Bibliography

[1] Carsten Finke, Nazli E. Esfahani, and Christoph J. Ploner. Preservation of musical memory in an amnesic professional cellist. *Current Biology*, 22(15):R591–R592, 2012.

KEY: Finke2012
ANNOTATION: BEHAVIOURAL
We have investigated a 68-year-old professional cellist, patient PM, who developed severe amnesia following encephalitis. Despite severe memory impairments, he performed like healthy musicians in various tests of recognition memory for music. These findings suggest that learning and retention of musical information depends on brain networks distinct from those involved in other types of episodic and semantic memory.

[2] M. Groussard, F. Viader, B. Landeau, B. Desgranges, F. Eustache, and H. Platel. Neural correlates underlying musical semantic memory. *Annals of the New York Academy of Sciences*, 1169:278–281, 2009.

KEY: Groussard2009
ANNOTATION: PET
We used PET imaging to determine the neural substrates that underlie musical semantic memory using different tasks and stimuli. The results of three PET studies revealed a greater involvement of the anterior part of the temporal lobe. Concerning clinical observations and our neuroimaging data, the musical lexicon (and most widely musical semantic memory) appears to be sustained by a temporo-prefrontal cerebral network involving right and left cerebral regions.

[3] Isabelle Peretz. Can we lose memory for music? A case of music agnosia in a nonmusician. *Journal of cognitive neuroscience*, 8(6):481–96, nov 1996.

KEY: Peretz1996
ANNOTATION: CASE STUDY
A follow-up study of a patient, C.N., with a severe auditory agnosia limited to music is reported. After bilateral temporal lobe damage, C.N., whose cognitive and speech functions are otherwise normal, is totally unable to identify or to experience a sense of familiarity with musical excerpts that were once highly familiar to her. However, she can recognize the lyrics that usually accompany the songs. She can also identify familiar sounds, such as animal cries. Thus, her agnosia appears highly specific to music. The results show that C.N. has now

recovered most perceptual skills and that despite a transient ability to exhibit knowledge of familiar music under restricted circumstances, she is markedly impaired at naming a tune and at judging its familiarity, as well as at memorizing familiar as well as novel music. This deficit was found to be not only modality-specific but music-specific as well. The findings suggest the existence of a perceptual memory that is specialized for music and that can be selectively damaged so as to prevent most forms of recognition ability.

[4] Isabelle Peretz and Max Coltheart. Modularity of music processing. *Nature neuroscience*, 6(7):688–691, 2003.

KEY: Peretz2003
ANNOTATION: THEORETICAL
they propose a modular functional architecture for music processing that comprises several component modules. The architecture also describes the pathways of information flow between modules. The model comes from case studies of brain-damaged patients

[5] Séverine Samson and Isabelle Peretz. Effects of prior exposure on music liking and recognition in patients with temporal lobe lesions. *Annals of the New York Academy of Sciences*, 1060:419–428, 2005.

KEY: Samson2005
ANNOTATION: BEHAVIOURAL
Prior exposure to music typically increases liking. We tested patients with either left (LTL) or right (RTL) temporal lobe lesions as well as normal control (NC) participants. The results in the affect task showed that NC and LTL participants preferred the studied over nonstudied melodies, thereby demonstrating an implicit exposure effect on liking judgments, whereas RTL patients failed to exhibit this effect. Explicit recognition was impaired in both LTL and RTL patients as compared to NC participants. On the basis of these findings, we suggest that RTL structures play a critical role in the formation of melody representations that support both priming and memory recognition, whereas LTL structures are more involved in the explicit retrieval of melodies. Furthermore, we were able to test an amnesic patient (PC) with bilateral lesions of the temporal lobe. In this case, the exposure effect on liking was also absent. However, repeated exposure to melodies was found to enhance both liking and recognition judgments. This remarkable sparing of memory observed through melody repetition suggests that extensive exposure may assist both implicit and explicit memory in the presence of global amnesia.