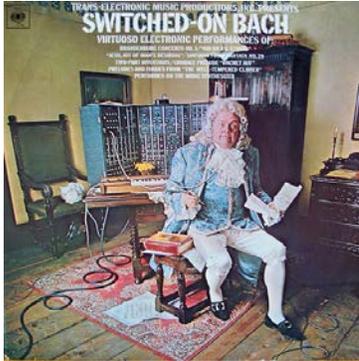


“Switched-On Bach”--Wendy Carlos (1968)

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Essay by Louis Niebur (guest post)*



Original album cover



Original label



Wendy Carlos

With a stunning burst of space-age modernity, “Switched-On Bach” shot across the classical and pop music world in the late ‘60s, silencing those who thought electronic music could only be ugly and inaccessible, or a source of gimmicky sounds for pop records. From the opening chords of Bach’s “Sinfonia” from Cantata 29, realized on a purpose-built synthesizer created especially for the occasion, the album sounded modern in a way people didn’t know classical music could. Released in late 1968, the unlikely “Switched-On Bach” quickly crossed over to the broad pop album audiences, joining artists like Creedence Clearwater Revival, the Temptations, and Blood, Sweat & Tears in the highest regions of the industry charts, ultimately selling more than a million copies. According to the record jacket, this album-length Columbia Masterworks collection of some of Johann Sebastian Bach’s most popular works interpreted on the new Moog synthesizer was produced by an anonymous, corporate sounding “Trans-Electronic Music Productions, Inc.,” or “TEMPI.” In actual fact, this project was a collaboration between electronic music pioneer Walter (now Wendy) Carlos and jazz singer-turned producer Rachel Elkind, with contributions made from musicologist and musician Benjamin Folkman.

Over four albums from 1968 to 1979 (“Switched-On Bach,” “The Well-Tempered Synthesizer,” “Switched-On Bach II,” “Switched-On Brandenburgs”), Carlos and Elkind successfully produced electronic interpretations of the works of Bach and other Baroque composers, using each album to refine their equipment and techniques, though the joyous spirit of experimentalism is strong throughout all of the recordings. They all display a level of virtuosity unheard of in electronic popular music up to that point, and the relative paucity of Carlos and Elkind’s output can be traced to their methodical approach to assembling each track.

At the time Elkind suggested producing an entire record of Bach arrangements to her, Carlos had been looking for a way to demonstrate the power and potential musicality of the electronic music equipment coming out of Robert Moog’s studio. While Carlos had studied electronic music at the prestigious Columbia/Princeton Electronic Music Center

under esteemed composer Vladimir Ussechevsky, she had been frustrated at the constraints under which composers were then held, with the then-current academic obsession with techniques like serialism and other dissonant styles. Carlos and Ben Folkman were both graduate students at Columbia and together worked on a simple electronic arrangement of Bach's "Invention in F," among other experiments. When Elkind heard this, it seemed like the perfect way for the composer Carlos to show the public that electronic music could be accessible, and hopefully pave the way for original compositions in a less dissonant style. The problem, however, was that before Robert Moog's innovations, there was no practical way, economically or artistically, to get the kinds of nuanced performances required of Bach's works.

Carlos had met Moog at the annual meeting of the Audio Engineering Society in 1964, and they immediately became friends, with Carlos frequently testing Moog's latest products. Meanwhile, Carlos was building a small studio of her own. She assembled an Ampex 8-track tape recorder out of spare and used parts, and gradually acquired other pieces of equipment. Unlike today's more compact digital keyboards, the so-called "modular" analog synthesizers of this time were custom built and often very large combinations of components. Carlos's small studio apartment eventually housed an assemblage of oscillators, filters, a white noise source, an artificial echo generator, and an envelope generator for constructing more complex sounds as well as a chord generator created by Moog for Carlos to realize Bach's continuo parts which chained a series of oscillators together to form harmonies. The final innovation was a touch sensitive keyboard that enabled greater sensitivity in performance.

All was not perfect, however. Tuning was the notorious bugbear of early synthesizers; the slightest change in temperature could affect a sound's pitch. In the notes to her "Switched-On" boxset, Carlos remembers the agonizing process behind achieving a perfectly tuned synthesizer melody:

Each recorded take on our first albums had to be tediously checked for pitch immediately before and after. You'd practice the line you were about to play, then do a precision tuning, quickly hit record and perform the note or notes, hit stop and recheck the tuning. If it was still near correct pitch, you assumed the take was too.

Carlos and Elkind organized the first album, originally titled "The Electronic Bach," in a way that each track highlighted a different strength of the new synthesizer. Bach's music was the perfect candidate, in their eyes, for this project, since, as Carlos explains on her website, "It was contrapuntal...it used clean, Baroque lines, not demanding great 'expressivo' (a weakness in the Moog at the time), and it was neutral as to orchestration (Bach freely used many variations on what instruments played what.)"

After the bombastic opening, "Sinfonia," the contrasting, gentle "Air on a G String," from the "Third Orchestral Suite" is heard. Moving from the orchestral to the solo, the next three tracks are short two-part keyboard inventions, demonstrating the meticulous attention to detail required to realize each complex individual line of counterpoint. After

a lilting arrangement of “Jesu, Joy of Man’s Desiring,” the first side concludes with the epic “Prelude and Fugue in E-Flat major” from the “Well-Tempered Clavier, Book I” (WTC). Starting the second side is the “Prelude and Fugue in C Minor,” also from the WTC, but it is frenetic and skittish where the first piece had been stately. After the sacred “Wachet Auf” chorale from Cantata #140, the album concludes with the virtuosic, three-movement “Third Brandenburg Concerto.” Elkind and Carlos chose this concerto partially because of the opening offered by the minimal second movement, a simple cadence in Bach’s original that in actual performance would have involved an improvised, ornamented link between the two outer movements. Carlos and Ben Folkman used this opportunity to demonstrate the full power of the Moog synthesizer. According to Carlos, as quoted in the liner notes of CBS Masterworks, “Switched-On Brandeburges,” she set out to do a “fairly self-conscious paraphrase of the chromatic fantasy and then overlay it with a sandwich of the kind of electronic sounds I had been fooling around with during my college years.”

Carlos, Elkind, and Folkman weren’t prepared for the massive success of the album upon its release, and had no immediate plans for a sequel. Folkman went on to a career as a successful musicologist and composer. Carlos and Elkind, for their part, took the opportunity of a follow-up to perfect their techniques, and for their second album, they took and expanded the repertoire to include contemporaries of Bach’s as well as a version of his “Fourth Brandenburg Concerto.” This too, achieved both notoriety and success, with the Canadian pianist Glenn Gould declaring, in the “Switched-On” boxset, that “Carlos’s realization of the ‘Fourth Brandenburg Concerto’ is, to put it bluntly, the finest performance of any of the Brandenburges--live, canned, or intuited--I’ve ever heard.”

Rachel Elkind left music as a producer in the early 1980s and now lives in France. Wendy Carlos continued (and continues) to expand the boundaries of electronic music, perhaps most memorably in the film scores to Stanley Kubrick’s “A Clockwork Orange” (1971) and Disney’s “Tron” (1982). It should go without saying that Carlos’s legacy is to be heard any time one turns on the radio and listens to contemporary popular music. She, more than anyone else, was responsible for acclimating American audiences to the sound of the synthesizer, to showing music lovers that there was more to electronic music than science fiction and scary movies, that electronic music could both convey a sense of the modern and the beautiful.

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*The views expressed in this essay are those of the author and do not necessarily represent the views of the Library of Congress.