Helmet & Sling   **2001/2002**   **Time: 13'30**

Composition for trumpet and computer (Max/MSP)
Trumpet: Marco Blaauw

At some stage we all have to arm ourselves and in any case it's handy to be able to withdraw from a treaty if it doesn't suit one any more isn't it?
Aside from this…..This is the last piece in my "Armaments cycle" of three pieces for solo instrument and computer (cello: "Bow and arrow", piano: "Spear and Shield", trumpet "Helmet and Sling"). I thought it would be a good idea to use this piece to provide Theater Kikker with appropriate armaments for the future, being a commission for the festive reopening of this theatre in September 2001.
"Helmet and Sling" is, as are the other pieces in the armaments cycle a so-called Algorithmic composition. In short: complex calculations form the basis of the pitch, dynamics and duration of the notes. The use of microtonality (quarter-tones) is interwoven with tonal and chromatic elements in the composition and serves as coloration only. The computer provides the rest of the colour. Harmonizers and time variable delays are used for this as well as convolution and through these techniques such as cross-synthesis in combination with for example, additive synthesis.

Because pitch detection in combination with fractal calculations is constantly being applied to determine the exact progression of the signal processing, the precise development of the signal processing (in order to modify the sound) is recalculated by each new note.
As such "Helmet and Sling" is a so-called "Event driven" composition, whereby much of the precise sound manipulation falls back in the hands of the performer.

Recording: 30 January 2002, ZKM Karlsruhe Germany
Recording Engineers: Thomas Saur & Volker Schmitt
All editing and postprocessing: Michèl Koenders
PostMix: july 2002 DJC Studio, Den Bosch