonly hailed as the instrument's champion. In particular, his soundtrack for *Blade Runner* is very frequently evoked in reference to the CS-80 and its emulations.

Sonic Soundscapes of “Futuristic Nostalgia”

“Of course, one of the film’s most memorable facets is its atmospheric music, composed and performed by my friend Vangelis.”

Ridley Scott
Morocco, 2007³⁵

Ridley Scott’s 1982 film *Blade Runner* is based loosely on Philip K. Dick’s novel *Do Androids Dream of Electric Sheep?* (1968). It follows Rick Deckard, a reactivated former police officer called a “blade runner,” and his mission to “retire” rogue androids³⁶—called “replicants” in the film—in the dystopian Los Angeles of 2019. His assignment carries ethical complications, as the replicants are nearly indistinguishable from real human beings, not only in exterior appearance and behavior but also in subjectivity. Upon its

34. Mark Jenkins provides an excellent overview from the early days of the analog revival in the late 1980s to the rise of emulation software in Jenkins, *Analog Synthesizers*, 201–31, 250–64.

35. Ridley Scott, “Foreword by Ridley Scott, Director,” liner notes for Vangelis, *Blade Runner Trilogy, 25th Anniversary*, three CDs (Universal Music TV, 2007).

36. While the sequel *Blade Runner 2049* (2017) retrospectively clarifies that replicants are bioengineered humans, implying their organic composition, the 1982 *Blade Runner* film did not explicitly specify their physical composition. A survey of published material prior to the sequel indicates that the replicants were referred to as androids and machines. Even in the film itself, Deckard refers to them as such: “Replicants are like any other machine. They’re either a benefit or a hazard. If they’re a benefit, they’re not my problem” (emphasis by the author).

theatrical release, the film garnered mixed reviews, drawing praise for its visuals and production values on the one hand and criticism for its slow pacing and muddled plot on the other. In other words, it was a “success of style over story.”³⁷ After gaining a substantial cult following over the years with the rise of home video formats, it has since achieved the status of a science-fiction-film noir classic, garnering the attention of film scholars due not only to its hybridization of film genres, but also its thought-provoking philosophical themes, rich visual symbolism, and intertextual allusions.³⁸ The film’s soundtrack is considered a major contributing factor to the film’s longevity, besides being regarded as a (film) musical accomplishment in its own right. As Colin Marshall writes:

Blade Runner, among its many other achievements, stands as quite [possibly] the only thirty-five-year-old science-fiction movie whose visual effects still hold up. . . . For a visual medium, movies stand or fall to a surprising extent on the quality and design of their sound, and if *Blade Runner* remains convincing and compelling, it does so in large part not because of what [we] see when we watch it, but what we hear.³⁹

Present-day evaluations attribute the soundtrack’s success to the tight integration of all its sonic elements—the dialogue, score, and sound design effectively blur into each other, generating a “cohesive acoustic environment.”⁴⁰ As non-diegetic music (heard by the film’s viewers, but not by on-screen characters) transitions seamlessly into diegetic sounds that complement the on-screen action and setting, the film’s audio and visual components become strongly welded together, resulting in a unified whole.

37. Norman M. Klein, “Building Blade Runner,” *Social Text* 28 (1991): 147. An excellent compilation of early reviews can be found in William M. Kolb, “Blade Runner”: An Annotated Bibliography,” *Literature/Film Quarterly* 18, no. 1 (1990): 19–64.

38. Many of these aspects are addressed in the two edited volumes: Judith B. Kerman, ed., *Retrofitting Blade Runner* (Bowling Green, Ohio: Bowling Green State University Popular Press, 1991) and Will Brooker, ed., *The Blade Runner Experience: The Legacy of a Science Fiction Classic* (London & New York: Wallflower, 2005). See also Susan Doll and Greg Faller, “Blade Runner and Genre: Film Noir and Science Fiction,” *Literature/Film Quarterly* 14, no. 2 (1986): 89–100; Timothy Shanahan, *Philosophy and Blade Runner* (Basingstoke: Palgrave Macmillan, 2014).

39. Colin Marshall, “The Sounds of Blade Runner: How Music & Sound Effects Became Part of the DNA of Ridley Scott’s Futuristic World,” *Open Culture*, May 29, 2017, <https://www.openculture.com/2017/05/the-sounds-of-blade-runner.html>.

40. Nerdwriter1, “Listening to Blade Runner,” YouTube Video, 4:15–4:16, May 18, 2017, https://www.youtube.com/watch?v=4T_sSSka9pA.

In other words, the soundtrack is an integral part of the film; as Evan Puschak (known as “Nerdwriter1” on YouTube) remarks in his compelling video essay: “the score isn’t laid on top of the visuals, [it is] baked into the DNA of the movie itself.”⁴¹ Critics have also pointed out that Vangelis astutely adopts the film’s science-fiction-noir hybrid aesthetic, further bolstering the film’s artistic unity.⁴²

The plurality of musical styles that Vangelis employs sonically accentuates the multi-ethnic cosmopolitan setting of *Blade Runner*.⁴³ The instrumentation, particular singing styles in non-English languages, and the use of modal tone systems—coded in film music convention to evoke the foreign or exotic—sonically underscore the city’s racial diversity. The streets of Los Angeles are predominantly populated by non-white ethnic groups, as the elite (racially coded as white) have migrated to the off-world colonies or occupy the elevated spaces within mammoth pyramidal structures. The elite are musically associated with brass and string instruments—instruments of Western art music—albeit in synthesized timbres befitting the futuristic social setting.

Besides effectively underscoring the film’s narrative elements, Vangelis’s music is praised for capturing the “feel” of the film. In his trailblazing monograph on the film’s production, Paul Sammon calls the overall mood of Vangelis’s score “futuristic nostalgia,” describing it as “a dizzying melange of unabashed romanticism, ominous electronic rumblings, gutter-level blues, delicate celestial shadings, and heartbreaking melancholy.”⁴⁴ From the sweeping grandeur of synthesized brass fanfares underscoring Ridley Scott’s vision of Los Angeles to the intimate piano melodies accompanying the quiet moments inside Deckard’s apartment, Vangelis’s versatile score infuses the film with a range of emotions. It sonically compels viewers to marvel in awe at the imposing industrial landscape of the opening sequence at one moment, and then draws them into the

41. Nerdwriter1, “Listening to Blade Runner,” 0:56–1:05.

42. Nick Soulsby, “The Myth and Majesty of Vangelis’s Timeless Blade Runner Soundtrack,” *The Vinyl Factory*, October 4, 2017, <https://thevinylfactory.com/features/blade-runner-soundtrack/>.

43. Vangelis himself notes the lack in unity arising from the heterogeneity of musical styles employed in scoring *Blade Runner*, as compared to *Chariots of Fire*, which involved scoring “for the total.” See Robert L. Doerschuk, “Vangelis: Synthesizers of Fire,” in *Synth Gods*, ed. Ernie Rideout (Milwaukee: Backbeat Books, 2011), 151–2.

44. Paul M. Sammon, *Future Noir: The Making of Blade Runner*, second edition (London: Gollancz, 2007), 273.

protagonists' world of introspection at the next. Even negative contemporary reviews of the film's theatrical release generally praised the score for its evocative power; for instance, David Linck's comment: "Vangelis . . . adds depth and feeling to a cold, depressing storyline with an emotionally compelling score."⁴⁵

Blade Runner's inspired soundtrack, saturated with synthetic timbres but refined with a human touch, does not only serve as an effective narrative device, it provides a sonic pathway to resonance with the film's emotional core. It is thus hardly surprising that bootleg recordings proliferated during the twelve-year absence of an official soundtrack since the film's theatrical release.⁴⁶ Even after the release of two authorized albums, fans continued to produce covers of particular themes as well as original music inspired by the film's soundtrack.⁴⁷ For these more hands-on enthusiasts, the Yamaha CS-80 is credited as the instrument responsible for *Blade Runner's* signature sounds. Especially in online videos, the iconic Main Titles theme is used to demonstrate how one might reproduce the "Blade Runner sound" on other analog synthesizers (the CS-80 being rare in this day) or recreate it on digital audio workstations (or DAWs).⁴⁸

45. David Linck, review of *Blade Runner*, *Boxoffice* 118, no. 8 (August–September 1982): 131–33, reproduced in Kolb, "Annotated Bibliography," 38.

46. For an overview of the many unofficial albums in wide circulation within *Blade Runner's* fan community, see Bentley Ousley, "I Dreamt Music: In Search of the Ultimate Blade Runner Soundtrack," *BladeZone: The Online Blade Runner Fan Club*, 2002, http://media.bladezone.com/contents/film/production/soundtrack/i_dreamt_music/i_dreamt_music.php. Track listings for selected albums are available on *BladeZone's* Music & Audio Library page <http://media.bladezone.com/contents/film/production/soundtrack/>.

47. Besides the myriad of works shared as videos on YouTube (for example, see MrFirechild, "Yamaha CS-80 Blade Runner 2050," YouTube video, October 14, 2017, <https://www.youtube.com/watch?v=WFLRc2JmkaI>), some fan websites have their own sections dedicated to fan-produced music inspired by Vangelis's soundtrack (for example, see "Blade Runner Fan-tastic," *BRMovie.com*, <http://www.brmovie.com/Fiction/index.htm>).

48. See, for example Reverb, "Ep5: The Synth Sounds of Blade Runner | Reverb.Com," YouTube video, October 5, 2017, <https://www.youtube.com/watch?v=ITpIqVw37ys>. A digital audio workstation (DAW) consists of electronic hardware and software that enables one to record, edit, and synchronize multiple audio tracks with a computer system as the central user interface. For a brief account of the emergence of DAWs, see Paul Doornbusch, "Early Hardware and Early Ideas in Computer Music: Their Development and Their Current Forms," in *The Oxford Handbook of Computer Music*, ed. Roger T. Dean (New York: Oxford University Press, 2009), 77–79.

The CS-80 and Its Replicants

Returning to Arturia's reference to *Blade Runner*, the quote in question is taken from the line delivered by Deckard when he discovers that the woman he had been interrogating, Rachael,⁴⁹ is in fact a particularly advanced replicant built by the Tyrell Corporation. Her behavior and responses to the Voigt-Kampff⁵⁰ test were so convincing that she nearly escapes detection. This reference is particularly fitting, as the soundtrack of the film features extensive use of electronically synthesized brass and string timbres, which carry a warmth and expressivity comparable to those produced by human musicians on acoustic instruments. It is particularly inviting to link a human-like robot to an expressive synthesizer, and in particular, the CS-80 considering that it was one of Vangelis's favorite synthesizers among his arsenal of instruments at his Marble Arch studio in London.⁵¹

Apart from the landing page, more traces of *Blade Runner* are found in Arturia's catalog of preset sounds for the CS-80 V, namely the *Vangelis Tribute: Conducting the Electronica Breakthrough* by Noritaka Ubukata and *Vangelis Tribute 2: Android Dreams* by Paul Schilling.⁵² Both preset-collections explicitly feature *Blade Runner* in one of their two demos, which is significant, as Ubukata's and Schilling's other demos do not specifically reference any other work, being vaguely labeled as "Best selection" and "Nemo Dive" (after Vangelis's Nemo Studios in London) respectively. Ubukata's "Blade Runner recreation" features a collage of four of Vangelis's most prominent themes for *Blade Runner*, while Schilling's "Blade Festivities" offers his own rendition and improvisation on the "Spinner's Flight" and "Blade Runner Blues" themes.⁵³

49. While the spelling "Rachel" is used in some reviews and publications (for example, Will Brooker, ed., *The Blade Runner Experience: The Legacy of a Science Fiction Classic* (London & New York: Wallflower, 2005), "Rachael" is used throughout this article according to the end credits in *Blade Runner: The Final Cut*, DVD, directed by Ridley Scott (Warner Bros. Entertainment, 2007), which corresponds to the spelling used in Philip K. Dick's novel *Do Androids Dream of Electric Sheep?* (1968).

50. This fictional test is also spelled as "Voight-Kampff" in some publications. This article uses the spelling "Voigt-Kampff" as found in Philip K. Dick's novel *Do Androids Dream of Electric Sheep?* (1968).

51. Dan Goldstein, "Soil Festivities: Vangelis Speaks," *Electronics & Music Makers* 4, no. 10 (December 1984): 55; Jenkins, *Analog Synthesizers*, 84–85.

52. "Presets," Community, *Arturia*, <https://www.arturia.com/community/presets>.

53. The naming of the themes follows the names of the tracks in which the respective themes appear as listed in the *Blade Runner Trilogy, 25th Anniversary* 3-CD soundtrack

Arturia is not alone in drawing on the prominence of *Blade Runner* for marketing its emulation of the CS-80. In 2009, Memorymoon released its ME80, and of the five demo clips presently featured on its website, the two inspired by *Blade Runner* are displayed most prominently: Siggi Mueller's "Rise of the Replicants" and Spektrum Shift's "Tyrell's."⁵⁴ Even the plug-in developed by Krakli (Ian Webster) in 2017, named the Arminator, features several sounds inspired by Vangelis's work for *Blade Runner*.⁵⁵ Created by the sound designer Armin Kujashi, after whom the VSTi emulation is named, these sounds include the "BladeRunner Blues," "BR Solitude Brass," and "Deckard[']s Blues."

Going beyond software synthesizers, the Tokyo-based Black Corporation released its rackmount recreation of the Yamaha CS-80 in 2018, calling it "Deckard's Dream."⁵⁶ According to its designer, Roman Filippov of Sputnik Modular, the synthesizer was inspired by Vangelis, Philip K. Dick, and the Yamaha CS-80.⁵⁷ Indeed, this rackmount synthesizer is more a replicant rather than a replica or clone of the CS-80—the heir in spirit rather than in physique, as it is not a "circuit-for-circuit clone" of the latter.⁵⁸ In his review for *Gear News*, Robin Vincent highlights the resonance of this "replicant synthesizer" with the *Blade Runner* film's narrative: "just as Deckard dreams of a future with a replicant who he knows is not quite human, so then this [Deckard's Dream synthesizer] is not a clone, but a physical instrument in its own right."⁵⁹

Thus, *Blade Runner* features prominently in the Yamaha CS-80's legacy,

release.

54. "ME80," Memorymoon, <http://www.memorymoon.com/me80.htm>.

55. "Plugins," *Krakli Software*, <http://www.krakliplugins.com/Plugins.aspx>. As of October 20, 2020, Krakli has released an updated version called Arminator 2.

56. "Black Corporation, A Japanese Synthesizer Company That Makes Replicants," *Synth Anatomy*, last modified, June 12, 2019, <http://www.synthanatomy.com/2019/06/black-corporation-synth-company-story.html>. See also the updated product description at Black Corporation's official website (2020) <https://black-corporation.com/product/deckards-dream-mk2/>

57. Robin Vincent, "Deckard's Dream: Yamaha CS80 Replicant Synthesizer," *gearnews.com*, June 14, 2017, <https://www.gearnews.com/deckards-dream-yamaha-cs80-replicant-synthesizer/>.

58. Synth Anatomy, "Black Corporation, These Synthesizers Are Replicants Not Clones | Superbooth 2019 | SYNTH ANATOMY," YouTube video, 04:52–04:54, June 10, 2019, https://www.youtube.com/watch?v=x_-ZqtiQnHQ.

59. Robin Vincent, "Deckard's Dream Has Become a Reality—Preorder Now," *gearnews.com*, May 3, 2017, <https://www.gearnews.com/deckards-dream-become-reality-preorder-now/>.

especially in its afterlife in emulation instruments. One might ask why this is so, considering that the movie, and by extension its soundtrack, was not an instant hit and was thus not responsible for catapulting the CS-80 to stardom. In fact, the initial success of Vangelis's soundtrack for Hugh Hudson's *Chariots of Fire* (1981) outstripped that of *Blade Runner*, earning Vangelis his first and only Academy Award for Best Original Score to date. The popularity of *Chariot's* opening theme endures to this day in various contexts: from the serious coverage of sporting events to more light-hearted parodies of the original "beach run" sequence of the British athletes. In recent years, these include the television character Mr. Bean's guest appearance among the British team in a dream sequence at the opening ceremony of the 2012 London Olympics, as well as the comedic reunion of two friends (a zebra and a lion) in DreamWorks Animation's *Madagascar* (2005).

Blade Runner was also not the breakthrough piece for Vangelis or the CS-80. Prior to the CS-80's release, Vangelis was already enjoying success on the European music scene as part of the progressive rock band Aphrodite's Child and later released several synthesizer-based solo albums, besides composing for film and television.⁶⁰ Furthermore, the CS-80 had been used by a number of high-profile musicians since its initial release, as outlined in the previous section of this article. Despite all this, the CS-80 is inextricably linked to Vangelis's signature sounds for *Blade Runner* in popular memory.⁶¹

It is imperative to note that *Blade Runner* does not have a fully electronic score: besides the vocal performances of Demis Roussos and Don Percival in "Tales of the Future" and "One More Kiss, Dear," as listed on the official soundtrack albums, the notable saxophone heard in the "Love Theme" was performed by Dick Morrissey on the actual instrument itself.⁶² However, the soundtrack does indeed feature a significant number of synthesized sounds, which straddles the boundary between acoustic imitations and distinctively electronic timbres. Curiously, in both scholarly and popular discussions of the soundtrack, only one instrument is named: the

60. Piotr Orlov, "How Vangelis's Cult *Blade Runner* Score Became a Classic," *Vulture*, October 5, 2017, <https://www.vulture.com/2017/10/how-vangelis-cult-blade-runner-score-became-a-classic.html>; Doerschuk, "Vangelis," 146–47.

61. Mark Jenkins identifies these signature sounds to be the "smooth synthetic brass textures, long bending swoops and [the] metallic ring-modulated effects." Jenkins, *Analogue Synthesizers*, 84–85.

62. Track listing, liner notes for Vangelis, *Blade Runner Trilogy*.

Yamaha CS-80. But how do we know which sounds originated from this synthesizer? As previously mentioned, Vangelis possessed various synthesizers.⁶³ Furthermore, there are no manuscripts that might give us clues about the instrumentation: Vangelis is an autodidact and is known for his improvisational working methods.⁶⁴ However, he has declared that the CS-80 was “the most important synthesizer of my career—and for me the best analog synthesiser [sic] design there has ever been.”⁶⁵ With this in mind, the claims of the CS-80 featuring prominently in the soundtrack of *Blade Runner* are at least plausible, as it is fair to assume that he did indeed use the CS-80 rather extensively in many of his studio albums and film soundtracks from 1977 onwards. Nevertheless, by examining the standout features of the CS-80 and closely listening to the opening sequences of the film, it becomes apparent why the CS-80 has emerged as the prime candidate for *Blade Runner*'s most iconic sounds. The following section will consider how paying attention to the instrument's physical configurations and the film's score can help set the groundwork for understanding the enduring CS-80-*Blade Runner* connection. It will also consider how the eminent soundtrack, along with the CS-80 tightly associated with it, resonates with the underlying narrative themes of the film.

“Blade Runner Brass”: Idiomatic Expressivity

Following the production company's audiovisual logo, *Blade Runner*'s visually stark title sequence is complemented by an equally reduced soundtrack. A single melody line accompanies the opening credits, interpolated by deeply reverberating explosion sounds (see fig. 3). Evidently, the melody does not originate from a traditional acoustic instrument, but its individual notes carry a distinct dynamicity that sets them apart from the flatness commonly associated with electronically synthesized tones. Also, notably, the end of each phrase is sonically distinguished by a long downward slide in pitch that trails off.

This stark melody is followed by a montage of bell tones and deep sirens

63. For a brief overview of Vangelis's equipment see Doerschuk, “Vangelis,” 146–47.

64. Doerschuk, “Vangelis,” 145.

65. Goldstein, “Soil Festivities,” 55.

66. Transcribed by the author by ear from *Blade Runner: The Final Cut*, DVD, directed by Ridley Scott (Warner Bros. Entertainment, 2007), 00:00:32–00:01:25.



FIGURE 3. Transcription of the monophonic melody line that constitutes the Main Titles theme.⁶⁶ The red asterisks mark the onsets of the explosion sound, while the wavy lines represent the downward portamento. Since there is no clear pulse, the time signature and relative note values are for orientation only. Transcription by the author based on *Blade Runner: The Final Cut*, DVD, directed by Ridley Scott (Warner Bros. Entertainment, 2007), 00:00:32–00:01:25.

over a low-pitched soundscape, as the crawl text introducing the film’s premise rolls on-screen. The melody returns with a vengeance in the opening scene of the dystopic Los Angeles skyline, this time carried by the electronic brass and sonically bolstered by sustained strings.

The inflection of the individual notes of the melody in both instances strongly suggests that the CS-80 was employed, as the CS-80 was equipped with both velocity and pressure response—the latter feature notably absent from the CS-60 and CS-50 models.⁶⁷ This key feature allows the player to shape the sound profile of a note after striking the key by varying the pressure exerted, contributing to the distinctive “swell” of the synthesized notes. This dynamicity results in more expressive performances on the CS-80, comparable to that achieved on string, brass, and wind instruments.

Besides that, the long downward portamento that somewhat resembles the wail of the siren also points towards CS-80’s ribbon or “slide” controller (see fig. 4). Not many other keyboards had this feature at the time: most had pitch bend wheels with limited range.⁶⁸ Roger Powell noted that there were basically two types of ribbons in contemporary use: the Moog ribbon and the Yamaha ribbon. Moog ribbons were shorter and sealed to provide a longer life, with a small wire at the center point of the ribbon’s length that indicates the neutral position.⁶⁹ Vibrato is achieved in a “natural” back and forth movement atop the center mark, somewhat akin to vibrato on string instruments. In comparison, the Yamaha ribbon is three to four times longer than the Moog ribbon; it has a flexible starting

67. Milano, “Polyphonic Synthesizers,” 72.

68. Roger Powell, “Synthesizer Technique: Pitch-Bending Hardware,” *Contemporary Keyboard* 4, no. 5 (May 1978): 60.

69. Powell, “Synthesizer Technique,” 60.



FIGURE 4. Close-up view of the Yamaha CS-80's ribbon controller, located below the Yamaha logo. The material of the Yamaha ribbon's contact surface is flocked felt, giving it a velvety, more tactile sensation as compared to the smooth, satiny metal feel of the Moog ribbon. Photo © Deutsches Museum, Archives, Munich, CD 75304, reproduced with permission.

point, allowing for greater range in pitch-bending action,⁷⁰ and vibrato is correspondingly achieved at any point along the ribbon. Thus, considering the range of the portamento, coupled with the dynamic inflections of the sustained notes, the CS-80 emerges as the most probable instrument behind these memorable sounds.

Blade Runner's soundtrack has been noted for its “ambient quality.”⁷¹ With the exception of the end titles sequence, most of the soundtrack distinctively lacks driving rhythms or even a clear pulse. Most of the solo melody lines are rendered *ad libitum*, without strict tempo, over suspended notes and chords, coming across as spontaneous and improvised. At the first glance, the lack of dynamism in the music may seem ill-fitted to a film

70. Vail notes that during that time, programmable pitch-band ranges were not yet available. See Vail, *Vintage Synthesizers*, 178–79.

71. Michael Hannan and Melissa Carey, “Ambient Soundscapes in *Blade Runner*,” in *Off the Planet: Music, Sound and Science Fiction Cinema*, ed. Philip Hayward (London: John Libbey, 2004), 149.

about the hunt for mutinous replicants. It turns out however, that the static feeling developed resonates with the film's underlying themes: it reflects the trapped state of the human population, stranded on a post-apocalyptic version of Earth, due to their financial, social, and physiological disadvantages. This frozen state is, however, teeming with nostalgia, presumably for the more pleasant times of the past. Besides that, the score's ambient and atmospheric characteristics resonate with the film's aspirations: *Blade Runner* is more a contemplation about what it means to be human, than an action-packed adventure film.

The spontaneous-sounding nature of Vangelis's score contrasts with the more rigorously worked out, leitmotivic orchestral scores that have pervaded American films since the Classical Hollywood era of the 1930s and 40s.⁷² This corroborates with Scott's account of Vangelis's compositional practice, as he recalls:

[Vangelis] would perform rough demo film cues for me on the fly, obsessing over every detail and capturing every moment with exceptional beauty. He would often create music for the film without listening to the sound, or even the dialogue. He responded to the images emotionally in composing the score and the final result took us far beyond my expectations.⁷³

Considering Vangelis's working methods, CS-80 would appear to be the choice instrument for such spontaneous compositional methods. For Vangelis, the "ultimate synthesizer" is not judged by its capacity to supply different sounds but rather "in terms of being an extension of the performer—a true performance instrument."⁷⁴ Vangelis's prioritizing of immediacy and fast response leads him to praise the CS-80, especially its keyboard: "nothing since the CS-80 that I've used can act as a natural extension of a player's ability. Nothing can be as immediate. The situation is even worse now with the arrival of computers."⁷⁵

In recapitulation, the CS-80's ribbon controller and aftertouch imbues the *Blade Runner* soundtrack with a distinct expressive sound that is both

72. See Matthew Bribitzer-Stull, *Understanding the Leitmotif: From Wagner to Hollywood Film Music* (Cambridge: Cambridge University Press, 2015), 269–75.

73. Scott, "Foreword."

74. Goldstein, "Soil Festivities," 55.

75. *Ibid.*

idiomatic for the instrument and narratively effective and affective, as will be explored in greater detail in the next section. I will consider how the CS-80 as an analog synthesizer fits as a character not only into the film's soundscape but also into the film's wider narrative scope.

“Retrofitted Sounds”: Analog Nostalgia

At its core, *Blade Runner* is a film about the blurred boundaries between man and machine in the fictional Los Angeles of the future (2019), and the associated ethical implications when androids develop human emotions and desires. Rachael is a machine, however one that is programmed with an intelligence, personality, and even implanted with memories based on a real person. She is capable of making Deckard, whom we assume is a human, develop feelings for her, despite his being fully aware of her artificiality.⁷⁶ It is thus inviting to draw parallels between a life-like replicant and an expressive synthesizer, in this case, the CS-80. With its bank of sixteen oscillators divided into two channels, capable of generating rich tones, the CS-80 can mimic the richness of acoustic instruments, besides delivering highly expressive dynamic nuances as facilitated by its unique keyboard mechanism. This expressivity was harnessed by Vangelis to create an emotionally compelling score. Indeed, early reviews of the film highlight how “soulful” the score is, going so far as to say that it “supplies much of the feeling the script and Scott refuse to provide.”⁷⁷

The replicant-CS-80 association is further encouraged by the change in perception towards synthesizer timbres. Andrew Goodwin noted that in the early seventies, analog synths were regarded as “cold” and “unnatural,” with the standard of naturalness being sounds generated more directly by human action on acoustic instruments. It was only late in the 1980s that analog sounds started to be regarded as “warm” and “natural,”⁷⁸ when

76. Identifying the replicants as “perfect simulacra,” Giuliana Bruno has highlighted the parallels that can be drawn between *Blade Runner* and E. T. A. Hoffmann's *Der Sandmann*. Giuliana Bruno, “Ramble City: Postmodernism and ‘Blade Runner,’” *October* 41 (1987): 67–68.

77. Jordan R. Fox, review of *Blade Runner*, *Cinefantastique* 13, no. 1 (September–October 1982): 44, reproduced in Kolb, “Annotated Bibliography,” 32.

78. Andrew Goodwin, “Sample and Hold: Pop Music in the Digital Age of Reproduction,” *Critical Quarterly* 30, no. 3 (1988): 41.

they were measured against digitally synthesized sounds. As the recording industry experienced a flux of more affordable and *reliable* digital synthesizers, analog synthesizers generally acquired a coveted status due to their “fat,” expressive sounds and *unpredictability*—in the words of Brian Eno, the quirks that give these instruments “a personality.”⁷⁹ In the final chapter of their trailblazing monograph on the halcyon days of analog synthesizers, Trevor Pinch and Frank Trocco highlighted the “widespread desire among synthesists for a real musical instrument, something imperfect, a living-breathing entity that you can interact with and even fall in love with.”⁸⁰ Thus, the CS-80’s analog traits invite comparison with the increasingly human-like traits of the Nexus-6 replicants: these androids are “more human than human,” to quote their creator, Eldon Tyrell. This resonance between the narratives surrounding the CS-80 with those of the film promotes the embedment of the CS-80 as a “character,” so to speak, in the *Blade Runner* sphere.

Blade Runner is regarded nostalgically as “one of the last great [analog science-fiction] SF films” because of its use of practical special effects rather than computer-generated imagery (CGI).⁸¹ Both the film and its soundtrack were realized using techniques and technologies that were soon replaced by newer, digital-based ones. This resulted in the film’s unified visual and aural style, which conveyed a futuristic vision that was already bygone a decade after its release. Not long after Yamaha released its CS synthesizers, digital synthesis was already hailed as the “technology of tomorrow” in the 1978 September issue of *Contemporary Keyboard*.⁸² Ironically, it was another Yamaha synthesizer, the DX7, that would usher in the era of digital synthesizers with its release in 1983.

Besides courting nostalgia in terms of its production technologies, the film’s aesthetic is itself steeped in nostalgia. In fact, Ridley Scott has described the overall design of *Blade Runner* as “set forty years hence, made in the style of forty years ago.”⁸³ Critics and scholars alike have noted that *Blade Runner* has “the look and feel of a film noir,” a genre that emerged in the 1940s: it draws on key visual and narrative motifs

79. Pinch and Trocco, *Analog Days*, 40.

80. *Ibid.*

81. Will Brooker, “All Our Variant Futures: The Many Narratives of *Blade Runner*: The Final Cut,” *Popular Communication* 7, no. 2 (2009): 80.

82. Jim Aikin, “Digital Synthesis,” *Contemporary Keyboard* 4, no. 9 (September 1978): 11.

83. David Scroggy, ed., *Blade Runner: Sketchbook* (San Diego: Blue Dolphin, 1982), 3.

of the genre from its settings and dress codes to archetypal cop and femme fatale characters.⁸⁴ Yet, the old buildings on the rain-soaked urban streets—a staple in noir film iconography⁸⁵—are juxtaposed against towering futuristic megastructures and flying vehicles called spinners that signal the science-fiction genre. Even on the street level, the past and the future co-exist. On the architectural design principle that demolishing old buildings and replacing them would be too expensive in this dystopia, these buildings would instead be kept in operation by “retro-fitting” them as newer structures.⁸⁶ As explained by the film’s visual designer Syd Mead, this involves “upgrading old machinery and structures by slapping new add-ons to them.”⁸⁷

The adoption of aesthetic and thematic features from both the science-fiction and film noir genres contributes to the film’s simultaneous future-oriented and retrospective mood, which is also reflected in the soundtrack. While the synthetic timbres provide a futuristic soundscape, the use of jazz-inflected music creates a nostalgic atmosphere by aurally referencing the idiom attached to the classic film noir era of the 1940s and 50s.⁸⁸ In this respect, Vangelis’s score provides the auditory counterpart to the visual features—a retrofitted soundtrack of sorts. In keeping with the film noir scoring tradition of employing jazz as a metaphor for sex and violence,⁸⁹ the jazz idiom is used in conjunction with all three female replicant characters, who correspond to various iterations of the femme fatale trope. The first use of jazz coincides with the introduction of the female “pleasure model” replicant, Pris. Here, the solo bluesy melody ornamented with improvisatory flourishes is invigorated with a

84. Sean Redmond, “Purge! Class Pathology in *Blade Runner*,” in *The Blade Runner Experience: The Legacy of a Science Fiction Classic*, ed. Will Brooker (London & New York: Wallflower, 2005), 124–56.

85. Doll and Faller, “*Blade Runner* and Genre,” 92.

86. Scroggy, ed., *Sketchbook*, 73.

87. Sammon, *Future Noir*, 79.

88. Andrew Stilller, “The Music in *Blade Runner*,” in *Retrofitting Blade Runner*, ed. Judith B. Kerman (Bowling Green, Ohio: Bowling Green State University Popular Press, 1991), 197.

89. For a nuanced account of the use of jazz and blues as aural signifiers of the noir genre, including the discrepancy between notions circulating in cultural memory and the actuality of the film soundtracks in view of racial segregation in the USA during the 1940s and 50s, see David Butler, “Film Noir and Music,” in *The Cambridge Companion to Film Music*, ed. Fiona Ford and Mervyn Cooke (Cambridge: Cambridge University Press, 2016), 175–86.

synthetic timbre that is reminiscent of a saxophone.⁹⁰ The same blues-infused theme underscores the violent “death” of the replicant Zhora, who was working as an exotic performer at a club before her cover was blown. While the jazz idiom is used to sonically characterize the female replicants as the archetypical “dangerous woman” of noir films, it is employed in the “Love Theme” to cast Rachael in a vulnerable light. Notwithstanding the controversial nature of Rachael and Deckard’s love scene, the sultry saxophone music reinforces the romantic aspect of their encounter, however flawed its portrayal might be.⁹¹ This sequence thus challenges the film’s premise that sets up the replicants as mere machines to be terminated, not least through its music that sonically renders Rachael as a subject worthy of (human) affection. It is a riff on the concepts explored by the Turing test: if one cannot tell the difference between human and artificial intelligence, does it matter?⁹² In contrast to the synthesized timbres of the “Blade Runner Blues” underscoring the scenes with Pris and Zhora, the “Love Theme” used in conjunction with Rachael is in fact performed on a real, acoustic saxophone⁹³—a discrepancy that would likely only be detected by alert and trained listeners. A similar question is thus raised but on a meta-level: if one cannot tell the difference between the recorded sound of an acoustic and synthesized timbre of an instrument, does it matter?

The marriage of the CS-80 and *Blade Runner* in cultural memory can be traced back to these multiple points of resonance between synthesizers and replicants, or more generally the perception towards artificially generated sounds and intelligence. Thus, the high congruence between aural and visual style within the narrative level (story content) and also on the meta-narrative level (film production)—the utilization of technologies

90. The thematic material is labeled “Blade Runner Blues” (Track 7, CD1) in the *Blade Runner Trilogy, 25th Anniversary* 3-CD soundtrack release.

91. Feminist readings have interpreted this as a rape sequence to some degree, considering Deckard’s aggressiveness towards Rachael and her relative naivety regarding human sexual behavior. See Deborah Jermyn, “The Rachel Papers: In Search of Blade Runner’s Femme Fatale,” in *The Blade Runner Experience: The Legacy of a Science Fiction Classic*, ed. Will Brooker (London & New York: Wallflower, 2005), 165–67.

92. Originally called the imitation game, the Turing test was proposed by Alan Turing in 1950 for judging the capability of an intelligent system to simulate the human mind. In the test, an interrogator communicates with a human and a computer and is tasked with distinguishing between them on the basis of the answers to questions displayed on a screen. If the interrogator cannot successfully do so after a stipulated amount of time, the computer passes the test or wins the game.

93. Dick Morrissey is credited for the saxophone in “Love Theme” (Track 5, CD1) in the *Blade Runner Trilogy, 25th Anniversary* 3-CD soundtrack release.

which were on the cusp of revolutionary change—further strengthens the CS-80-*Blade Runner* pairing as a particularly memorable and fitting combination.⁹⁴

The Cult(ural) Phenomenon of Blade Runner

Thus far, this article has considered how the CS-80 synthesizer has left its mark on *Blade Runner*, tracing how certain mythical aspects of the film and its soundtrack are rooted in the materiality of the instrument. Not only the instrument's specific interface and tone-generating capacities but also its general status as an analog synthesizer in the face of the digital revolution have contributed to the film's reputation as a masterpiece. Now, in turn, the CS-80's reception history will be examined through the lens of the *Blade Runner* legacy, in particular the film's status as a cult classic.

While stressing that the term is contested, Ernest Mathijs and Jamie Sexton begin their carefully updated definition of cult cinema by positing that it can be understood as:

a kind of cinema identified by remarkably unusual audience receptions that stress the phenomenal component of the viewing experience, that upset traditional viewing strategies, that are situated at the margin of the mainstream, and that display reception tactics that have become a synonym for an attitude of minority resistance and niche celebration within mass culture. In turn, filmmakers have used audiences' management of their "cult attitude" to consciously design films to include transgressive, exotic, offensive, nostalgic or highly intertextual narratives and styles.⁹⁵

As such, cult cinema refers to a set of values regarding production, consumption, and textuality of films that is notoriously difficult to define. Cult cinema is defined against what is considered "mainstream"—itself a moving target—and also fundamentally linked to different kinds of

94. Another meta-level connection can be found in the strong Japanese presence in the cyberpunk genre into which *Blade Runner* falls, and in the keyboard synthesizer industry helmed in Asia by Yamaha, Roland, and Korg. For more on the former see Brian Ruh, "Japan as Cyberpunk Exoticism," in *The Routledge Companion to Cyberpunk Culture*, ed. Anna McFarlane, Graham J. Murphy, and Lars Schmeink (New York: Routledge, 2020), 401–7; for more on the latter see Jenkins, *Analog Synthesizers*, 82–102 and 110–15.

95. Ernest Mathijs and Jamie Sexton, *Cult Cinema: An Introduction* (Chichester: Wiley-Blackwell, 2011), 8.

marginal taste, rendering definitions inherently subjective and partial.⁹⁶ Nonetheless, films considered to be “cult” are understood to have “gained repeat audiences . . . who would often indulge in behaviors considered ‘ritualistic’ hence the adoption of the religious metaphor.”⁹⁷ Their definition encapsulates both reception-based and text-based approaches towards studying cult cinema, bearing in mind that these are closely interlinked. Approached from a sociological and reception-based standpoint, a cult film is one which has garnered an intense following or mode of consumption. From a textual standpoint, a cult film possesses stylistic components that encourage such ritualistic devotion.⁹⁸

Blade Runner's often-rehearsed “instant flop to cult classic”⁹⁹ narrative summarizes its disappointing performance at the box-office and its subsequent growing cult following in midnight-movie circuits and, later, through home-video formats.¹⁰⁰ With its high production values along with its eminent director and lead actor, *Blade Runner* thus falls into the taxonomical category of the “inadvertent cult” film rather than that of the so-called “midnight movie,” which is designed with cult qualities in mind.¹⁰¹ It cemented its cultural value and status as what Matt Hills called a “cult canonical film” via valorization from two different groups of fan cults: the lay and the academic.¹⁰² *Blade Runner*'s lay fan community has amassed a significant (online) output: from thriving fan forums discussing diverse aspects of the film's production, interpretation, and trajectories, to numerous fan-produced art, props, videos, and fiction that extend the world of *Blade Runner* beyond the “primary text” of the film.¹⁰³ These fans

96. Ernest Mathijs and Xavier Mendik, *100 Cult Films* (London: Bloomsbury Publishing, 2011), 2.

97. Mathijs and Sexton, *Cult Cinema*, 3.

98. *Ibid.*

99. Sean Redmond, *Studying Blade Runner* (Leighton Buzzard: Auteur, 2003), 32, quoted in Matt Hills, *Blade Runner* (New York: Columbia University Press, 2011), 61.

100. Mathijs and Mendik, *100 Cult Films*, 29. This simplified account of *Blade Runner*'s cultification masks the inherent anxiety behind the ready availability of the film on videotapes and laserdiscs as this accessibility to a wider (commercial, mainstream) audience goes against the essence of “authentic” cult film fandom. See Hills, *Blade Runner*, 61–89.

101. Matt Hills, “Academic Textual Poachers: *Blade Runner* as Cult Canonical Movie,” in *The Blade Runner Experience: The Legacy of a Science Fiction Classic*, ed. Will Brooker (London & New York: Wallflower, 2005), 137.

102. Hills distinguishes this from canonical cult films, which become canonical *because* they are cult. Hills, “Academic Textual Poachers,” 138–9.

103. Christy Gray, “Originals and Copies: The Fans of Philip K. Dick, *Blade Runner*

thus engage in what Henry Jenkins calls “textual poaching”: by rereading and appropriating popular texts to their own interests, fans actively participate in the construction and circulation of textual meanings.¹⁰⁴ Meanwhile, in university spheres, *Blade Runner* attracted an academic cult following: the film’s rich intertextuality lent itself well to the detailed analysis of its textual features in classrooms, besides serving as a vehicle for postmodern theory.¹⁰⁵ Despite the prevalent lay/academic binary distinction, Hills compellingly argues for the overlaps between these two cult fan categories, as lay fans also engage with theory and, conversely, academic readings can be regarded as a form of textual poaching.¹⁰⁶

To date, Matt Hills’s 2011 monograph presents the most comprehensive examination of both these cults of reception besides addressing the textual features that contribute to the cultification of *Blade Runner*.¹⁰⁷ However, he leaves out the soundtrack, even though film soundtracks are also important sites of cult fan engagement. Mathijs and Sexton note that it is surprising how little academic attention has been paid to the relationship between music and cult cinema, when it clearly plays a prominent role in the way in which cult films are appreciated.¹⁰⁸ On the subject of the soundtrack itself, Paul Sammon’s monograph offers a relatively brief but illuminating insight into Vangelis’s working methods, provides an account of the soundtrack album’s troubled release, and does not shy away from including a track listing for the prized bootlegged album that first circulated in the vacuum created by the official album’s delay.¹⁰⁹ While journalistic articles praising Vangelis’s soundtrack abound, relatively few scholarly publications are dedicated to the analysis of the music itself. Judith Kerman’s edited volume included Andrew Stiller’s rather ambivalent evaluation of Vangelis’s music.¹¹⁰ Taking a less dismissive approach, Michael

and K. W. Jeter,” in *The Blade Runner Experience: The Legacy of a Science Fiction Classic*, ed. Will Brooker (London & New York: Wallflower, 2005), 144.

104. Henry Jenkins, *Textual Poachers: Television Fans and Participatory Culture*, updated twentieth anniversary edition (New York: Routledge, 2013), 23–24.

105. Mathijs and Mendik, *100 Cult Films*, 29.

106. Hills, “Academic Textual Poachers,” 124–41.

107. Matt Hills, *Blade Runner* (New York: Columbia University Press, 2011).

108. Mathijs and Sexton, *Cult Cinema*, 172.

109. Sammon, *Future Noir*, 267–77.

110. While he praises the “running music” accompanying Deckard and Rachael’s escape in the theatrical versions, he dismisses much of the “movie-music clichés” as being purely functional and at times even superfluous. Stiller, “The Music in *Blade Runner*,” 198.

Hannan and Melissa Carey's article highlighted how the music and sound effects serve as an acoustic counterpart to visual design and fulfil various expressive and dramaturgical functions in the film.¹¹¹ Building on Hills's observations and extending his approach to examine the cult status of *Blade Runner's* soundtrack, I will next explore the soundtrack's "cult" features via close analysis, noting how this in turn bestows a cult instrument status on the CS-80 and constitutes an important aspect of the CS-80's legacy.

"Tears in Rain": Cult Quotability and Engagement

In his influential essay on cult film texts, Umberto Eco writes: "in order to transform a work into a cult object one must be able to break, dislocate, unhinge it so that one can remember only parts of it."¹¹² Such fragments, or rather stand-out moments, are more likely to be "poached" by fans because they are more quotable.¹¹³ One particularly quotable sequence is Roy Batty's monolog as he approaches his moment of expiration: the "Tears in Rain" sequence, in which he releases a dove when he finally "dies."

The events leading up to the final showdown between Deckard and Batty form a certain ambivalence towards the replicants. Notwithstanding the deceitful and violent actions of Batty, Pris, and Leon, pity for the replicants is aroused by the characters Rachael and Zhora—Rachael is plunged into uncertainty and insecurity after she learns that she is a replicant and is persecuted because of it. A tear flows down Zhora's cheek as she lies dead on the footpath after her desperate, unsuccessful attempt to escape from Deckard.

Although Deckard has already eliminated three of the four wanted replicants (Rachael excluded), he no longer has the upper hand during the dramatic confrontation with Batty. At the climax of the plot, Deckard is chased onto a roof. He eventually slips and clings on desperately for dear life. As Batty moves closer to Deckard, not only is the ominous tritone

111. Hannan and Carey, "Ambient Soundscapes in Blade Runner," 149–64.

112. Umberto Eco, "'Casablanca': Cult Movies and Intertextual Collage," *SubStance* 14, no. 2 (1985): 4.

113. Hills, "Academic Textual Poachers," 128.

interval associated with Batty heard in the background in the low register, but also bells tolling. The juxtaposition of these two acoustic signals presents an ambiguity, for while the “diabolus in musica” (tritone) interval represents the devilish aspect of Batty’s character, the bells reinforce the visual symbolism of Christ’s crucifixion that Batty embodies: Batty’s disrobing, his head wound, the nail through his hand and the white dove he holds.¹¹⁴ When Deckard finally loses his grip, Batty suddenly grabs him by the wrist and lifts him up. As he does so, the long-sustained note of C, which had been creating suspense, gives way to the radiant Main Titles theme. This theme also underscores Batty’s now renowned monolog but in a higher register, and with a change in instrumentation to a marimba or vibraphone-like timbre (see fig. 5). Furthermore, the modulation to a higher key (from C-sharp major to F major) in measure 7 and the continuously rising melodic line reinforce the emotional poignancy of the moment of Batty’s death, musically mirroring the ascent of the white dove he subsequently releases.

Batty’s poetic monolog—famously improvised from the original script by Rutger Hauer, the actor who portrays Batty¹¹⁷—supplies the emotional climax of the film, prompting the audience to empathize with the replicant, meanwhile driving home the film’s core message that humanity transcends the organic/mechanic divide. As Hills notes, moments such as Batty’s final act possess quotable characteristics: “they have the capacity to be lifted out of context or to stand alone, partly because of the affective intensity they convey and partly because [they encapsulate] the film’s [thematic] concerns.”¹¹⁸

Similarly, the music in this scene is highly quotable. The musical material accompanying the Tears in Rain sequence is a variation and extension of the Main Titles theme¹¹⁹—the first and most sonically imposing theme, introduced at the beginning of the film. These are the two most melodically

114. Hannan and Carey, “Ambient Soundscapes in *Blade Runner*,” 156.

115. Transcribed by the author from *Blade Runner: The Final Cut*, DVD, 01:42:09–01:43:08.

116. Track 12, CD1 in the *Blade Runner Trilogy, 25th Anniversary* 3-CD soundtrack release.

117. Rutger Hauer and Patrick Quinlan, *All Those Moments: Stories of Heroes, Villains, Replicants, and Blade Runners* (New York: Harper Entertainment, 2007), 127.

118. Hills, “Academic Textual Poachers,” 128.

119. The thematic material is labelled “Main Titles” (Track 1, CD1) in the *Blade Runner Trilogy, 25th Anniversary* 3-CD soundtrack release.

The image shows a musical transcription of a theme from *Blade Runner: The Final Cut*. It consists of two staves of music in 4/4 time. The top staff is the melody, and the bottom staff is the harmony. The melody starts with a C# note, followed by F#, C#, C#, F#, C#, and F. The harmony starts with Bb, F, Ab, Db, Gb, Bb, and Bbm. The melody is written in treble clef with a key signature of one sharp (F#). The harmony is written in treble clef with a key signature of two flats (Bb). The melody is written in a 4/4 time signature, and the harmony is written in a 4/4 time signature. The melody is written in a 4/4 time signature, and the harmony is written in a 4/4 time signature.

FIGURE 5. Author's transcription of the modified reprise and extension of the Main Titles theme¹¹⁵ from *Blade Runner: The Final Cut*, DVD, 01:42:09–01:43:08, including the melody, harmony, and relative duration of the notes. In the absence of a defined pulse, the time signature serves only to approximate the rhythm. Although the music continues, the transcription extends only to the point where Batty releases the dove. This passage is referred to in the soundtrack album as “Tears in Rain.”¹¹⁶ *Blade Runner Trilogy, 25th Anniversary* 3-CD soundtrack release, CD1, track 12.

well-defined, non-diegetic musical passages in the film and are, in fact, the only two instances in which the theme is heard. This calculatedly sparing use of the theme, right at the beginning and at the end, anchors the music to the impressive and evocative, ultimately quotable scenes. Indeed, the music is audibly electronic in timbre, which implies that a synthesizer—specifically, the CS-80, following the aforementioned points in its favor—would be required to faithfully replicate this iconic musical moment with sonic fidelity. Thus, because segments of the soundtrack possess features of cult quotability, being able to stand alone as musical set-pieces in their own right, *Blade Runner's* standout musical moments are kept in cultural circulation, along with it the CS-80 as its sound source.

When the Main Titles theme is played at the beginning of the film, it is associated with the titular blade runner figure¹²⁰ and his mission to exterminate the antagonistic replicants for their rebellion, as explicated in the crawl text. Yet, it could be argued that the sentient replicants have the right to live without exploitation. In the final duel, Batty certainly has the power and all the reasons to let Deckard die: Deckard has killed all of Batty's comrades and even his companion Pris. Against all expectations, however, Batty shows compassion towards Deckard and spares his

120. The association of the opening theme with the title character is a staple of Hollywood scoring conventions. In *Blade Runner*, this association is further encouraged by the precedent set up a year earlier by Harrison Ford's titular hero role in *Indiana Jones and the Raiders of the Lost Ark* (1981), scored with a highly memorable theme by John Williams. Moreover, the portamento at the end of each phrase somewhat resembles the wail of a police siren, corroborating with Deckard's role as a member of the police force's blade runner unit.

life. Batty has, in a sense, passed a Voigt-Kampff test (which in the film distinguishes androids from humans) of sorts: he was able to demonstrate empathy, marked as the defining human trait in the film's narrative. The Main Titles theme, which initially stood for the "human" (good), returns at this crucial point, at which the originally established human (good) versus machine (evil) dichotomy is dissolved. It now stands for humanity, which extends beyond the organic/mechanic divide, sonically reinforcing the film's crux that humans and replicants are two sides of the same coin. Reexamining the title sequence, it is perhaps no coincidence that the actual melody of the theme is introduced along with Rutger Hauer's name in the opening credits. In this sense, the music also engages with the film's thematic concerns by tying in the two sequences that reflect the construction and dissolution of the division between humans and replicants. The score not only emotionally reinforces Hauer's riveting performance but also provides a point of deeper engagement with the film's core message, thus bearing the traits of high quotability that ensures its longevity in cultural circulation.

Thirty Years Hence: Cult Endurance and Resurrection

Blade Runner, somewhat infamously, has at least seven different versions, which include different theatrical releases, a Director's Cut (1992), and a Final Cut (2007). The two newest iterations have generated great interest in fan communities, as their ambiguous endings raise the question of whether Deckard is human or a replicant. Lay fans and scholars alike scrutinize the films for details in search of clues and exchange their theories on dedicated online forums, displaying the intense engagement that is characteristic of cult fandom.

Contrary to expectations that the lack of a single, "authoritative" version may be frustrating for devoted fans, *Blade Runner's* complexity and elusiveness, borne from the multiple cuts, contribute significantly to its cult appeal, not least because they mirror the film's preoccupation with the real (humans) and the imitation (replicants)—binaries that evade clear distinction.¹²¹ Furthermore, *Blade Runner's* discontinuities and irresolution

121. Mathijs and Mendik, *100 Cult Films*, 29.

incite further academic and lay fan audience analysis and speculation.¹²² *Blade Runner*'s soundtrack possesses a similarly mythical status: despite the end credits announcing Polydor's release of the soundtrack, no official album was released until 1994. The New American Orchestra released an instrumental cover version in 1982 that was, however, decried by fans. Denied their promised soundtrack, bootleg recordings of the soundtrack by fans proliferated, and these continued to do so after the official 1994 release, as the single CD was deemed incomplete. This bootlegging is an example of textual poaching on the sonic level, where fans appropriate the film's sonic component to create their versions of the soundtrack album. In 2007, a new, three-disc edition was issued that contained extra tracks and outtakes, but still today some fans protest the omission of certain sonic material. Just as a definitive version eludes the film itself, the apparent lack of an ultimate version of the soundtrack accounts for part of the soundtrack's cult following.

Jamie Sexton has pointed out that collecting soundtracks is an important component of cult film fandom, representing one of the many ways in which films can be cultivated across different media cultures.¹²³ Nonetheless, cult fans have also *creatively* engaged with the film's musical material. Analogous to fan fiction or fan art, there has also been much music in the ambient/electronica genre inspired by Vangelis's music for *Blade Runner*, besides various attempts to recreate the *Blade Runner* sound on other (preferably analog) synthesizers—the CS-80 being rare if not outpriced for the average cult fan. Sexton argues that although many cultists have embraced new technologies, there exists a marked enthusiasm for older technologies and practices. The importance of what he terms “residual” technologies within cult film and music cultures—the appeal that “old media” such as VHS tapes and vinyl retain within an increasingly digital mediascape—is equally applicable to analog synthesizers. Their “obsolete” status creates a new cultist following, as Sexton argues: “both old media formats and content can take on renewed meanings within a digital age, in particular how their status can become enhanced within cult communities.”¹²⁴

122. Hills, “Academic Textual Poachers,” 129.

123. Jamie Sexton, “Creeping Decay: Cult Soundtracks, Residual Media, and Digital Technologies,” *New Review of Film and Television Studies* 13, no. 1 (January 2, 2015): 12–30.

124. Sexton, “Creeping Decay,” 12. One could also argue that the anxiety surrounding the abundance of emulation “copies” of “authentic” analog synthesizers is comparable to that surrounding the widespread (mainstream) accessibility of the *Blade Runner* film's subsequent cuts on DVD, which undermines its cult status.

Within the cult of *Blade Runner*, the CS-80 attains the status of a cult instrument—an important physical object, the holy grail to attaining *Blade Runner*'s signature sounds. It is special, almost sacred among fan communities.¹²⁵

The CS-80 is so inextricably linked to *Blade Runner* that composers Hans Zimmer and Benjamin Wallfisch brought back this vintage synthesizer for the soundtrack of Denis Villeneuve's sequel *Blade Runner 2049* (2017). Villeneuve's conception of the soundtrack for his sequel was clear: "As much as I wanted to be free from the first movie, there were some elements that I insisted that would be very familiar with the first one: sound and music."¹²⁶ Despite the dangers of falling short of "replicating" Vangelis's iconic score, they decided to compose a score as an homage to Vangelis's original, instead of writing something entirely new. Besides adopting musical material, namely the iconic brass theme of the main titles and the haunting melody of "Tears in Rain," they adopted the hardware as well, in order to replicate the expressive quality the original soundtrack was best remembered for.¹²⁷ Demonstrating on the CS-80 the characteristic ethereal swells that were so iconic in the original's score, Zimmer explains that "the magic of this beast is the aftertouch. As I press harder, things start happening."¹²⁸ Meanwhile, Wallfisch highlights how it is possible to generate what he describes as an "evolving sound" on the CS-80 itself before it can be further processed into a "strange, weird, emotionally evocative sound."¹²⁹

Indeed, the sequel has sparked a recent resurgence of popular interest in the original film and its soundtrack. More mainstream media has taken the opportunity to revisit Vangelis's score in anticipation of the new score accompanying *2049*. In these more recent discussions, the CS-80 is thrust into the spotlight, cast as the primary instrument that gave voice to

125. This is comparable to John Davis's observations of how vinyl has become a "special, almost sacred object" within a predominantly digital culture. John Davis, "Going Analog: Vinylphiles and the Consumption of the 'Obsolete' Vinyl Record," in *Residual Media*, ed. Charles R. Acland (Minneapolis: University of Minnesota Press, 2007), 225, quoted in Sexton, "Creeping Decay," 17.

126. SoundWorks Collection, "The Sound of Blade Runner 2049," YouTube video, 06:59–7:07, October 20, 2017, <https://www.youtube.com/watch?v=b07U7DtAHY>.

127. For a detailed analysis on the sequel's sonorous and motivic citation of the original score, see James Denis Mc Glynn, "Revisiting Vangelis: Sonic Citation and Narration in the Score for *Blade Runner 2049*," *Sonic Scope: New Approaches to Audiovisual Culture* 1 (2020) <https://doi.org/10.21428/66f840a4.9dead577>.

128. SoundWorks Collection, "The Sound of Blade Runner 2049," 07:41–08:00.

129. *Ibid.*, 08:02.

Vangelis's spontaneous reaction to rough cuts of the film, as he composed. It is often the only synthesizer mentioned by name when the electronic instrumentation of the score is discussed.

It is worth noting how the CS-80 and *Blade Runner* are so strongly welded together and so deeply etched as a united entity in these contemporary discourses. Evan Puschak claims that the CS-80 is “an analog synthesizer featured so prominently in *Blade Runner* that Vangelis has his own section in the CS-80 Wikipedia page.”¹³⁰ Indeed, Vangelis is the only composer to be allocated a dedicated section on the aforementioned page, while other notable users of the CS-80 are directed to a separate list. It states that Vangelis “used the Yamaha CS-80 extensively” and that he described it as the most important synthesizer in his career.¹³¹ Puschak's wording however, implies that it was the *Blade Runner* soundtrack that is Vangelis's most enduring work using the Yamaha CS-80, earning him his special mention in the Wikipedia article. It gives one the impression that Vangelis single-handedly, or at least single-instrumentedly, crafted the *Blade Runner* score by improvising from just one musical instrument, that being the Yamaha CS-80.

Contemporary observations describe Vangelis's score as “mythical,” which is fitting, considering how little we know about how Vangelis used the CS-80 or other instruments for that matter. But perhaps more crucially, the myth is part of *Blade Runner's* allure. As Ernest Mathijs and Xavier Mendik put it, “cult-film experience relies on a drive, a search . . . for some pure insight into a profound form of truth. Since that truth is hardly ever found, much of the search itself (its endless circularity, its level of expertise, its connectedness, its sharedness) becomes a focus point.”¹³² The unsolved mysteries keep the fandom collective searching for answers—its dedication and engagement further reinforcing the cult of *Blade Runner* and of the CS-80 synthesizer.

130. Nerdwriter1, “Listening to Blade Runner,” 04:46–04:55.

131. “Yamaha CS-80,” Wikipedia, accessed April 25, 2021, https://en.wikipedia.org/wiki/Yamaha_CS-80.

132. Mathijs and Mendik, *100 Cult Films*, 1.

Conclusion

Nearly four decades since its lackluster theatrical release, *Blade Runner* has gone from a quintessential cult film for lay and academic fans to a renowned science-fiction-noir classic, having aged well thematically, visually, and also sonically.¹³³ As Piotr Orlov observes,

once considered a financial and creative failure but which history has judged among the most culturally influential films of all time, [Blade Runner] brought something special out of its many participants, including Vangelis, whose electronic music is a pillar of the film's mythical reputation.¹³⁴

In roughly the same time span, the CS-80 has gone down in history as one of the most prized analog synthesizers, with various emulations seeking to recreate the signature sounds heard on the enduring *Blade Runner* soundtrack and beyond. Examining this musical instrument through the lens of film music studies has brought several fascinating aspects of the CS-80's history and ongoing cult(ural) legacy to light. While examining the role of musicians as direct users or "consumers of technology" in shaping an instrument's cultural meaning is undeniably important, as persuasively argued by Pinch and Trocco as well as Paul Théberge,¹³⁵ studying the meanings ascribed to these technologies by the consumers of the products of technology is equally imperative, as demonstrated in the case of the CS-80 and *Blade Runner*. Meanings of certain instruments and their timbres (most prominently the DX7) have been productively investigated through shorter formats, such as single releases of songs.¹³⁶ However, longer, audiovisual formats supply ample opportunities

133. In 1993, *Blade Runner* was inducted into the Library of Congress's National Film Registry for "culturally, historically or aesthetically significant" films. "Complete National Film Registry Listing," National Film Preservation Board, *Library of Congress*, <https://www.loc.gov/programs/national-film-preservation-board/film-registry/complete-national-film-registry-listing/>.

134. Orlov, "How Vangelis's Cult Blade Runner Score Became a Classic."

135. Pinch and Trocco, *Analog Days*, 309; Paul Théberge, *Any Sound You Can Imagine: Making Music, Consuming Technology* (Hanover & London: Wesleyan University Press, 1997), 160–61.

136. See Immanuel Brockhaus, *Kultsounds: Die prägendsten Klänge der Popmusik 1960-2014* (Bielefeld: Transcript, 2017) and, more instrument-specifically, Megan Lavengood, "What Makes It Sound '80s? The Yamaha DX7 Electric Piano Sound," *Journal of Popular Music Studies* 31, no. 3 (2019): 73–94.

for such investigations as well, particularly when the instrument used is rare or produces a particularly idiomatic sound.¹³⁷ Conversely, tracing film music back to its instrumental elements draws attention to how a film's sonic aesthetic is contingent upon the technology utilized, as much as upon the inspired cognition of the composers, thus drawing attention to the material and practical conditions of creative film scoring processes. Furthermore, acknowledging how an instrument's extra-filmic significance enhances intra-filmic themes adds an extra layer of narrative significance to the film, further enriching its interpretive possibilities as a cultural text. By bringing together film music studies and organology in this article, I hope to have demonstrated how cultural meanings of artifacts are deeply intertwined, and how working at this intersection can lead to new insights that benefit both fields.

137. Early electronic musical instruments present a spectrum of yet underexplored opportunities for such interdisciplinary research. See, for example, Julin Lee, "A Symphony of Noises: Revisiting Oskar Sala's 'Geräuschmontage' for Alfred Hitchcock's 'The Birds' (1963)," *Journal of Sound, Silence, Image and Technology* 2, no. 1 (2019): 7–23.