# Do early stone tools indicate a hominin ability to accumulate culture?

## Fact Sheet

Project Information

**STONECULT**

Grant agreement ID: 714658

Project website

**DOI**
10.3030/714658

Project closed

**EC signature date**
3 February 2017

**Start date**
1 April 2017

**End date**
30 September 2022

**Funded under**
EXCELLENT SCIENCE - European Research Council (ERC)

**Total cost**
€ 1 499 837,00

**EU contribution**
€ 1 499 837,00

**Coordinated by**
EBERHARD KARLS UNIVERSITAET TUEBINGEN
Germany

## Objective

Cultural – not genetic – adaptations have allowed humans to colonise the planet. While discovering the roots of human culture has been described as one of the 125 most pressing scientific questions of our time (Science, 2005), it remains unclear when such forms of culture first arose in our lineage.
Previous research has argued that similar social learning mechanisms underlie modern human as well as early hominin technology. But the latter shows periods of stasis – suggesting the underlying mechanisms were different. A better model for

early hominins might be living non-human great apes. Instead of copying the behaviour from others with high fidelity (as modern humans do), ape approaches seem to be based on socially mediated individual reinventions (latent solutions; Tennie et al. 2009). Unlike high fidelity copying, latent solutions do not lead to 'cumulative cultural change', in which technological changes accrue over generations.
Latent solutions are thus a core candidate to account for early hominin stone tools because, among other things, they provide an explanation for their stasis. Using both a top-down and a bottom-up testing approach, STONECULT will experimentally test whether early stone tools are manifestations of cumulative culture – currently the null hypothesis in the field – or whether they are best accounted for with the latent solutions model. That is, STONECULT will evaluate whether early stone tools were more similar to modern ape or modern human technologies. The outcomes and conclusions of STONECULT will therefore inform several fields at once (e.g. anthropology, archaeology, comparative psychology, ethology and primatology). This proposal is the first to test the new latent solutions account of early stone tools. If its predictions are confirmed, then cumulative culture will have emerged millions of years later in our lineage than is currently assumed. STONECULT will radically transform our understanding of the evolution of human culture.

## Fields of science (EuroSciVoc)

natural sciences > biological sciences > zoology > mammalogy > **primatology**

natural sciences > physical sciences > astronomy > planetary sciences > **planets**

humanities > history and archaeology > **archaeology**

natural sciences > biological sciences > biological behavioural sciences > **ethology**

social sciences > sociology > anthropology > **physical anthropology**

## Keywords

Cumulative culture | innovation | tool use | tool making | cultural transmission | imitation

## Programme(s)

H2020-EU.1.1. - EXCELLENT SCIENCE - European Research Council (ERC) MAIN PROGRAMME

## Topic(s)

ERC-2016-STG - ERC Starting Grant

## Call for proposal

ERC-2016-STG

See other projects for this call

## Funding Scheme

ERC-STG - Starting Grant

## Host institution

**EBERHARD KARLS UNIVERSITAET TUEBINGEN**

Net EU contribution

**€ 1 499 837,00**

Total cost

**€ 1 499 837,00**

Address

**GESCHWISTER-SCHOLL-PLATZ**
**72074 Tuebingen**
**Germany**

Region

**Baden-Württemberg > Tübingen > Tübingen, Landkreis**

Activity type

**Higher or Secondary Education Establishments**

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

## Beneficiaries (1)

### EBERHARD KARLS UNIVERSITAET TUEBINGEN

Germany

Net EU contribution

**€ 1 499 837,00**

Address

**GESCHWISTER-SCHOLL-PLATZ**
**72074 Tuebingen**

Region

**Baden-Württemberg > Tübingen > Tübingen, Landkreis**

Activity type

**Higher or Secondary Education Establishments**

Links

Contact the organisation  Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

**€ 1 499 837,00**

**Last update:** 2 July 2024

**Permalink:** https://cordis.europa.eu/project/id/714658