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Otto E. Laske. Musikalische Grammatik und Musikalisches Problemlösen. Utrechter Schriften (1970-1974). Ed. Nico Schüler (*Methodology of Music Research*, Vol. 3).

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One might enjoy the ramification of different epistemological foci found in connection with the notion of *cognitive musicology*, a term that should be understood as intimately connected to Otto E. Laske's musical thought. Although this term appears regularly in music research, its various perspectives and appearances waver between holistic ideals and minutely elaborated partial issues, connecting different branches of, at the least, musicology, psychology, linguistics, informatics, epistemology, neurobiology and physiology. The aim of cognitive musicology is clear: a comprehensive integration of the natural science and humanities approaches to music; the methods: heterogeneous and "under construction".

The sharpness of both – the perspective on music cognition as well as the detailed elaborations of what is considered specifically music phenomena – unfolds itself in Utrechter Schriften (The Scripts of Utrecht), written between 1970 and 1975, with the profusion of Laske's intellect. They testify of the work of a resident composer *and* researcher at the *Instituut voor sonologie* at the Rijksuniversitejt in Utrecht (directed by G. M. Koenig): of a composer of computer music reflecting scientifically what he considers to be a crucial shift in the modern compositional paradigm – a shift from a "model based approach" toward a "rule based approach" as embodied in electronic music. And yet Utrechter Schriften testify of much more than an individual's history: they are substantial evidence of an important period in the history of musical composition, as well as musicological reflection dwelling on ideas of integrative thinking.

The history of Laske's career before that period (as well as after) is impressive in its span. Born in Olesnica, Silesia, today part of Poland, studied sociology and empirical social research at Goethe Universität, proceeding with advanced studies in musicology, English and American literature and the history of sciences. While working on his doctoral thesis with Th. W. Adorno (Ph.D. in 1966) as a member of the Frankfurt School for Social Research, Laske also studied piano at the Hochsche Konservatorium in Frankfurt am Main and composition with Konrad Lechner in Darmstadt, studying there also with P. Boulez, G. M. Koenig, G. Ligeti, and K. Stockhausen as a regular attendee of the Darmstadt Summer Courses from 1962 to 1966. After his immigration to the United States of America in 1966, when he was awarded a Fulbright scholarship, he pursued advanced musical studies with A. David, R. Ceeley, R. Cogan, and R. Kolisch (M. Mus., New England Conservatory of Music, 1968). The Utrecht project, "The logical Structure of a Generative Grammar of Music" was followed by post-doctoral studies in psychology and computer science at Carnegie Mellon University in Pittsburg, Pennsylvania, and

research on artificial intelligence, used in his work as a software engineer (1980-1985). During the 1980's, Laske, together with Curtis Roads, co-founded The New England Computer Music Association, Inc. (NEWCOMP), serving as artistic director till its end in 1991. In the eighties he was active also as a professional knowledge management consultant (1986-1991), which enabled him to formalize his knowledge (at Harvard) in developmental psychology (1992-1995) and clinical psychology (1995-1999). With a doctorate in psychology and interests in clinical psychology (his Psy. D. of 1999 is entitled: "The Transformative Effects of Coaching on the Professional Agenda of Executives"), Laske's vocation as a composer as well as his professional engagements sidetracked him from developing his musicological thought in all its opulence. In spite of this, the volume with his Utrecht scripts offers not only the core of his cognitive musicology, but also – due to excellent editorial work by Nico Schüler, also the author of the introduction to Laske's writings – references to some later developments as well as bibliographical research in this area.

The following should also be mentioned: along with the only monograph on Otto E. Laske, edited by Jerry Tabor in 1999 (Otto Laske: *Navigating New Musical Horizons*. Greenwood Press 1999), Schüler's volume on Laske is the main source of information about the work and ideas of a fascinating mind describing himself in a telling way: "By education, he is an epistemologist and cognitive scientist turned psychologist who has widely published in the field of musicology" (from Laske's www site: http://www.emf.org/subscribers/laske).

In his six studies, written during his work at the Utrecht's *Instituut voor sonologie* and dedicated to its director Gottfried Michael Koenig whom Laske met in Darmstadt as early as 1964, Laske presents himself (emphasizing this in the preface to his writings) as a composer *and* music scholar in too many details to be even listed here. Thus, only a few thoughts on reading this volume are offered further on.

Chronologically ordered texts clearly indicate a firm connection between theoretical reflection and practical work in the titles themselves: *Die logische Struktur einer generativen musikalischen Grammatik: Darstellung der Grundzüge eines Forschungsprojektes* (1970); *Über probleme eines musikalischen Vollzugsmodells* (1971); *Eine methodologische untersuchung der Computer-Komposition* (1971); *Einführung in die generative Theorie der Musik: Über musikalische Strategien in Hinsicht auf eine generative Theorie der Musik* and *Fortschrittsbericht über das Projekt »Die logische Struktur einer generativen musikalischen Grammatik«* (1972); *Auf dem Wege zu einer Wissenschaft musikalischen Problemlösens* (1973); *Zwei Ansätze zu einem expliziten Modell kompositorischen Problemlösens* (1974). Yet, although the writings are intimately bound up with Laske's compositional practice, in which electro-acoustic devices entered his work at Utrech's *Instituut voor sonologie*, it would be wrong to consider the whole volume as theoretical evidence of the composer's personal work.

Rather, the texts should be read as a milestone in a threefold *trajectory* of reflecting music as acoustic phenomena: with its beginnings in the post World War II electronic music, accompanied by a fascination with the possibilities of devising sound artificially, developing in the seventies and eighties attractive theoretical footings on the Chomskyan optic of generative grammar in music, leading toward

intensified, epistemologically variegated research on musical cognition from neurobiological and physiological, anthropological, and AI-points of view in approximately the last two decades. The whole volume seems to be in line with his knowledge acquiring persuasion formulated in the nineties: "We have transformed ourselves into a partner of communication between two species of knowledge, one that is alive in us, and another that embodies us in the form of an external 'knowledge-base'." ('The Humanities as Sciences of the Artificial', Interface 23:3-4 [1992], pp. 239-55.)

Laske's connectedness to the problematic of artificial intelligence – the collected papers in *Understanding Music with AI., Perspectives on Music Cognition*, edited by M. Balaban, K. Ebcioglu and O. Laske for MIT Press in 1992 are a fine example – and should be considered as a *complementary side* of his Utrecht writings. A more evasive yet more intriguing and future-oriented aspect of his Utrecht texts could be found especially in the last two chapters of Schüler's volume (*Auf dem Wege …* and *Zwei Ansätze …*). There Laske actually offered a holistic model of cognitive processes as a consequence of the "performance models" structured through sonic hierarchies comprised of the following (Laske follows Chomsky on this matter): "syntactic", "sonological" and "semantic" dimensions of a "total musical fact".

While reading this volume, which abounds with "technical", practical as well as theoretical details omitted here, albeit offering an invaluable bundle of ideas and elaborations, I was uncertain of Laske's "institutional" stature in music research. The theory of a generative musical grammar, for instance, formulated later on (1983) and widely appreciated in the context of tonal music by Fred Lerdahl and Ray Jackendoff, appears in a theoretically complete form. Yet Laske is not even mentioned in their book, often apostrophized as "groundbreaking". (If compared to their more on the musical score-centred reflection, implying yet leaving aside the problems arising from postulating a "competent listener" – Laske's integrative view is opening up and offering some valuable positions for *fundamental* issues in music research: comparable to the ones from some more recent music-analytical endeavors, as, for instance, offered alongside David Huron's Humdrum Toolkit, Guerino Mazzola's RUBATO, or David Temperley's research, to mention only a few – among not so many. Except in Huron's broad horizon, Laske's ideas seem to lie behind the scholarly interests of different endeavors connected to fundamental issues in music research, otherwise central to his musicological reflection.)

Laske's fine and frequent clear-cut formulations regarding different levels of his elaborations still (three decades after they were jotted down) offer valuable scholarly reading. And what seems to be an especially valuable advantage of reading his Utrecht scripts, edited with a very informative editorial introduction of Nico Schüler, is Laske's absorbingly wide yet detailed horizon of thought, which is, after all, a privilege of not as many scholars as one may wish.