

DSV Seminars

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DIPARTIMENTO DI
SCIENZE DELLA VITA

PhD Program in Neural and Cognitive Sciences

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Emiciclo, Q Building – Via L. Giorgieri, 5

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Invited by Dr. Cinzia Chiandetti

Vocal learning, group chorusing and the evolution of rhythm

Human music and speech are peculiar behaviors: Although extremely common in man, they do not seem to confer any direct evolutionary advantage. In particular, many hypotheses have been proposed for the origins of rhythm, often in connection with vocal learning. Notably, behaviors that are homologous or analogous to human rhythm and speech can be found across a few animal species and developmental stages. Hence, investigating rhythm across species is not only interesting in itself, but it is crucial to unveil protomusical and protolinguistic behaviors present in early hominids. Here I show how three strands of research, partially neglected until now, could be particularly fruitful in shedding light on the evolution of rhythm and vocal learning. I will present rhythm experiments in marine mammals and primates, suggesting that rhythm research in non-human animals should rely more on the analysis of natural, spontaneous rhythmic behavior. Second, I will discuss the interplay between vocal anatomy and vocal development in harbor seal pups. Finally, I will show human experiments where musical rhythm is created and evolves culturally due to cognitive and motoric biases. These results show the importance of a tight interplay between biology and cultural transmission in the evolution of rhythm and vocal learning.

