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ERC Advanced Grants for two research projects by Humboldt-Universität zu Berlin

Bernd U. Schipper from the Faculty of Theology and Bruno Klingler from the Faculty of Mathematics and Natural Sciences receive a total of 4.3 million euros of funding

Prof. Dr. Dr. Bernd U. Schipper, professor for History of Israel in its Ancient Near Eastern Context, and his team receive a total amount of 2.5 million euros for their project DEMBIB through an Advanced Grant by the European Research Council (ERC). For the first time, findings on the emergence and literary form of Demotic literature are associated to theories on the literary history of the Old Testament.

The project TAMEHODGE by the team of Prof. Dr. Bruno Klingler from the Department of Mathematics discloses a spectacular link between Hodge theory and tame geometry. It is funded by a maximum of 1.8 million euros by the ERC.

ERC Advanced Grants support excellent and investigator-initiated research projects by leading advanced researchers. Applicants must have a track-record of significant research achievements of the last 10 years. The maximum amount of funding is 2.5 million euros for 5 years with the possibility of an additional top-up of up to 1 million euros.

Egyptian Papyri and the Formation of the Hebrew Bible

The project DEMBIB (From Texts to Literature. Demotic Egyptian Papyri and the Formation of the Hebrew Bible) places the literary history of the Old Testament - the Hebrew Bible - in a new context. With the discovery of numerous papyri in Egyptian-Demotic script within the last 20 years, a text corpus has become available that originates in the immediate historical and geographical vicinity of the literature of ancient "Israel", but which has so far hardly been taken note of by Old Testament research.

Prof. Schipper and his interdisciplinary research team, consisting of demotists and Old Testament scholars, are for the first time linking findings on the emergence and literary form of Demotic literature with theories on the literary history of the Old Testament. The comparative approach of the project builds on the observation that the Hebrew as well as the Demotic texts emerged under comparable socio-historical conditions: Egypt and ancient "Israel" in the 5th-3rd centuries BCE were equally determined by foreign domination and international influences, which had a direct impact on the literary elites of the time.

The research project promises new insights into the literary techniques of the ancient scribes, who transmitted and transformed their respective scriptural traditions into larger works of history, prophecies oriented towards the future, and masterfully composed wisdom books. Thus, new answers can be found to questions that research on the Hebrew Bible's literary history has identified as particularly pressing, such as describing typical mechanisms in the redaction of the Old Testament books, clarifying the relationship between literary pre-stages (Vorstufen) and later textual versions, and the significance of scribal culture and (temple) schools.

Exploring transcendence of periods through tame geometry

The project TAMEHODGE (Tame geometry and transcendence in Hodge theory) plans to attack fundamental questions in Hodge theory using tools coming from mathematical logic.

Hodge theory, as developed around the 1970s, has become the main tool for understanding the geometry and arithmetic of complex algebraic varieties, that is, solution sets of algebraic equations over the complex numbers. It can be thought as a dramatic linearisation, which associates to any complex algebraic variety a very simple object: a finite dimensional complex vector space, which encodes the periods of differential forms on the variety. At the heart of the theory lies the fundamental fact that, although Hodge's theory produces very simple objects, it is not itself given by a simple algebraic recipe but requires transcendental operations. However, two major conjectures in mathematics, the Hodge conjecture and the Grothendieck period conjecture, predict that this transcendence is severely constrained.

Recent work of Prof. Klingler and his collaborators has shown the emergence of a spectacular link between Hodge theory and tame geometry. Tame geometry, whose possibility was suggested by Grothendieck in the 1980s and developed by logicians under the name o-minimal geometry, studies structures where every definable set has a finite geometric complexity. The goal of this project is to show that moderate geometry is the natural framework for Hodge theory, with major applications to the transcendence of periods, atypical intersections and non-abelian Hodge theory.

More information:

ERC press release: https://erc.europa.eu/news/erc-2020-advanced-grants-results

ERC Advanced Grants: https://erc.europa.eu/funding/advanced-grants

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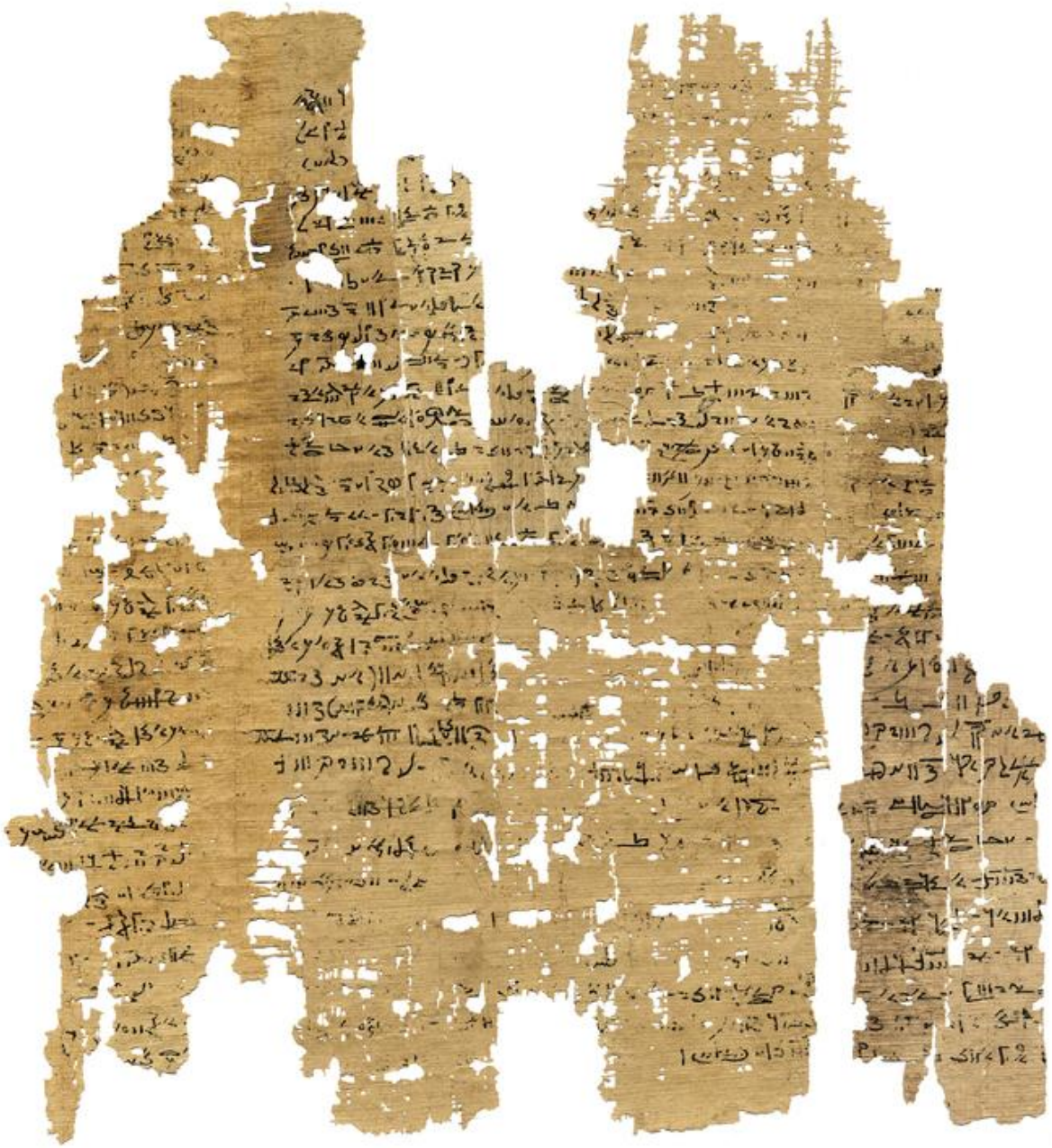

King Wenamun and the Arabian Kingdom of Lihyan (Papyrus Carlsberg 459)
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