

Lejaren Hiller

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The book written by James Bohn is an extensive study on the life and work of the american composer Lejaren Hiller (1924-1994). One of the goals of the book is to prove misleading the common assumption of Hiller as an amateur composer, a scientist that turned into a somewhat nonprofessional musician. In order to do that, Bohn explains how music had always been part of Hiller's life, from his musical activities in childhood to his late graduate studies in composition (he finished a master's degree in music in 1958, at the age of 34). Although Hiller had learned how to play piano, clarinet and saxophone in his youth, composition, rather than performance, was his primary musical interest — early attempts at orchestral and vocal music date from his adolescence. The first two chapters deal precisely with this whole scenery, briefly presenting an interesting overview of Hiller's life and works.

The first chapter is dedicated to details of his life such as background, education, family, professional career and the problems that gradually arose during his last years due to the Alzheimer's disease. Lejaren Arthur Hiller Junior was born in 1924 and was brought up in a "somewhat unconventional [family]", according to the author. His father studied painting, illustration and photography, while his mother worked as a model. Bohn gives a few more details about the unusual

environment in which the little Hiller grew up, however he does not attempt to make any suggestion about such influences on the ideas of the mature composer of years later. Hiller's formal and informal education as well as his professional career is also presented in detail. We can delineate his path with some broad lines: the Princeton years (1941-1947, where he received a B.A., a M.A. and finally a Ph.D. in Chemistry), a period of work as a research chemist (1947-1952), the University of Illinois years (1952-1968, where he first entered as Professor of Chemistry, being transferred to the School of Music in 1958), the University of New York at Buffalo years (1968-1989, after which he stopped composing due to increasing health problems), and his final years (1989-1994, in which he had a strong deterioration in his mental state, posthumously diagnosed as Alzheimer).

His musical studies and activities during the chemistry years are pointed out in the book: from his first work to be performed (*Suite for Small Orchestra*, 1951, while he was still working at DuPont) to his piece *The ILLIAC Suite*, 1957, composed after Hiller "realized that the probability processes he was using in his chemistry research [at the University of Illinois] could also be used to generate music". *The ILLIAC Suite* (which is the center of his master thesis on music composition) was also a turning point in his career, not only because it gave Hiller international attention — although in a very negative way, as we will explain later — but also because this situation led him to think that "his music would never be taken seriously as long as he was not a professional musician". It was in this very same year (1958) that he was transferred to the School of Music at Illinois, despite the opposition of many conservative faculty composers that were against electronic and computer music. With Hiller, the EMS (Experimental Music Studio of the

University of Illinois) was then founded as the second studio of its kind in the United States.

The controversy about Hiller's work at the University of Illinois School of Music never disappeared. Even after ten years, Hiller "apparently felt like an outsider, who was not accorded the respect due to him", and Ben Johnston, one of his rare friends amidst the composition faculty, wrote that "[Hiller] wanted desperately to be known as a composer, while on campus he was known primarily as the author of a basic chemistry text then in wide use among Illinois undergraduates. And there were mixed feelings about his composing".

Consequently, Hiller left Illinois and accepted a job offer at the University of New York at Buffalo in 1968. Because his work was better supported there, his compositional activities flourished. He also became the director of Buffalo's Experimental Studio in 1974. As we have already mentioned, Hiller experienced medical problems during his last years, and "his music from this time [1984] until he stopped composing in 1989 was more minimalistic and sparse than his other compositions".

After surveying Hiller's life chronology, Bohn presents an overview of his compositional oeuvre, trying to categorize it in two ways: according to the genre of each piece and according to the technology involved in the creation, realization or performance of the works. The first way of categorization (by genre) is perhaps a little confusing. The boundaries between the three "genres" delimited by the author (namely, "absolute music", "character pieces" and "theatrical works") seem unclear, in spite of the definitions provided (absolute music: "music that is primarily self-referent"; character pieces: "pieces of music that are neither clearly absolute in

nature, nor do they have any specific musical program"; "theatrical works": music for stage, film, television and happenings). For example, *Sonata #6 for piano* appears simultaneously as "absolute music: sonatas" and "character pieces: referential music". *Suite for small orchestra* is listed under "absolute music: orchestral music" but also under "character pieces: suites". A *Triptych for Hieronymous* appears as "theatrical music: melodramas and works for stage" and "character pieces: referential music" at the same time. Many other examples like these can be found. Even understanding that a piece may have specific characteristics that could justify its placement under more than one categorization, the tables (lists of pieces) that present the divisions may be a little puzzling. The result is that the reader who looks at these tables and their duplicated entries may not be totally convinced of their real meaning or necessity. To a lesser extent, the same thing happens with the second way of categorization given by the author, which is based on the use of technology in Hiller's pieces. In this case the tables present the works divided by categories such as "pieces utilizing tape parts realized in EMS", "pieces utilizing computer synthesized sound" and so forth; these categories leave little room for ambiguities, thus the repetition of works in different lists is less problematic and more comprehensible.

The second chapter, "A Brief Overview of Lejaren Hiller's Computer Music", presents in an interesting way the early stages of computer-assisted composition, and the role of Hiller as one of the american pioneers in this field. Stochastic procedures became a favorite technique of many computer musicians, and Hiller was one of the first to use it for composition with the aid of computers. For instance, the Markovian process and its musical applications are explained in this

chapter. A brief history of other early attempts of making music with computers is also provided. Computer programming oriented to musical applications is also discussed, and so is the creation of MUSICOMP, "the first computer language created for computer-assisted composition". Many of Hiller's compositions that were created in close connection to these technical developments are here briefly introduced to the reader.

As for the next five chapters of the book, what the reader will find is a comprehensive, detailed description of the technology involved in the creation of many of Hiller's important compositions. While we agree that the understanding of the particular characteristics, limitations and developments of computer technology in the fifties and sixties are very important to the understanding of the music composed with it, there seems to be an excessive amount of technical detail in this middle section of the book. The ILLIAC I computer, the equipment available at EMS, the IBM 7090 and the CSX-1 computers and the ILLIAC II computer — everything is described with such an abundance of detail that can frighten even those who are familiar with computer music today. At this point, it is impossible not to raise the question of the real necessity of all that information, since most of it seems to fit better in a history of computer technology than in a book about music. No matter how involved a composer is with technology, the technology itself is always a tool for one's musical purposes, and the impression is that these middle chapters invert the priorities somehow — which makes their reading a really difficult task for those not deeply interested in the minutest details of the functioning of the grandfathers of modern computers. Obviously, we should note that these chapters also have very interesting passages, such as historical information about the development of the

first computers and the motivations for it, as well as some paragraphs describing the typical processes involved in music composition at the Experimental Music Studios and the relation of the equipments available and the music created with them.

Finally, the last five chapters of the book present a discussion of the stylistic traits of Hiller's works, including specific sections dedicated to a closer look at four of his pieces: *Quartet #4 for strings — The Illiac Suite* (1957), *Computer Cantata* (1963), *Machine Music for piano, percussion and tape* (1964) and *HPSCHD* (1968), the latter in collaboration with John Cage.

Before entering the analysis of those specific pieces, the book goes through a very good survey of Hiller's general ideas about music, defining him as a "musically eclectic composer, who often combined several different types of techniques in the same piece", and establishing a connection to him with Charles Ives, whose influence "can be clearly heard in several [of Hiller's] works". Numerous musical examples extracted from Hiller's scores are included in this section, and the author provides a very clear explanation of some of his particular writing techniques. Musical humor, jazz, information theory, form, symmetry and use of numerical schemes are all described and exemplified with plenty of detail without losing the whole picture of what is being said.

The interesting analyses of the four pieces above mentioned conclude the book by demonstrating in more detail many of the musical ideas and concepts discussed before, thus making the reader more acquainted with these four representative works of the composer.

The ILLIAC Suite, for example, is a series of four experiments that were written with aid of the ILLIAC I computer, implementing a technique of random numbers assigned to musical parameters. Each movement is based on a different musical idea, including conservative ones like the model of traditional counterpoint used for the first movement. As we mentioned before, this piece was responsible for a sudden boom in Hiller's notoriety, "due to general interest in his unique experiment, as well as a fervent opposition to the use of a computer to create art". On this subject, Bohn makes a good criticism of the lack of understanding of the role of computers by a society somewhat "scared" of these emerging electronic "monsters". On another level, Hiller himself puts the value of *The ILLIAC suite* into perspective: "It's not supposed to be great music. It's not perfect, but you would get a passing grade from a composition professor with it". And Bohn adds: "Thus, while it was not terribly influential as an individual piece of music, the general concepts that lay behind the creation of the ILLIAC suite were significant contributions to the Avant Garde".

The following discussions on *Computer Cantata*, *Machine Music* and *HPSCHD* go along the same track of detailing specific techniques used in each composition and providing valuable comments and historical data on the reception and impact of the pieces. Under different lights, similar controversies related to computer-assisted composition are discussed in a timely fashion after each analysis, and the works are compared to each other.

In conclusion, one topic that is discussed in the middle of the book deserves our special attention — perhaps it is one of the key problems in the ongoing debate on the very definition of computer music and the relationship between music and

technology, composers and scientists. Hiller asserted at some point that his "objective in composing music by means of computer programming is not the immediate realization of an aesthetic unity, but the providing and evaluating of techniques whereby this goal can eventually be realized". This leads to the questioning of what is the role of the composer and what is the role of the scientist and how their interaction should be. Hiller's ambiguity as both characters in the same person is just one interesting historical example that may help us to think about this subject today. Giving a secondary importance to aesthetical matters in his musical activity and preference to "pure research" on new techniques and their "evaluation" (is this possible, *detached* from aesthetical concerns?), his assertion may end up supporting that image of "more-scientist-than-composer" that was attached to him — which, in any case, doesn't help to get to the core of this debate.

Let us leave the readers and listeners to take the floor.

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