



The Sonia and Marco Nadler Institute of Archaeology
The Jacob M. Alkow Department of Archaeology and Ancient Near Eastern Cultures
The Chaim Rosenberg School of Jewish Studies and Archaeology
The Lester and Sally Entin Faculty of Humanities

Organizer and moderator:
Ran Barkai, Tel-Aviv University

The Evolution of Culture and Technology

Mini Symposium

Thursday, December 8th 2022 | Room 496, Gilman Building, Tel-Aviv University

09:00 - Opening remarks

09:10 - Keynote lecture

The Evolution of Technology
Dietrich Stout | Department of Anthropology, Emory University

For zoom link for the keynote lecture only
[Click here](#)

10:00 - Discussion

10:30 - Break

Free attendance
Everyone is welcomed!

11:00-12:00

Short reflections part 1

Gene-culture coevolution in the cognitive domain
Arnon Lotem | Tel-Aviv University

Shaped stone balls: one of the oldest cases of cultural transmission?
Ella Assaf | Tel-Aviv University

Hafting as the mechanism shaping the evolution of lithic technology
Nira Alperson-Afil | Bar-Ilan University

Identifying technological traits with different visibility and malleability through 3D analysis
Leore Grosman | The Hebrew University

Things can only get better? Variability in technological refinement at late Acheulian Jaljulia
Tamar Rosenberg-Yefet | Independent scholar

Evolution with non-vertical cultural transmission
Yoav Ram | Tel-Aviv University

12:00-13:00

Short reflections part 2

Can we correlate Paleolithic cultural entities and genetic groups?
Viviane Slon | Tel-Aviv University

Behavioral ecology of aurochs hunting in the Middle Paleolithic Levant
Reuven Yeshurun | University of Haifa

What limited population sizes in the Middle Paleolithic, and what can we learn from these populations' prey choices?
Oren Kolodny | The Hebrew University

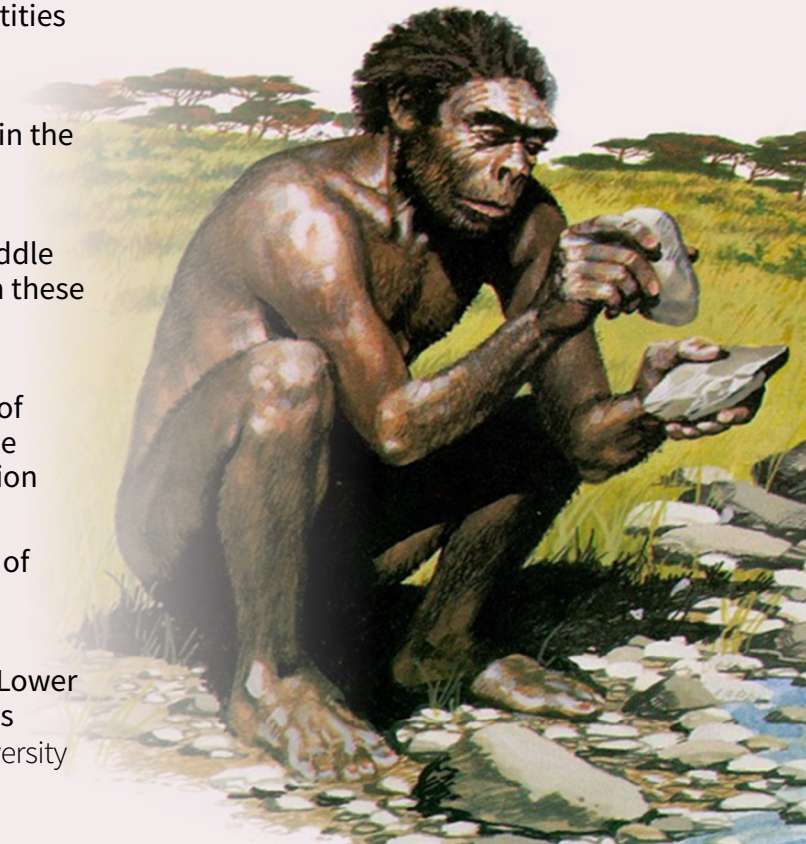
From tactics to strategy: The evolution of predetermined technology in the Middle Pleistocene and its reflection on cognition
Ron Shimelmitz | University of Haifa

News about Cleavers? A distinct aspect of cultural evolution
Gonen Sharon | Tel-Hai College

Identifying individual skill levels in the Lower Paleolithic: insights from Jaljulia bifaces
Sol Sánchez-Dehesa Galán | Tel-Aviv University

13:00-13:30

Discussion





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The Evolution of Technology

Dietrich Stout

Department of Anthropology
Emory University

For better or worse, humans are now one of the major causal forces acting on the earth's biosphere. Many would point to technology as the reason, but what exactly is technology? In this lecture, I will develop an evolutionarily grounded definition of technology that highlights three key features: material production, social collaboration, and cultural reproduction. Using examples from my own lab's studies of stone tool making, I will argue that these features implicate a wide range of perceptual, motor, and cognitive capacities as well as multiple channels of cultural inheritance and biocultural evolutionary processes. This perspective blurs presumed distinctions between social and individual learning that have shaped formal modeling approaches to cultural evolution. In so doing it calls into question the idea that one key capacity, event, or evolutionary Rubicon initiated cumulative technological evolution and a pattern of sustained autocatalytic biocultural feedback in human evolution. This interpretation is consistent with growing paleoanthropological and archaeological evidence of the multi-lineal, intermittent, asynchronous course of human evolution, and presents a view of technological evolution as a complex and contingent process spanning a scale from neurons to societies and beyond. Nevertheless, some synthesis may be possible with respect to a smaller number of recurring processes and relationships. In this vein, I advance a "Perceptual Motor Hypothesis" proposing that human technological cognition has been evolutionarily and developmentally constructed from ancient primate perceptual-motor systems for body awareness and engagement with the world. Testing such hypotheses will require a multidisciplinary and comparative approach to identify patterned relations between contexts, mechanisms, and functions across diverse technological systems.

