

ACOUSTICS2008/3510

Sound character ratings by experienced and naive listeners

Reinhard Weber^a and Hans Hansen^b

^aOldenburg University, Institute of Physics - Acoustics, Carl-von-Ossietzky Str. 9-11, 26111 Oldenburg, Germany

^bIRCAM - Sound Perception & Design, 1 place Igor Strawinsky, 75004 Paris, France

In the frame of a cross-cultural study on pitch perception of tones in noise, two different groups of participants took part in the listening tests in France. Trained in psycho-acoustic evaluation tasks, members of the laboratory belonged to the first group, whereas the second one consisted of naïve students. 25 stimuli with different tone-to-noise ratios were presented via headphones and, using a semantic differential of 14 adjective pairs, the participants made their judgements on common seven step scales. For both listening groups a PCA of the results led to the same three orthogonal dimensions of the perceptual spaces. They were identified in accordance to Namba's findings as 'pleasant', 'metallic' and 'powerful' factors with an interesting difference: For the trained, the 'metallic' factor, preferably describing the sound character, explained the largest amount of total variance as first factor. The 'pleasant' factor as 'evaluation' dimension took the second place and the 'powerful' factor ranked behind. However, the order of the first two factors was reversed for the untrained listeners. For them the variance of 'pleasant' factor was a bit higher compared to the 'metallic' factor. So the variance in sound character judgements was higher for the trained compared to the untrained listeners.