Pour lire l’article avec les exemples sonores il faut consulter Acta acustica :
Nº85 (3)pp.387-400 [1999] pour le texte de l’article;
Nº87 (2) [2001] pour le disque d’exam ples sonores;
Figure I. Comparison between the mouth graphs (measurements of hydrodynamic modes frequencies for different air pressure values) and the acoustical analysis of the mouth edge tones produced by blowing with air pressure gradually increasing.

Figure II. Separation between periodic and residual parts of an organ pipe sound of the viola 4' stop. The inharmonic C spectrum results from non-linear interaction between the initial mouth tone locked on the 7th pipe eigenmode, and the fundamental frequency of the first pipe mode. The inharmonic mouth tone persists during the whole sound. This remarkable phenomenon is conscientiously realised by the voicer in order to imitate the bowed string sound quality of the baroque viola, a long noisy transient and a slight grating sound. See Figure 11 of the paper for a detailed analysis.

Sample 77 – Viola 4' stop recorded on the Italian organ of Tende (France). Descending chromatic scale. The spectral analysis of the two first tones are presented in Figure 11.

Sample 78 – Analysis (made by V. Rioux) of the first pipe (B4) of the viola 4' stop chromatic scale (sound example #77). We give the spectral analysis of this new sound example in Figure II.

Successively: A - the normal sound; B - the harmonic part of the sound; C the residual inharmonic components of the sound; D the whole sound reconstructed. (Notice that residual background noise is not shown)

Sample 79 – Variability of the initial transient of a recorder (Figure 13) The same note is played via an organ chest for three different pressure rise times. Each sound is repeated twice. Notice that the first utterance (slower rise time) produces the more faster impression of the transient.

The following sound examples are recorded on some real organs: Sample 80 – (Figure 15a) Excerpts of the chromatic scale played on the Montre 16' – St Maximin (France) Great organ; J.E. Isard, 1774

Sample 81 – (Figure 15b) Excerpts of the ascending diatonic scale: Bourdon 8' and Flûte à cheminée (Hartmann organ). Notice the prominent mouth tones of these two stops.

- Small chamber organ made by Ph. Hartman.

Sample 82 – On a little mechanical organ, the initial transient may be controlled by key action. With a Bourdon 8' stop, D4 key is repeated with fast keying (5 times) and slow keying (5 times).

Sample 83 – Introduction of the “Muse” of Dandrieu on the Bourdon 8' of the St. Maximin Organ. Mouth tones are particularly prominent on this stop.

Sample 84 – The diatonic scale of the Flûte à cheminée stop (sample #81) is played first lower (2 octaves) and slower (4 times), and then normal. Notice the clear mouth tones preceding the fundamental sound.

the edge tone alone (twice) and then the pipe tone (twice), in order to compare, through the changes of the transient tone quality, frequencies similarities between edge tones and mouth tones of the pipe transient.

Sample 76 – This musical example introduces the extraordinary sound of the viola 4' stop of the Italian organ. The acoustical characteristics of the sound are intense mouth tones and inharmonic spectra (see no.3.3 of the paper). Introduction to “Casta Diva” played on La Brigue Organ (France) by R. Cognasso.