



Joint Meeting

137th regular meeting of the Acoustical Society of America  
2nd convention of the EAA: Forum Acusticum  
- integrating the 25th German Acoustics DAGA Conference

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Mouth tones of flue organ pipes: a control of sound aesthetics. Michèle Castellengo (Laboratoire d'Acoustique Musicale - Université Paris 6, 11 Rue Lourmel 75015 PARIS. (France))

The quality of the steady sound of organ pipes is determined by pipe geometry and blowing pressure. In contrast to this, the attack transient is controlled by both the voicer and to some extent by the player. The initial part of the transient is related to so-called "mouth tones" which will be discussed in some detail. On the basis of analyses of the sound production of many organs, we show the importance of mouth tones during the attack transients of some characteristic stops: Diapason family with initial broadband noises; Stopped and Chimney pipes with inharmonic "pings"; Viola stop of the Italian organ with long and intense mouth tones persisting during the stationary sound. As frequency content of mouth tones is directly dependent on the air velocity at the flue, any variation of the pallet opening time in the mechanical action or small uncontrolled fluctuations existing in the wind channel produce many variations in the attack transients. Such variations due to the mouth tones give life to the perceived sound quality of the organ, an instrument where sound production is hardly influenced by the musician.