

# RECOGNIZE THE TUNE? A STUDY ON RAPID RECOGNITION OF CLASSICAL MUSIC

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## Background

Why are some compositions recognized by the first bar while others, equally familiar ones require much more time? Quickly recognized pieces may show catchy characteristics at their beginnings. Rapid recognition may also occur due to special contextual or personal knowledge of a piece (e.g., media effects). “Field” evidence from TV and radio game shows (such as “Ö3-Klang” in Austrian broadcasting) suggests that recognition times can be stupendously short.

## Aims

This study experimentally dealt with the following questions:

- (1) How quickly do subjects recognize classical pieces?
- (2) Why are some pieces recognized more quickly than others?
- (3) How do personal factors (musical expertise, age, ...) influence recognition speed?

## Method

Fifty subjects, all sufficiently familiar with classical music (listeners to orchestra professionals), were presented with the beginnings of 29 well-known pieces (from CD) and asked to stop each tune as soon as possible. To test whether identification was

correct, subjects had to sing or whistle a few more bars in order to exclude verbal memory effects. We additionally asked why they had recognized the piece, and about how often they had listened to it (CD, radio, concert, TV, etc.) within the past 12 months.

## Results

Average reaction times ranged from 1.1 to 10.4 s. The shortest individual reaction time was 0.1 s (“Thus Spoke Zarathustra”). One participant recognized Gould’s recording of the “Goldberg Variations” merely by the first tone. Subjective accounts of rapid recognition included structural and melody characteristics, instrumental timbres, and personal reasons (e.g., “daughter plays it on piano the whole day” – “Für Elise”). Individual familiarity effects generally dominate both structural factors (e.g., triads, large intervals, pompous intros) and personal factors.

## Conclusions

Examples of extremely rapid recognition demonstrate that minimal sequences of music contain impressive amounts of (potentially discriminative) information. Future studies should more systematically vary, and also actively modify, structural components and comparatively extend the scope to other styles.