Supplementary information

Data collection

Relevant documents were initially identified by searching by the academic databases Google Scholar and Web of Science. The search terms used for the initial search were “stone art*fact”, “lithic”, “3D model*ing”, “scanning” and “photogrammetry”. Additional texts were found by reviewing the publishing history of the lead author(s) of the initially identified documents and by searching for documents that cited those texts, or that were cited within them.

The full bibliographic data was then sourced from the academic database Web of Science. Articles were added to a Web of Science query using their DOIs (Digital Object Identifier), or when necessary, their title. All articles had their complete bibliographic metadata exported from Web of Science as *.txt file. This file was then initially imported into Bibliometrix Shiny app, then exported again as an *.xlsx file for data cleaning.

An issue common to all academic databases is that none are perfectly comprehensive (Harzing and Alakangas 2016). Twenty-eight identified articles were not listed on Web of Science. Journals with multiple identified articles that were not listed by Web of Science included the Journal of Computer Applications in Archaeology, PaleoAnthropology, and Quartär. The missing articles were added manually to the *.xlsx file. While it was not practical to completely reproduce the bibliometric data for the missing articles, data manually added included: Authors, Authors’ Keywords, Document Title, DOI, Language, Publication Year, Publication Source, and Times Cited (this number which was sourced from Google Scholar (and was correct as of the 26th May 2022).

Data cleaning was carried out on the *.xlsx file. The primary aim of this was to identify and combine synonyms in Authors’ Keywords (e.g. “Acheulean” and “Acheulian”), and to consolidate multiple names that represent a single author (e.g. “Porter S” and “Porter ST”). Even after data cleaning, preliminary co-word analysis of the Authors’ Keywords and Web of Science Indexing Keywords did not meaningfully discriminate between papers (see Table 1.).

Authors’ Keywords	**No. of Articles**	**WoS Keyword**	**No. of Articles**
lithic technology	19	*technology*	28
handaxe	18	*reduction*	17
acheulean	17	*archaeology*	16
3D scanning	14	*site*	15

geometric morphometrics	14	*evolution*	12

Table 1. List of 5 most common Authors' Keywords, Web of Science Indexing Keywords.

While these keywords might be appropriate for understanding the thematic and conceptual dynamics of archaeology as an academic field, they are not particularly meaningful for conceptual mapping of a specialised subfield like 3D lithic analysis. Rather, they reflect the fact that academic databases are multidisciplinary, and that bibliometric studies generally analyse much larger datasets; a recently published paper looked at a sample of 90 million peer-reviewed papers (Chu and Evans 2021). Instead, each paper was manually given an alternate set of keywords based on the following categories:

Thematic

This category included the following keywords: "archival"; "cognitive archaeology"; "cultural transmission"; "curation"; "diagnostic"; "fracture mechanics"; "functional"; "illustrative (function)"; "illustrative (methodology)"; "illustrative (morphology)"; "illustrative (reduction strategy)"; "illustrative (typology)"; "knapping skill"; "methodological (analytical)"; "methodological (illustrative)"; "methodological (modelling)"; "methodological (software)"; "open science"; "pedagogical"; "primate archaeology"; "raw material use"; "reduction strategy"; "review"; "social archaeology"; "standardisation"; "taphonomic"; "techno-morphological"; "typological"; "underwater archaeology". By necessity these keywords were broad, and were designed to capture the general conceptual focus of individual papers. "Methodological" and "illustrative" were divided into multiple keywords to better reflect the aims of individual papers.

Analysis

This category included keywords relating to the specific types of analysis that a paper utilised. The analysis categories were: "2D gmm"; "3D gmm"; "ballistic"; "core axes angle"; "core shape"; "cortex ratio"; "cross section"; "digital elevation model"; "edge analysis"; "edge angle"; "elliptical Fourier analysis"; "estimated reduction percentage"; "flaked area index"; "flake size"; "flake size"; "landmark morphometrics"; "platform angle"; "platform shape"; "radial point distribution"; "reduction intensity index"; "residue analysis"; "scar density index"; "scar pattern index"; "spatial distribution"; "surface area"; "symmetry"; "TCSA"; "terrain ruggedness index"; "TOCSA"; "usewear"; "volume"; "volumetric reconstruction method" etc.

Industry

Examples include: "Acheulean"; "Levallois"; "Upper Palaeolithic"; "First Nations American" etc. These terms were sourced directly from the paper.

Artefact

This category always included the generic keywords: “core”; “flake”; “retouched flake”; “point”; “biface”. From a materialist perspective (*sensu* Hiscock 2007) points are primarily retouched flakes, and almost all bifaces - used here as a generic terms for artefacts that are variously classified as bifaces, handaxes, large cutting tools, cleavers - are cores (or less commonly retouched flakes). However it was clear from an initial survey of the literature that both points and biface studies formed a significant and distinct component, and so were distinguished from other studies of retouched flakes and cores.

The category “other artefact/tool type” included flaked artefacts that did not fall clearly into those broad keywords (such as Polynesian adzes), ground stone artefacts and other non-flaked artefacts, and non-artefactual tools, e.g. “anvil”; “hammerstone”; “pounding tool” etc. The keyword “nodule” was also included for studies that made 3D models of unmodified raw material (e.g. Lin et al. 2019; Lin, McPherron and Dibble 2015; Peresani et al. 2021). Author designated terms, e.g. “handaxe”, “keilmesser”, “blade core”, “Clovis point” etc., were also included in this category.

Papers could have multiple keywords in each category. Additional information about whether the study included an experimental component, study region, modelling methodology, and analytical software used was also recorded for each paper.

Additionally, study region, study country and study site, 3D modelling method, analytical software used, and number of models produced was recorded for each paper.

Region of Study
The following regions were used: Australia, Central Asia; East Africa; East Asia, Europe; North Africa; North America; Pacific; South America; South Asia; South-east Asia; Southern Africa; West Africa; West Asia. Experimental studies were also recorded as a separate keyword in this category.

Site
Sites with multiple sub-designations, e.g. Ein Gev I, Ein Gev 2; were kept, but were also grouped under a single name, e.g. Ein Gev.

Papers could have multiple keywords in a single category. As an example, a paper could have both “experimental” and “West Asia” in the region category, if it included both experimental assemblage and archaeological material from Israel. Thematically a paper might be categorised as both “cognitive archaeology” and “reduction strategy”.

Additional information about modelling methodology, analytical software used and the total number of models was also recorded for each paper.

The earliest paper dated to 2002, and the most recent paper was published in 2022. No more papers were added to the datasets after May 2022. The final, clean dataset was then saved as a non-proprietary *.csv format format for archival purposes, and for combining in R to the Web of Science *.txt file.

Supplementary References

Chu, JSG and Evans, JA. 2021 Slowed canonical progress in large fields of science. *Proceedings of the National Academy of Sciences* 118(41): e2021636118. DOI: https://doi.org/10.1073/pnas.2021636118.

Harzing, A-W and Alakangas, S. 2016 Google Scholar, Scopus and the Web of Science: a longitudinal and cross-disciplinary comparison. *Scientometrics* 106(2): 787–804. DOI: https://doi.org/10.1007/s11192-015-1798-9.

Hiscock, P. 2007 Looking the other way: a materialist/technological approach to classifying tools and implements, cores and retouched flakes. In:. McPherron, SP (ed.). *Tool versus cores: alternative approaches to stone tool analysis*. Newcastle: Cambridge Scholars Publishing. pp. 198–222.

Lin, SC, McPherron, SP and Dibble, HL. 2015 Establishing statistical confidence in Cortex Ratios within and among lithic assemblages: a case study of the Middle Paleolithic of southwestern France. *Journal of Archaeological Science* 59: 89–109. DOI: https://doi.org/10.1016/j.jas.2015.04.004.

Lin, SC, Peng, F, Zwyns, N, Guo, J, Wang, H and Gao, X. 2019 Persistent local raw material transport at Shuidonggou Locality 2. *Archaeological Research in Asia* 20: 100142. DOI: https://doi.org/10.1016/j.ara.2019.100142.

Peresani, M, Bertola, S, Caricola, I, Nunziante Cesaro, S, Duches, R, Ferretti, P, Margaritora, D, Marrocchino, E, Eftekhari, N, Vaccaro, C, Zupancich, A and Cristiani, E. 2021 A taste for the unusual. Green, flat pebbles used by late Neanderthals. *Journal of Anthropological Archaeology* 64: 101368. DOI: https://doi.org/10.1016/j.jaa.2021.101368.

Dataset

Below is the bibliography of the dataset. It is divided into a bibliography on papers that use 3D models for analytical, archival, methodological, or pedagogical purposes and a bibliography where 3D models as solely used illustratively. The raw data used for the bibliometric analysis can be found here: https://doi.org/10.5281/zenodo.7037023.

Analytical, archival, methodological, or pedagogical bibliography

Abel, RL, Parfitt, S, Ashton, N, Lewis, SG, Scott, B and Stringer, C. 2011 Digital preservation and dissemination of ancient lithic technology with modern micro-CT. *Computers & Graphics* 35(4): 878–884. DOI: https://doi.org/10.1016/j.cag.2011.03.001.

Ahmed, N, Carter, M and Ferris, N. 2014 Sustainable archaeology through progressive assembly 3D digitization. *World Archaeology* 46(1): 137–154. DOI: https://doi.org/10.1080/00438243.2014.890911.

Altantsetseg, E, Muraki, Y, Chiba, F and Konno, K. 2011 3D Surface Reconstruction of Stone Tools by Using Four-Directional Measurement Machine. *International Journal of Virtual Reality* 10(1): 37–43. DOI: https://doi.org/10.20870/IJVR.2011.10.1.2800.

Archer, W, Djakovic, I, Brenet, M, Bourguignon, L, Presnyakova, D, Schlager, S, Soressi, M and McPherron, SP. 2021 Quantifying differences in hominin flaking technologies with 3D shape analysis. *Journal of Human Evolution* 150: 102912. DOI: https://doi.org/10.1016/j.jhevol.2020.102912.

Archer, W, Gunz, P, van Niekerk, KL, Henshilwood, CS and McPherron, SP. 2015 Diachronic Change within the Still Bay at Blombos Cave, South Africa. *PLOS ONE* 10(7): e0132428. DOI: https://doi.org/10.1371/journal.pone.0132428.

Archer, W, Pop, CM, Gunz, P and McPherron, SP. 2016 What is Still Bay? Human biogeography and bifacial point variability. *Journal of Human Evolution* 97: 58–72. DOI: https://doi.org/10.1016/j.jhevol.2016.05.007.

Archer, W, Pop, CM, Rezek, Z, Schlager, S, Lin, SC, Weiss, M, Dogandžić, T, Desta, D and McPherron, SP. 2018 A geometric morphometric relationship predicts stone flake shape

and size variability. *Archaeological and Anthropological Sciences* 10(8): 1991–2003. DOI: https://doi.org/10.1007/s12520-017-0517-2.

Arroyo, A and de la Torre, I. 2020 Pitted stones in the Acheulean from Olduvai Gorge Beds III and IV (Tanzania): a use-wear and 3D approach. *Journal of Human Evolution* 145: 102837. DOI: https://doi.org/10.1016/j.jhevol.2020.102837.

Barone, S, Neri, P, Paoli, A and Razionale, AV. 2018 Automatic technical documentation of lithic artefacts by digital techniques. *Digital Applications in Archaeology and Cultural Heritage* 11: e00087. DOI: https://doi.org/10.1016/j.daach.2018.e00087.

Barrett, BJ, Monteza-Moreno, CM, Dogandžić, T, Zwyns, N, Ibáñez, A and Crofoot, MC. 2018 Habitual stone-tool-aided extractive foraging in white-faced capuchins, Cebus capucinus. *Royal Society Open Science* 5(8): 181002. DOI: https://doi.org/10.1098/rsos.181002.

Benito-Calvo, A, Carvalho, S, Arroyo, A, Matsuzawa, T and de la Torre, I. 2015 First GIS analysis of modern stone tools used by wild chimpanzees (Pan troglodytes verus) in Bossou, Guinea, West Africa. *PLOS ONE* 10(3): e0121613. DOI: https://doi.org/10.1371/journal.pone.0121613.

Benito-Calvo, A, Crittenden, AN, Livengood, SV, Sánchez-Romero, L, Martínez-Fernández, A, de la Torre, I and Pante, M. 2018 3D 360° surface morphometric analysis of pounding stone tools used by Hadza foragers of Tanzania: a new methodological approach for studying percussive stone artefacts. *Journal of Archaeological Science: Reports* 20: 611–621. DOI: https://doi.org/10.1016/j.jasrep.2018.06.003.

Benjamin, J, O'Leary, M, McDonald, J, Wiseman, C, McCarthy, J, Beckett, E, Morrison, P, Stankiewicz, F, Leach, J, Hacker, J, Baggaley, P, Jerbić, K, Fowler, M, Fairweather, J, Jeffries, P, Ulm, S and Bailey, G. 2020 Aboriginal artefacts on the continental shelf reveal ancient drowned cultural landscapes in northwest Australia. *PLOS ONE* 15(7): e0233912. DOI: https://doi.org/10.1371/journal.pone.0233912.

Bleed, P, Douglass, M, Sumner, A, Behrendt, M and Mackay, A. 2017 Photogrammetrical Assessment of Procedural Patterns and Sequential Structure in "Handaxe"

Manufacture: A Case Study along the Doring River of South Africa. *Lithic Technology* 42(1): 3–12. DOI: https://doi.org/10.1080/01977261.2016.1265205.

Boulanger, MT, Miller, GL and Fisher, P. 2021 A collection of early Holocene flaked-stone crescents from the northern Great Basin. *Journal of Archaeological Science: Reports* 37: 103005. DOI: https://doi.org/10.1016/j.jasrep.2021.103005.

Bretzke, K and Conard, NJ. 2012 Evaluating morphological variability in lithic assemblages using 3D models of stone artifacts. *Journal of Archaeological Science* 39(12): 3741–3749. DOI: https://doi.org/10.1016/j.jas.2012.06.039.

Cardillo, M, Charlin, J, Arriaga, LC, Corada, JPD, Moreno, E, González-José, R and Shott, M. 2021 Functional efficiency and life history of Late Holocene lithic points from southern Patagonia: An experimental estimation using survival curves models. *Journal of Archaeological Science: Reports* 38: 103023. DOI: https://doi.org/10.1016/j.jasrep.2021.103023.

Caricola, I, Zupancich, A, Moscone, D, Mutri, G, Falcucci, A, Duches, R, Peresani, M and Cristiani, E. 2018 An integrated method for understanding the function of macro-lithic tools. Use wear, 3D and spatial analyses of an Early Upper Palaeolithic assemblage from North Eastern Italy. *PLOS ONE* 13(12): e0207773. DOI: https://doi.org/10.1371/journal.pone.0207773.

Caruana, M. 2022 Extrapolating Later Acheulian handaxe reduction sequences in South Africa: a case study from the Cave of Hearths and Amanzi Springs. *Lithic Technology* 47(1): 1–12. DOI: https://doi.org/10.1080/01977261.2021.1924452.

Caruana, MV. 2017 Lithic Production Strategies in the Oldowan Assemblages from Sterkfontein Member 5 and Swartkrans Member 1, Gauteng Province, South Africa. *Journal of African Archaeology* 15(1): 1–19. DOI: https://doi.org/10.1163/21915784-12340001.

Caruana, MV. 2020 South African handaxes reloaded. *Journal of Archaeological Science: Reports* 34: 102649. DOI: https://doi.org/10.1016/j.jasrep.2020.102649.

Caruana, MV. 2021 Pilot study comparing the effects of thinning processes on the cross-sectional morphologies of Early and Late Acheulian handaxes. *Archaeometry* 63(3): 481–499. DOI: https://doi.org/10.1111/arcm.12635.

Caruana, MV, Carvalho, S, Braun, DR, Presnyakova, D, Haslam, M, Archer, W, Bobe, R and Harris, JWK. 2014 Quantifying traces of tool use: a novel morphometric analysis of damage patterns on percussive tools. *PLOS ONE* 9(11): e113856. DOI: https://doi.org/10.1371/journal.pone.0113856.

Caruana, MV and Herries, AIR. 2021 Modelling production mishaps in later Acheulian handaxes from the Area 1 excavation at Amanzi Springs (Eastern Cape, South Africa) and their effects on reduction and morphology. *Journal of Archaeological Science: Reports* 39: 103121. DOI: https://doi.org/10.1016/j.jasrep.2021.103121.

Chacón, MG, Détroit, F, Coudenneau, A and Moncel, M-H. 2016 Morphometric assessment of convergent tool technology and function during the Early Middle Palaeolithic: the case of Payre, France. *PLOS ONE* 11(5): e0155316. DOI: https://doi.org/10.1371/journal.pone.0155316.

Clarkson, C. 2013 Measuring core reduction using 3D flake scar density: a test case of changing core reduction at Klasies River Mouth, South Africa. *Journal of Archaeological Science* 40(12): 4348–4357. DOI: https://doi.org/10.1016/j.jas.2013.06.007.

Clarkson, C and Hiscock, P. 2011 Estimating original flake mass from 3D scans of platform area. *Journal of Archaeological Science* 38: 1062–1068. DOI: https://doi.org/10.1016/j.jas.2010.12.001.

Clarkson, C, Shipton, C and Weisler, M. 2014 Determining the reduction sequence of Hawaiian quadrangular adzes using 3D approaches: a case study from Moloka'i. *Journal of Archaeological Science* 49: 361–371. DOI: https://doi.org/10.1016/j.jas.2014.05.031.

Cristiani, E, Zupancich, A, Duches, R, Carra, M, Caricola, I, Fontana, A, Flor, E and Fontana, F. 2021 Non-flaked stones used in the Mesolithic Eastern Alpine Region: A functional assessment from Romagnano Loc III and Pradestel sites. *Journal of*

Archaeological Science: Reports 37: 102928. DOI: https://doi.org/10.1016/j.jasrep.2021.102928.

Davis, LG, Bean, DW and Nyers, AJ. 2017 Morphometric and technological attributes of Western Stemmed Tradition projectile points revealed in a second artifact cache from the Cooper's Ferry Site, Idaho. *American Antiquity* 82(3): 536–557. DOI: https://doi.org/10.1017/aaq.2017.9.

Davis, LG, Bean, DW, Nyers, AJ and Brauner, DR. 2015 GLiMR: a GIS-based method for the geometric-morphometric analysis of artifacts. *Lithic Technology* 40(3): 199–217. DOI: https://doi.org/10.1179/2051618515Y.0000000007.

Delpiano, D, Cocilova, A, Zangrossi, F and Peresani, M. 2019 Potentialities of the virtual analysis of lithic refitting: case studies from the Middle and Upper Paleolithic. *Archaeological and Anthropological Sciences* 11(9): 4467–4489. DOI: https://doi.org/10.1007/s12520-019-00779-7.

Delpiano, D, Gennai, J and Peresani, M. 2021 Techno-functional implication on the production of discoid and Levallois backed implements. *Lithic Technology* 46(3): 171–191. DOI: https://doi.org/10.1080/01977261.2021.1886487.

Delpiano, D and Peresani, M. 2017 Exploring Neanderthal skills and lithic economy. The implication of a refitted Discoid reduction sequence reconstructed using 3D virtual analysis. *Comptes Rendus Palevol* 16(8): 865–877. DOI: https://doi.org/10.1016/j.crpv.2017.06.008.

Delpiano, D, Peresani, M and Pastoors, A. 2017 The contribution of 3D visual technology to the study of Palaeolithic knapped stones based on refitting: an application. *Digital Applications in Archaeology and Cultural Heritage* 4: 28–38. DOI: https://doi.org/10.1016/j.daach.2017.02.002.

Delpiano, D and Uthmeier, T. 2020 Techno-functional and 3D shape analysis applied for investigating the variability of backed tools in the Late Middle Paleolithic of Central Europe. *PLOS ONE* 15(8): e0236548. DOI: https://doi.org/10.1371/journal.pone.0236548.

Di Maida, G and Hageneuer, S. 2022 The DISAPALE Project: a new digital repository of lithic and bone artefacts. *Lithic Technology* DOI: https://doi.org/10.1080/01977261.2022.2048511.

Dietrich, L and Haibt, M. 2020 Bread and porridge at Early Neolithic Göbekli Tepe: a new method to recognize products of cereal processing using quantitative functional analyses on grinding stones. *Journal of Archaeological Science: Reports* 33: 102525. DOI: https://doi.org/10.1016/j.jasrep.2020.102525.

Diez-Martín, F, Wynn, T, Sánchez-Yustos, P, Duque, J, Fraile, C, de Francisco, S, Uribelarrea, D, Mabulla, A, Baquedano, E and Domínguez-Rodrigo, M. 2019 A faltering origin for the Acheulean? Technological and cognitive implications from FLK West (Olduvai Gorge, Tanzania). *Quaternary International* 526: 49–66. DOI: https://doi.org/10.1016/j.quaint.2019.09.023.

Dogandžić, T, Abdolazadeh, A, Leader, G, Li, L, McPherron, SP, Tennie, C and Dibble, HL. 2020 The results of lithic experiments performed on glass cores are applicable to other raw materials. *Archaeological and Anthropological Sciences* 12(2): 44. DOI: https://doi.org/10.1007/s12520-019-00963-9.

Douglass, M, Kuhnel, D, Magnani, M, Hittner, L, Chodoronek, M and Porter, S. 2017 Community outreach, digital heritage and private collections: a case study from the North American Great Plains. *World Archaeology* 49(5): 623–638. DOI: https://doi.org/10.1080/00438243.2017.1309299.

Dubreuil, L, Ovadia, A, Shahack-Gross, R and Grosman, L. 2019 Evidence of ritual breakage of a ground stone tool at the Late Natufian site of Hilazon Tachtit cave (12,000 years ago). *PLOS ONE* 14(10): e0223370. DOI: https://doi.org/10.1371/journal.pone.0223370.

Falcucci, A, Karakostis, FA, Göldner, D and Peresani, M. 2022 Bringing shape into focus: assessing differences between blades and bladelets and their technological significance in 3D form. *Journal of Archaeological Science: Reports* 43: 103490. DOI: https://doi.org/10.1016/j.jasrep.2022.103490.

Falcucci, A and Peresani, M. 2019 A pre-Heinrich Event 3 assemblage at Fumane Cave and its contribution for understanding the beginning of the Gravettian in Italy. *Quartär* 66: 135–154. DOI: https://doi.org/10.7485/QU66_6.

Falcucci, A and Peresani, M. 2022 The contribution of integrated 3D model analysis to Protoaurignacian stone tool design. *PLOS ONE* 17(5): e0268539. DOI: https://doi.org/10.1371/journal.pone.0268539.

Feizi, N, Vahdati Nasab, H and Wynn, T. 2018 Consider the third dimension: A new approach for measuring the symmetry of the middle Paleolithic points of the Mirak Site. *Comptes Rendus Palevol* 17(6): 388–398. DOI: https://doi.org/10.1016/j.crpv.2017.11.004.

Feizi, N, Vahdati Nasab, H and Wynn, T. 2020 New approach to analysis the Middle Paleolithic points of the Iranian Plateau: style vs. environment. *Lithic Technology* 45(1): 19–37. DOI: https://doi.org/10.1080/01977261.2019.1686563.

Felicísimo, ÁM, Polo, M-E and Peris, JA. 2013 Three-Dimensional Models of Archaeological Objects: From Laser Scanners to Interactive PDF Documents. *Technical Briefs in Historical Archaeology* 7: 13–18.

Forestier, H, Zhou, Y, Sophady, H, Li, Y, Codeluppi, D, Auetrakulvit, P and Zeitoun, V. 2022a The first lithic industry of mainland Southeast Asia: Evidence of the earliest hominin in a tropical context. *Industries archaïques* 126(1): 102996. DOI: https://doi.org/10.1016/j.anthro.2022.102996.

Forestier, H, Zhou, Y, Viallet, C, Auetrakulvit, P, Li, Y and Sophady, H. 2022b Reduction sequences during the Hoabinhian technocomplex in Cambodia and Thailand: a new knapping strategy in Southeast Asia from the Terminal Upper Pleistocene to mid Holocene. *Lithic Technology* 47(2): 147–170. DOI: https://doi.org/10.1080/01977261.2021.1981654.

García-Medrano, P, Ashton, N, Moncel, M-H and Ollé, A. 2020a The WEAP Method: a new age in the analysis of the Acheulean handaxes. *Journal of Paleolithic Archaeology* 3(4): 756–793. DOI: https://doi.org/10.1007/s41982-020-00054-5.

García-Medrano, P, Despriée, J and Moncel, M-H. 2022 Innovations in Acheulean biface production at la Noira (France) during Middle Pleistocene in Western Europe. *Archaeological and Anthropological Sciences* 14(4): 69. DOI: https://doi.org/10.1007/s12520-022-01506-5.

García-Medrano, P, Maldonado-Garrido, E, Ashton, N and Ollé, A. 2020b Objectifying processes: the use of geometric morphometrics and multivariate analyses on Acheulean tools. *Journal of Lithic Studies* 7(1): . DOI: https://doi.org/10.2218/jls.4327.

García-Medrano, P, Ollé, A, Ashton, N and Roberts, MB. 2019 The mental template in handaxe manufacture: new insights into Acheulean lithic technological behavior at Boxgrove, Sussex, UK. *Journal of Archaeological Method and Theory* 26(1): 396–422. DOI: https://doi.org/10.1007/s10816-018-9376-0.

García-Medrano, P, Pedergnana, A, Asryan, L, Ollé, A and Benito-Calvo, A. 2018 The quartzite cleavers from Atapuerca (Burgos, Spain): the standardization of shape. *Butlletí Arqueològic* 40: 33–39.

Gill, JP, Adler, DS, Raczynski-Henk, Y, Frahm, E, Sherriff, JE, Wilkinson, KN and Gasparyan, B. 2021 The Techno-typological and 3D-GM Analysis of Hatis-1: a Late Acheulian Open-Air Site on the Hrazdan-Kotayk Plateau, Armenia. *Journal of Paleolithic Archaeology* 4(4): 29. DOI: https://doi.org/10.1007/s41982-021-00105-5.

Gingerich, JAM, Sholts, SB, Wärmländer, SKTS and Stanford, D. 2014 Fluted point manufacture in eastern North America: an assessment of form and technology using traditional metrics and 3D digital morphometrics. *World Archaeology* 46(1): 101–122.

Göldner, D, Karakostis, FA and Falcucci, A. 2022 Practical and technical aspects for the 3D scanning of lithic artefacts using micro-computed tomography techniques and laser light scanners for subsequent geometric morphometric analysis. Introducing the StyroStone protocol. *PLOS ONE* 17(4): e0267163. DOI: https://doi.org/10.1371/journal.pone.0267163.

Goren-Inbar, N, Belfer-Cohen, A, Grosman, L, Herzlinger, G and Agam, A. 2022 Kaizer Hill (Modi'in), a Pre-Pottery Neolithic A quarry site – the terraced slopes. *PLOS ONE* 17(3): e0265727. DOI: https://doi.org/10.1371/journal.pone.0265727.

Goren-Inbar, N, Grosman, L and Sharon, G. 2011 The technology and significance of the Acheulian giant cores of Gesher Benot Ya'aqov, Israel. *Journal of Archaeological Science* 38(8): 1901–1917. DOI: https://doi.org/10.1016/j.jas.2011.03.037.

Grosman, L, Goldsmith, Y and Smilansky, U. 2011 Morphological analysis of Nahal Zihor handaxes: a chronological perspective. *PaleoAnthropology* 2011: 203–215.

Grosman, L, Karasik, A, Harush, O and Smilansky, U. 2014 Archaeology in three dimensions: computer-based methods in archaeological research. *Journal of Eastern Mediterranean Archaeology and Heritage Studies* 2(1): 48–64.

Grosman, L, Sharon, G, Goldman-Neuman, T, Smikt, O and Smilansky, U. 2011 Studying post depositional damage on Acheulian bifaces using 3-D scanning. *Journal of Human Evolution* 60(4): 398–406. DOI: https://doi.org/10.1016/j.jhevol.2010.02.004.

Grosman, L, Smikt, O and Smilansky, U. 2008 On the application of 3-D scanning technology for the documentation and typology of lithic artifacts. *Journal of Archaeological Science* 35: 3101–3110. DOI: https://doi.org/10.1016/j.jas.2008.06.011.

Haslam, M, Gumert, MD, Biro, D, Carvalho, S and Malaivijitnond, S. 2013 Use-wear patterns on wild macaque stone tools reveal their behavioural history. *PLOS ONE* 8(8): e72872. DOI: https://doi.org/10.1371/journal.pone.0072872.

Herzlinger, G and Goren-Inbar, N. 2019 Do a few tools necessarily mean a few people? A techno-morphological approach to the question of group size at Gesher Benot Ya'aqov, Israel. *Journal of Human Evolution* 128: 45–58. DOI: https://doi.org/10.1016/j.jhevol.2018.11.008.

Herzlinger, G and Goren-Inbar, N. 2020 Beyond a cutting edge: a morpho-technological analysis of Acheulian handaxes and cleavers from Gesher Benot Ya'aqov, Israel. *Journal of Paleolithic Archaeology* 3(1): 33–58. DOI: https://doi.org/10.1007/s41982-019-00033-5.

Herzlinger, G, Goren-Inbar, N and Grosman, L. 2017 A new method for 3D geometric morphometric shape analysis: the case study of handaxe knapping skill. *Journal of Archaeological Science: Reports* 14: 163–173. DOI: https://doi.org/10.1016/j.jasrep.2017.05.013.

Herzlinger, G and Grosman, L. 2018 AGMT3-D: a software for 3-D landmarks-based geometric morphometric shape analysis of archaeological artifacts. *PloS one* 13(11): e0207890–e0207890. DOI: https://doi.org/10.1371/journal.pone.0207890.

Herzlinger, G, Varanda, A, Deschamps, M, Brenet, M, Lopez-Tascon, C and Goren-Inbar, N. 2021 Reevaluation of the classification scheme of the Acheulian in the Levant - 50 years later: a morpho-technological analysis of handaxe variability. *PaleoAnthropology* DOI: https://doi.org/10.48738/2021.iss1.70.

Jennings, C and Weisler, M. 2020 Adapting Polynesian adze technology to new raw material at Tiwai Point, Murihiku, New Zealand. *Lithic Technology* 45(4): 247–262. DOI: https://doi.org/10.1080/01977261.2020.1782591.

Kaňáková, L, Bátora, J and Nosek, V. 2019 Use-wear and ballistic analyses of arrowheads from the burial ground of the Nitra culture in Ludanice - Mýtna Nová Ves. *Journal of Archaeological Science: Reports* 23: 25–35. DOI: https://doi.org/10.1016/j.jasrep.2018.09.028.

Kaňáková, L, Bátora, J and Nosek, V. 2020 Use-wear and ballistic analysis of arrowheads from the burial ground of Nitra culture in Holešov–Zdražilovska, Moravia. *Journal of Archaeological Science: Reports* 29: 102126. DOI: https://doi.org/10.1016/j.jasrep.2019.102126.

Kaňáková, L, Mazáčková, J, Nosek, V and Huta, P. 2022 External and terminal ballistics of early Bronze Age lithic arrowheads: experimental verification. *Lithic Technology* 0(0): 1–16. DOI: https://doi.org/10.1080/01977261.2022.2040139.

Kolobova, KA, Roberts, RG, Chabai, VP, Jacobs, Z, Krajcarz, MT, Shalagina, AV, Krivoshapkin, AI, Li, B, Uthmeier, T, Markin, SV, Morley, MW, O'Gorman, K, Rudaya, NA, Talamo, S, Viola, B and Derevianko, AP. 2020 Archaeological evidence for two

separate dispersals of Neanderthals into southern Siberia. *Proceedings of the National Academy of Sciences* 117(6): 2879–2885. DOI: https://doi.org/10.1073/pnas.1918047117.

Li, H, Kuman, K, Leader, GM and Couzens, R. 2018 Handaxes in South Africa: two case studies in the early and later Acheulean. *Quaternary International* 480: 29–42. DOI: https://doi.org/10.1016/j.quaint.2016.08.025.

Li, H, Kuman, K and Li, C. 2015 Quantifying the reduction intensity of handaxes with 3D technology: a pilot study on handaxes in the Danjiangkou Reservoir Region, Central China. *PLOS ONE* 10(9): e0135613. DOI: https://doi.org/10.1371/journal.pone.0135613.

Li, H, Kuman, K and Li, C. 2016 The symmetry of handaxes from the Danjiangkou Reservoir Region (central China): a methodological consideration. *Quaternary International* 400: 65–72. DOI: https://doi.org/10.1016/j.quaint.2015.05.033.

Li, H, Kuman, K, Lotter, MG, Leader, GM and Gibbon, RJ. 2017 The Victoria West: earliest prepared core technology in the Acheulean at Canteen Kopje and implications for the cognitive evolution of early hominids. *Royal Society Open Science* 4(6): 170288. DOI: https://doi.org/10.1098/rsos.170288.

Li, H, Lei, L, Li, D, Lotter, MG and Kuman, K. 2021 Characterizing the shape of Large Cutting Tools from the Baise Basin (South China) using a 3D geometric morphometric approach. *Journal of Archaeological Science: Reports* 36: 102820. DOI: https://doi.org/10.1016/j.jasrep.2021.102820.

Lin, SC, McPherron, SP and Dibble, HL. 2015 Establishing statistical confidence in Cortex Ratios within and among lithic assemblages: a case study of the Middle Paleolithic of southwestern France. *Journal of Archaeological Science* 59: 89–109. DOI: https://doi.org/10.1016/j.jas.2015.04.004.

Lin, SC, Peng, F, Zwyns, N, Guo, J, Wang, H and Gao, X. 2019 Detecting patterns of local raw material utilization among informal lithic assemblages at the late Paleolithic site of

Shuidonggou Locality 2 (China). *Archaeological Research in Asia* 17: 137–148. DOI: https://doi.org/10.1016/j.ara.2018.11.003.

Lin, SCH, Douglass, MJ, Holdaway, SJ and Floyd, B. 2010 The application of 3D laser scanning technology to the assessment of ordinal and mechanical cortex quantification in lithic analysis. *Journal of Archaeological Science* 37(4): 694–702. DOI: https://doi.org/10.1016/j.jas.2009.10.030.

Lombao, D, Cueva-Temprana, A, Mosquera, M and Morales, JI. 2020 A new approach to measure reduction intensity on cores and tools on cobbles: the Volumetric Reconstruction Method. *Archaeological and Anthropological Sciences* 12(9): 222. DOI: https://doi.org/10.1007/s12520-020-01154-7.

Lombao, D, Cueva-Temprana, A, Rabuñal, JR, Morales, JI and Mosquera, M. 2019 The effects of blank size and knapping strategy on the estimation of core's reduction intensity. *Archaeological and Anthropological Sciences* 11(10): 5445–5461. DOI: https://doi.org/10.1007/s12520-019-00879-4.

Longo, L, Altieri, S, Birarda, G, Cagnato, C, Graziani, V, Obada, T, Pantyukhina, I, Ricci, P, Skakun, N, Sorrentino, G, Terekhina, V, Tortora, L, Vaccari, L and Lubritto, C. 2021 A Multi-Dimensional Approach to Investigate Use-Related Biogenic Residues on Palaeolithic Ground Stone Tools. *Environmental Archaeology* 0(0): 1–29. DOI: https://doi.org/10.1080/14614103.2021.1975252.

Luncz, LV, Proffitt, T, Kulik, L, Haslam, M and Wittig, RM. 2016 Distance-decay effect in stone tool transport by wild chimpanzees. *Proceedings of the Royal Society B: Biological Sciences* 283(1845): 20161607. DOI: https://doi.org/10.1098/rspb.2016.1607.

Magnani, M. 2014 Three-dimensional alternatives to lithic illustration. *Advances in Archaeological Practice* 2(4): 285–297. DOI: https://doi.org/10.7183/2326-3768.2.4.285.

Magnani, M, Douglass, M and Porter, ST. 2016 Closing the seams: resolving frequently encountered issues in photogrammetric modelling. *Antiquity* 90(354): 1654–1669. DOI: https://doi.org/10.15184/aqy.2016.211.

Malinsky-Buller, A, Grosman, L and Marder, O. 2011 A case of techno-typological lithic variability & continuity in the late Lower Palaeolithic. *Before Farming* 2011(1): 1–33. DOI: https://doi.org/10.3828/bfarm.2011.1.3.

Maloney, T and O'Connor, S. 2014 Backed points in the Kimberley: revisiting the north-south division for backed artefact production in Australia. *Australian Archaeology* 79(1): 146–155. DOI: https://doi.org/10.1080/03122417.2014.11682031.

Maloney, TR. 2020 Experimental and archaeological testing with 3D laser scanning reveals the limits of I/TMC as a reduction index for global scraper and point studies. *Journal of Archaeological Science: Reports* 29: 102068. DOI: https://doi.org/10.1016/j.jasrep.2019.102068.

Martínez-Moreno, J, Mora Torcal, R, Benito-Calvo, A, Roy Sunyer, M and Sánchez-Martínez, J. 2019 A bunch of refits: 497D blade knapping assemblage of the Early Upper Paleolithic in Cova Gran (Northeast Iberia). *Archaeological and Anthropological Sciences* 11(9): 4585–4600. DOI: https://doi.org/10.1007/s12520-018-0726-3.

McPherron, SP, Abdolahzadeh, A, Archer, W, Chan, A, Djakovic, I, Dogandžić, T, Leader, GM, Li, L, Lin, S, Magnani, M, Reeves, J, Rezek, Z and Weiss, M. 2020 Introducing platform surface interior angle (PSIA) and its role in flake formation, size and shape. *PLOS ONE* 15(11): e0241714. DOI: https://doi.org/10.1371/journal.pone.0241714.

Morales, JI. 2016 Distribution patterns of stone-tool reduction: Establishing frames of reference to approximate occupational features and formation processes in Paleolithic societies. *Journal of Anthropological Archaeology* 41: 231–245. DOI: https://doi.org/10.1016/j.jaa.2016.01.004.

Morales, JI, Lorenzo, C and Vergès, JM. 2015 Measuring retouch intensity in lithic tools: a new proposal using 3D scan data. *Journal of Archaeological Method and Theory* 22(2): 543–558. DOI: https://doi.org/10.1007/s10816-013-9189-0.

Morales, JI, Soto, M, Lorenzo, C and Vergès, JM. 2015 The evolution and stability of stone tools: the effects of different mobility scenarios in tool reduction and shape features.

Journal of Archaeological Science: Reports 3: 295–305. DOI: https://doi.org/10.1016/j.jasrep.2015.06.019.

Muller, A and Clarkson, C. 2014 Estimating original flake mass on blades using 3D platform area: problems and prospects. *Journal of Archaeological Science* 52: 31–38. DOI: https://doi.org/10.1016/j.jas.2014.08.025.

Muller, A and Clarkson, C. 2016 A new method for accurately and precisely measuring flake platform area. *Journal of Archaeological Science: Reports* 8: 178–186. DOI: https://doi.org/10.1016/j.jasrep.2016.06.015.

Nolan, KC, Shott, MJ and Olson, E. 2022 The Central Ohio Archaeological Digitization Survey: a demonstration of amplified public good from collaboration with private collectors. *Advances in Archaeological Practice* 10(1): 83–90. DOI: https://doi.org/10.1017/aap.2021.33.

Nosek, V and Kaňáková, L. 2021 Analytical potential of 3D data in the ballistic analyses of lithic projectiles. *Journal of Archaeological Science: Reports* 38: 103042. DOI: https://doi.org/10.1016/j.jasrep.2021.103042.

Olson, BR, Gordon, JM, Runnels, C and Chomyszak, S. 2014 Experimental Three-Dimensional Printing of a Lower Palaeolithic Handaxe: An Assessment of the Technology and Analytical Value. *Lithic Technology* 39(3): 162–172. DOI: https://doi.org/10.1179/2051618514Y.0000000004.

Paixão, E, Pedergnana, A, Marreiros, J, Dubreuil, L, Prévost, M, Zaidner, Y, Carver, G and Gneisinger, W. 2021 Using mechanical experiments to study ground stone tool use: exploring the formation of percussive and grinding wear traces on limestone tools. *Journal of Archaeological Science: Reports* 37: 102971. DOI: https://doi.org/10.1016/j.jasrep.2021.102971.

Peresani, M, Bertola, S, Caricola, I, Nunziante Cesaro, S, Duches, R, Ferretti, P, Margaritora, D, Marrocchino, E, Eftekhari, N, Vaccaro, C, Zupancich, A and Cristiani, E. 2021 A taste for the unusual. Green, flat pebbles used by late Neanderthals. *Journal of*

Anthropological Archaeology 64: 101368. DOI: https://doi.org/10.1016/j.jaa.2021.101368.

Pérez-Balarezo, A, Navarro-Harris, X, Boëda, E and Pino, M. 2022 Beyond the mighty projectile point: techno-functional study in a Late Pleistocene artifact, Pilauco Site, Osorno, northwestern Chilean Patagonia. *Lithic Technology* 47(2): 83–105. DOI: https://doi.org/10.1080/01977261.2021.1958133.

Porter, ST, Roussel, M and Soressi, M. 2016 A simple photogrammetry rig for the reliable creation of 3D artifact models in the field: lithic examples from the Early Upper Paleolithic sequences of Les Cottés (France). *Advances in Archaeological Practice* 4(1): 71–86. DOI: https://doi.org/10.7183/2326-3768.4.1.71.

Porter, ST, Roussel, M and Soressi, M. 2019 A comparison of Châtelperronian and Protoaurignacian core technology using data derived from 3D models. *Journal of Computer Applications in Archaeology* 2(1): 41–55. DOI: https://doi.org/10.5334/jcaa.17.

Prentiss, AM, Walsh, MJ, Barnett, KD, Murphy, M-M and Kuenstle, J. 2015 The coarse volcanic rock industry at Rio Ibáñez 6 West, Aisén Region, Patagonian Chile. *Lithic Technology* 40(2): 112–127. DOI: https://doi.org/10.1179/2051618515Y.0000000002.

Presnyakova, D, Braun, DR, Conard, NJ, Feibel, C, Harris, JWK, Pop, CM, Schlager, S and Archer, W. 2018 Site fragmentation, hominin mobility and LCT variability reflected in the early Acheulean record of the Okote Member, at Koobi Fora, Kenya. *Journal of Human Evolution* 125: 159–180. DOI: https://doi.org/10.1016/j.jhevol.2018.07.008.

Proffitt, T, Reeves, JS, Benito-Calvo, A, Sánchez-Romero, L, Arroyo, A, Malaijivitnond, S and Luncz, LV. 2021 Three-dimensional surface morphometry differentiates behaviour on primate percussive stone tools. *Journal of The Royal Society Interface* 18(184): 20210576. DOI: https://doi.org/10.1098/rsif.2021.0576.

Ranhorn, KL, Braun, DR, Biermann Gürbüz, RE, Greiner, E, Wawrzyniak, D and Brooks, AS. 2019 Evaluating prepared core assemblages with three-dimensional methods: a case

study from the Middle Paleolithic at Skhūl (Israel). *Archaeological and Anthropological Sciences* 11(7): 3225–3238. DOI: https://doi.org/10.1007/s12520-018-0746-z.

Richardson, E and Werman, M. 2014 Efficient classification using the Euler characteristic. *Pattern Recognition Letters* 49: 99–106. DOI: https://doi.org/10.1016/j.patrec.2014.07.001.

Riddle, ATR and Chazan, M. 2014 Stone tools from the inside out: radial point distribution. *World Archaeology* 46(1): 123–136. DOI: https://doi.org/10.1080/00438243.2014.890915.

Riel-Salvatore, J, Bae, M, McCartney, P and Razdan, A. 2002 Palaeolithic archaeology and 3D visualization technology: recent developments. *Antiquity* 76(294): 929–930. DOI: https://doi.org/10.1017/S0003598X00091614.

Sánchez-Yustos, P, Diez-Martín, F, Domínguez-Rodrigo, M, Duque, J, Fraile, C, Díaz, I, Francisco, S de, Baquedano, E and Mabulla, A. 2017 The origin of the Acheulean. Techno-functional study of the FLK W lithic record (Olduvai, Tanzania). *PLOS ONE* 12(8): e0179212. DOI: https://doi.org/10.1371/journal.pone.0179212.

Sánchez-Yustos, P, Diez-Martín, F, Domínguez-Rodrigo, M, Fraile, C, Duque, J, Uribelarrea, D, Mabulla, A and Baquedano, E. 2016 Techno-economic human behavior in a context of recurrent megafaunal exploitation at 1.3Ma. Evidence from BK4b (Upper Bed II, Olduvai Gorge, Tanzania). *Journal of Archaeological Science: Reports* 9: 386–404. DOI: https://doi.org/10.1016/j.jasrep.2016.08.019.

Schmidt, P, February, E, Bretzke, K and Bellot-Gurlet, L. 2017 Tempering-residue on heat-treated silcrete: an experimental perspective and a potential analytical protocol. *Journal of Archaeological Science: Reports* 15: 611–619. DOI: https://doi.org/10.1016/j.jasrep.2016.08.014.

Selden, RZ, Dockall, JE and Dubied, M. 2020 A quantitative assessment of intraspecific morphological variation in Gahagan bifaces from the southern Caddo area and central Texas. *Southeastern Archaeology* 39(2): 125–145. DOI: https://doi.org/10.1080/0734578X.2020.1744416.

Selden, RZ, Dockall, JE and Shafer, HJ. 2018 Lithic morphological organisation: Gahagan bifaces from the Southern Caddo Area. *Digital Applications in Archaeology and Cultural Heritage* 10: e00080. DOI: https://doi.org/10.1016/j.daach.2018.e00080.

Shaw, M, Ames, C, Phillips, N, Chambers, S, Dosseto, A, Douglas, M, Goble, R, Jacobs, Z, Jones, B, Lin, S, Low, M, Mcneil, J-L, Nasoordeen, S, O'driscoll, C, Saktura, R, Sumner, T, Watson, S, Will, M and Mackay, A. 2019 The Doring River Archaeology Project: approaching the evolution of human land use patterns in the Western Cape, South Africa. *PaleoAnthropology* 400–422. DOI: https://doi.org/doi:10.4207/PA.2019.ART138.

Shipton, C. 2016 Hierarchical organization in the Acheulean to Middle Palaeolithic transition at Bhimbetka, India. *Cambridge Archaeological Journal* 26(4): 601–618. DOI: https://doi.org/10.1017/S095977431600041X.

Shipton, C. 2018 Biface knapping skill in the East African Acheulean: progressive trends and random walks. *African Archaeological Review* 35(1): 107–131. DOI: https://doi.org/10.1007/s10437-018-9287-1.

Shipton, C, Blinkhorn, J, Breeze, PS, Cuthbertson, P, Drake, N, Groucutt, HS, Jennings, RP, Parton, A, Scerri, EML, Alsharekh, A and Petraglia, MD. 2018 Acheulean technology and landscape use at Dawadmi, central Arabia. *PLOS ONE* 13(7): e0200497. DOI: https://doi.org/10.1371/journal.pone.0200497.

Shipton, C and Clarkson, C. 2015a Flake scar density and handaxe reduction intensity. *Journal of Archaeological Science: Reports* 2: 169–175. DOI: https://doi.org/10.1016/j.jasrep.2015.01.013.

Shipton, C and Clarkson, C. 2015b Handaxe reduction and its influence on shape: An experimental test and archaeological case study. *Journal of Archaeological Science: Reports* 3: 408–419. DOI: https://doi.org/10.1016/j.jasrep.2015.06.029.

Shipton, C, Clarkson, C and Cobden, R. 2019 Were Acheulean bifaces deliberately made symmetrical? Archaeological and experimental evidence. *Cambridge Archaeological Journal* 29(1): 65–79. DOI: https://doi.org/10.1017/S095977431800032X.

Shipton, C, Clarkson, C, Pal, JN, Jones, SC, Roberts, RG, Harris, C, Gupta, MC, Ditchfield, PW and Petraglia, MD. 2013 Generativity, hierarchical action and recursion in the technology of the Acheulean to Middle Palaeolithic transition: A perspective from Patpara, the Son Valley, India. *Journal of Human Evolution* 65(2): 93–108. DOI: https://doi.org/10.1016/j.jhevol.2013.03.007.

Shipton, C, Weisler, M, Jacomb, C, Clarkson, C and Walter, R. 2016 A morphometric reassessment of Roger Duff's Polynesian adze typology. *Journal of Archaeological Science: Reports* 6: 361–375. DOI: https://doi.org/10.1016/j.jasrep.2016.03.005.

Shipton, C and White, M. 2020 Handaxe types, colonization waves, and social norms in the British Acheulean. *Journal of Archaeological Science: Reports* 31: 102352. DOI: https://doi.org/10.1016/j.jasrep.2020.102352.

Sholts, SB, Gingerich, JAM, Schlager, S, Stanford, DJ and Wärmländer, SKTS. 2017 Tracing social interactions in Pleistocene North America via 3D model analysis of stone tool asymmetry. *PLOS ONE* 12(7): e0179933. DOI: https://doi.org/10.1371/journal.pone.0179933.

Sholts, SB, Stanford, DJ, Flores, LM and Wärmländer, SKTS. 2012 Flake scar patterns of Clovis points analyzed with a new digital morphometrics approach: evidence for direct transmission of technological knowledge across early North America. *Journal of Archaeological Science* 39(9): 3018–3026. DOI: https://doi.org/10.1016/j.jas.2012.04.049.

Shott, MJ. 2020 Allometry and Resharpening in Experimental Folsom-Point Replicas: Analysis Using Inter-Landmark Distances. *Journal of Archaeological Method and Theory* 27(2): 360–380. DOI: https://doi.org/10.1007/s10816-019-09437-7.

Shott, MJ and Seeman, MF. 2017 Use and multifactorial reconciliation of uniface reduction measures: a pilot study at the Noble Ponds Paleoindian site. *American Antiquity* 82(4): 723–741. DOI: https://doi.org/10.1017/aaq.2017.40.

Shott, MJ and Trail, BW. 2010 Exploring New Approaches to Lithic Analysis: Laser Scanning and Geometric Morphometrics. *Lithic Technology* 35(2): 195–220. DOI: https://doi.org/10.1080/01977261.2010.11721090.

Slizewski, A and Semal, P. 2009 Experiences with low and high cost 3D surface scanner. *Quartär* 56: 131–138.

Sumner, TA and Riddle, ATR. 2008 A virtual Paleolithic: assays in photogrammetric three-dimensional artifact modelling. *PaleoAnthropology* 158–169.

Titton, S, Barsky, D, Bargalló, A, Serrano-Ramos, A, Vergès, JM, Toro-Moyano, I, Sala-Ramos, R, Solano, JG and Jimenez Arenas, JM. 2020 Subspheroids in the lithic assemblage of Barranco León (Spain): Recognizing the late Oldowan in Europe. *PLOS ONE* 15(1): e0228290. DOI: https://doi.org/10.1371/journal.pone.0228290.

de la Torre, I, Vanwezer, N, Benito-Calvo, A, Proffitt, T and Mora, R. 2019 Spatial and orientation patterns of experimental stone tool refits. *Archaeological and Anthropological Sciences* 11(9): 4569–4584. DOI: https://doi.org/10.1007/s12520-018-0701-z.

Valletta, F, Dag, I and Grosman, L. 2021 Identifying Local Learning Communities During the Terminal Palaeolithic in the Southern Levant: Multi-scale 3-D Analysis of Flint Cores. *Journal of Computer Applications in Archaeology* 4(1): 145–168. DOI: https://doi.org/10.5334/jcaa.74.

Valletta, F, Smilansky, U, Goring-Morris, AN and Grosman, L. 2020 On measuring the mean edge angle of lithic tools based on 3-D models – a case study from the southern Levantine Epipalaeolithic. *Archaeological and Anthropological Sciences* 12(2): 49. DOI: https://doi.org/10.1007/s12520-019-00954-w.

Viallet, C. 2019 A new method of three-dimensional morphometry for analyzing the functional potentialities of bifaces. Contribution to the study of artefacts from AU P3 from the “Caune de l’Arago” (France). *Comptes Rendus Palevol* 18(2): 236–250. DOI: https://doi.org/10.1016/j.crpv.2018.11.001.

Weisler, M, Collins, SL, Feng, Y, Zhao, J, Shipton, C and Wei, X. 2013 A new major adze quarry from Nānākuli, O'ahu: implications for interaction studies in Hawai'i. *Journal of Pacific Archaeology* 4(2): 35–57.

Weiss, M. 2015 Stone tool analysis and context of a new late Middle Paleolithic site in western central Europe - Pouch-Terrassenpfeiler, Ldkr. Anhalt-Bitterfeld, Germany. *Quartär* 62: 23–62. DOI: https://doi.org/10.7485/QU62_2.

Weiss, M. 2020 The Lichtenberg Keilmesser - it's all about the angle. *PLOS ONE* 15(10): e0239718. DOI: https://doi.org/10.1371/journal.pone.0239718.

Weiss, M, Lauer, T, Wimmer, R and Pop, CM. 2018 The variability of the Keilmesser-Concept: a case study from central Germany. *Journal of Paleolithic Archaeology* 1(3): 202–246. DOI: https://doi.org/10.1007/s41982-018-0013-y.

Wiśniewski, A, Chłoń, M, Weiss, M, Pyżewicz, K and Migal, W. 2020 On making of Micoquian bifacial backed tools at Pietraszyn 49a, SW Poland. *Journal of Paleolithic Archaeology* 3(4): 856–888. DOI: https://doi.org/10.1007/s41982-020-00069-y.

Wiśniewski, A, Lauer, T, Chłoń, M, Pyżewicz, K, Weiss, M, Badura, J, Kalicki, T and Zarzecka-Szubińska, K. 2019 Looking for provisioning places of shaped tools of the late Neanderthals: A study of a Micoquian open-air site, Pietraszyn 49a (southwestern Poland). *Comptes Rendus Palevol* 18(3): 367–389. DOI: https://doi.org/10.1016/j.crpv.2019.01.003.

Yezzi-Woodley, K, Calder, J, Olver, PJ, Cody, P, Huffstutler, T, Terwilliger, A, Melton, JA, Tappen, M, Coil, R and Tostevin, G. 2021 The virtual goniometer: demonstrating a new method for measuring angles on archaeological materials using fragmentary bone. *Archaeological and Anthropological Sciences* 13(7): 106. DOI: https://doi.org/10.1007/s12520-021-01335-y.

Zaidner, Y and Grosman, L. 2015 Middle Paleolithic sidescrapers were resharped or recycled? A view from Nesher Ramla, Israel. *Quaternary International* 361: 178–187. DOI: https://doi.org/10.1016/j.quaint.2014.11.037.

Zangrossi, F, Delpiano, D, Cocilova, A, Ferrari, F, Balzani, M and Peresani, M. 2019 3D visual technology applied for the reconstruction of a Paleolithic workshop. *Journal of Archaeological Science: Reports* 28: 102045. DOI: https://doi.org/10.1016/j.jasrep.2019.102045.

Zupancich, A and Cristiani, E. 2020 Functional analysis of sandstone ground stone tools: arguments for a qualitative and quantitative synergetic approach. *Scientific Reports* 10(1): 15740. DOI: https://doi.org/10.1038/s41598-020-72276-0.

Zupancich, A, Mutri, G, Caricola, I, Carra, ML, Radini, A and Cristiani, E. 2019 The application of 3D modeling and spatial analysis in the study of groundstones used in wild plants processing. *Archaeological and Anthropological Sciences* 11(9): 4801–4827. DOI: https://doi.org/10.1007/s12520-019-00824-5.

Illustrative bibliography

Alperson-Afil, N, Goren-Inbar, N, Herzlinger, G and Wynn, T. 2020 Expert retrieval structures and prospective memory in the cognition of Acheulian hominins. *Psychology* 11(01): 173. DOI: https://doi.org/10.4236/psych.2020.111012.

Arroyo, A, Harmand, S, Roche, H and Taylor, N. 2020 Searching for hidden activities: Percussive tools from the Oldowan and Acheulean of West Turkana, Kenya (2.3–1.76 Ma). *Journal of Archaeological Science* 123: 105238. DOI: https://doi.org/10.1016/j.jas.2020.105238.

Arroyo, A and de la Torre, I. 2018 Pounding tools in HWK EE and EF-HR (Olduvai Gorge, Tanzania): Percussive activities in the Oldowan-Acheulean transition. *Journal of Human Evolution* 120: 402–421. DOI: https://doi.org/10.1016/j.jhevol.2017.10.005.

Assaf, E, Slon, V and Romagnoli, F. 2022 Horashim East: a newly discovered Middle Palaeolithic site in central Israel. *Journal of Quaternary Science* 37(1): 1–5. DOI: https://doi.org/10.1002/jqs.3387.

Braun, DR, Aldeias, V, Archer, W, Arrowsmith, JR, Baraki, N, Campisano, CJ, Deino, AL, DiMaggio, EN, Dupont-Nivet, G, Engda, B, Feary, DA, Garello, DI, Kerfelew, Z, McPherron, SP, Patterson, DB, Reeves, JS, Thompson, JC and Reed, KE. 2019 Earliest known Oldowan artifacts at >2.58 Ma from Ledi-Geraru, Ethiopia, highlight early technological diversity. *Proceedings of the National Academy of Sciences* 116(24): 11712–11717. DOI: https://doi.org/10.1073/pnas.1820177116.

Centi, L, Groman-Yaroslavski, I, Friedman, N, Oron, M, Prévost, M and Zaidner, Y. 2019 The bulb retouchers in the Levant: New insights into Middle Palaeolithic retouching techniques and mobile tool-kit composition. *PLOS ONE* 14(7): e0218859. DOI: https://doi.org/10.1371/journal.pone.0218859.

Clarkson, C, Jones, S and Harris, C. 2012 Continuity and change in the lithic industries of the Jurreru Valley, India, before and after the Toba eruption. *The Toba Volcanic Super-eruption of 74,000 Years Ago: Climate Change, Environments, and Evolving Humans* 258: 165–179. DOI: https://doi.org/10.1016/j.quaint.2011.11.007.

Clarkson, C, Shipton, C and Weisler, M. 2015 Front, back and sides: experimental replication and archaeological analysis of Hawaiian adzes and associated debitage. *Archaeology in Oceania* 50(2): 71–84. DOI: https://doi.org/10.1002/arco.5056.

Cristiani, E and Zupancich, A. 2021 Sandstone Ground Stone Technology: a Multi-level Use Wear and Residue Approach to Investigate the Function of Pounding and Grinding Tools. *Journal of Archaeological Method and Theory* 28(2): 704–735. DOI: https://doi.org/10.1007/s10816-020-09488-1.

Davis, LG, Nyers, AJ and Willis, SC. 2014 Context, Provenance and Technology of a Western Stemmed Tradition Artifact Cache from the Cooper's Ferry Site, Idaho. *American Antiquity* 79(4): 596–615. DOI: https://doi.org/10.7183/0002-7316.79.4.596.

Delpiano, D, Zupancich, A and Peresani, M. 2019 Innovative Neanderthals: results from an integrated analytical approach applied to backed stone tools. *Journal of Archaeological Science* 110: 105011. DOI: https://doi.org/10.1016/j.jas.2019.105011.

Diez-Martín, F, Fraile, C, Uribelarrea, D, Sánchez-Yustos, P, Domínguez-Rodrigo, M, Duque, J, Díaz, I, De Francisco, S, Yravedra, J, Mabulla, A and Baquedano, E. 2017 SHK Extension: a new archaeological window in the SHK fluvial landscape of Middle Bed II (Olduvai Gorge, Tanzania). *Boreas* 46(4): 831–859. DOI: https://doi.org/10.1111/bor.12246.

Eggers-Kaas, T, Pedersen, JB, Hoggard, CS, Sauer, F, Hilgart, J and Riede, F. 2019 A Technological and Typological Analysis of Lithic Material from Skovmosen I, Denmark. *Danish Journal of Archaeology* 8: 1–18. DOI: https://doi.org/10.7146/dja.v8i0.112232.

Ekshtain, R, Malinsky-Buller, A, Greenbaum, N, Mitki, N, Stahlschmidt, MC, Shahack-Gross, R, Nir, N, Porat, N, Mayer, DEB-Y, Yeshurun, R, Been, E, Rak, Y, Agha, N, Brailovsky, L, Krakovsky, M, Spivak, P, Ullman, M, Vered, A, Barzilai, O and Hovers, E. 2019 Persistent Neanderthal occupation of the open-air site of 'Ein Qashish, Israel. *PLOS ONE* 14(6): e0215668. DOI: https://doi.org/10.1371/journal.pone.0215668.

Eren, MI, Bebber, MR, Mika, A, Flood, K, Maguire, L, Norris, D, Perrone, A, Mullen, DA, Centea, S, Centea, C, Christy, B, Daud, R, Jackson, J, Patten, RJ, Redmond, BG,

Buchanan, B, Haythorn, R, Miller, GL, Conaway, MA, Gürbüz, RB, Lycett, SJ, Kilby, JD, Andrews, B, MacDonald, B, Boulanger, MT and Meltzer, DJ. 2021 The Nelson stone tool cache, North-Central Ohio, U.S.A.: Assessing its cultural affiliation. *Journal of Archaeological Science: Reports* 37: 102972. DOI: https://doi.org/10.1016/j.jasrep.2021.102972.

Furey, L, Phillipps, R, Emmitt, J, McAlister, A and Holdaway, S. 2020 A large trolling lure shank from Ahuahu Great Mercury Island, New Zealand. *The Journal of the Polynesian Society* 129(1): 85–112. DOI: https://doi.org/10.3316/informit.056905112848995.

Goren-Inbar, N. 2011 Culture and cognition in the Acheulian industry: a case study from Gesher Benot Yaʿaqov. *Philosophical Transactions of the Royal Society B* 366: 1038–1049. DOI: https://doi.org/10.1098/rstb.2010.0365.

Goren-Inbar, N, Sharon, G, Alperson-Afil, N and Herzlinger, G. 2015 A new type of anvil in the Acheulian of Gesher Benot Ya'aqov, Israel. *Philosophical Transactions of the Royal Society B: Biological Sciences* 370(1682): 20140353. DOI: https://doi.org/10.1098/rstb.2014.0353.

Grosman, L. 2016 Reaching the point of no return: the computational revolution in archaeology. *Annual Review of Anthropology* 45(1): 129–145. DOI: https://doi.org/10.1146/annurev-anthro-102215-095946.

Groucutt, HS, White, TS, Scerri, EML, Andrieux, E, Clark-Wilson, R, Breeze, PS, Armitage, SJ, Stewart, M, Drake, N, Louys, J, Price, GJ, Duval, M, Parton, A, Candy, I, Carleton, WC, Shipton, C, Jennings, RP, Zahir, M, Blinkhorn, J, Blockley, S, Al-Omari, A, Alsharekh, AM and Petraglia, MD. 2021 Multiple hominin dispersals into Southwest Asia over the past 400,000 years. *Nature* 597(7876): 376–380. DOI: https://doi.org/10.1038/s41586-021-03863-y.

Harmand, S, Lewis, JE, Feibel, CS, Lepre, CJ, Prat, S, Lenoble, A, Boës, X, Quinn, RL, Brenet, M, Arroyo, A, Taylor, N, Clément, S, Daver, G, Brugal, J-P, Leakey, L, Mortlock, RA, Wright, JD, Lokorodi, S, Kirwa, C, Kent, DV and Roche, H. 2015 3.3-million-year-

old stone tools from Lomekwi 3, West Turkana, Kenya. *Nature* 521(7552): 310–315. DOI: https://doi.org/10.1038/nature14464.

Haslam, M, Clarkson, C, Roberts, RG, Bora, J, Korisettar, R, Ditchfield, P, Chivas, AR, Harris, C, Smith, V, Oh, A, Eksambekar, S, Boivin, N and Petraglia, M. 2012a A southern Indian Middle Palaeolithic occupation surface sealed by the 74 ka Toba eruption: Further evidence from Jwalapuram Locality 22. *Quaternary International* 258: 148–164. DOI: https://doi.org/10.1016/j.quaint.2011.08.040.

Haslam, M, Harris, C, Clarkson, C, Pal, JN, Shipton, C, Crowther, A, Koshy, J, Bora, J, Ditchfield, P, Ram, HP, Price, K, Dubey, AK and Petraglia, M. 2012b Dhaba: An initial report on an Acheulean, Middle Palaeolithic and microlithic locality in the Middle Son Valley, north-central India. *Quaternary International* 258: 191–199. DOI: https://doi.org/10.1016/j.quaint.2011.09.007.

Haslam, M, Hernandez-Aguilar, RA, Proffitt, T, Arroyo, A, Falótico, T, Fragaszy, D, Gumert, M, Harris, JWK, Huffman, MA, Kalan, AK, Malaivijitnond, S, Matsuzawa, T, McGrew, W, Ottoni, EB, Pascual-Garrido, A, Piel, A, Pruetz, J, Schuppli, C, Stewart, F, Tan, A, Visalberghi, E and Luncz, LV. 2017 Primate archaeology evolves. *Nature Ecology & Evolution* 1(10): 1431–1437. DOI: https://doi.org/10.1038/s41559-017-0286-4.

Haslam, M, Luncz, L, Pascual-Garrido, A, Falótico, T, Malaivijitnond, S and Gumert, M. 2016 Archaeological excavation of wild macaque stone tools.. *Journal of Human Evolution* 96: .

Hayes, EH, Field, JH, Coster, ACF, Fullagar, R, Matheson, C, Florin, SA, Nango, M, Djandjomerr, D, Marwick, B, Wallis, LA, Smith, MA and Clarkson, C. 2021 Holocene grinding stones at Madjedbebe reveal the processing of starchy plant taxa and animal tissue. *Journal of Archaeological Science: Reports* 35: 102754. DOI: https://doi.org/10.1016/j.jasrep.2020.102754.

Herzlinger, G, Wynn, T and Goren-Inbar, N. 2017 Expert cognition in the production sequence of Acheulian cleavers at Gesher Benot Ya'aqov, Israel: a lithic and cognitive

analysis. *PLOS ONE* 12(11): e0188337. DOI: https://doi.org/10.1371/journal.pone.0188337.

Hovers, E, Gossa, T, Asrat, A, Niespolo, EM, Resom, A, Renne, PR, Ekshtain, R, Herzlinger, G, Ketema, N and Martínez-Navarro, B. 2021 The expansion of the Acheulian to the Southeastern Ethiopian Highlands: Insights from the new early Pleistocene site-complex of Melka Wakena. *Quaternary Science Reviews* 253: 106763. DOI: https://doi.org/10.1016/j.quascirev.2020.106763.

Kolobova, KA, Shalagina, AV, Vasiliev, SV, Markin, SV, Krivoshapkin, AI, Chabai, VP, Krajcarz, MT, Krajcarz, M and Rendu, W. 2019 Exploitation of the natural environment by Neanderthals from Chagyrskaya Cave (Altai). *Quartär* 66: . DOI: https://doi.org/10.7485/QU66_1.

Lauer, T, Weiss, M, Bernhardt, W, Heinrich, S, Rappsilber, I, Stahlschmidt, MC, von Suchodoletz, H and Wansa, S. 2020 The Middle Pleistocene fluvial sequence at Uichteritz, central Germany: Chronological framework, paleoenvironmental history and early human presence during MIS 11. *Geomorphology* 354: 107016. DOI: https://doi.org/10.1016/j.geomorph.2019.107016.

Lei, L, Lotter, MG, Li, D, Kuman, K and Li, H. 2021 Refining the Understanding of Large Cutting Tool Technology in the Baise Basin, South China. *Lithic Technology* 46(2): 87–103. DOI: https://doi.org/10.1080/01977261.2020.1841958.

Li, H, Kuman, K and Li, C. 2014 Re-examination of the morphological variability of East Asian handaxes from a comparative perspective. *World Archaeology* 46(5): 705–733. DOI: https://doi.org/10.1080/00438243.2014.953707.

Malinsky-Buller, A. 2016 The Muddle in the Middle Pleistocene: The Lower–Middle Paleolithic Transition from the Levantine Perspective. *Journal of World Prehistory* 29(1): 1–78. DOI: https://doi.org/10.1007/s10963-016-9092-1.

Malinsky-Buller, A, Birkenfeld, M, Aladjem, E, Givol-Barzilai, Y, Bonnes, D, Goren, Y and Yeshurun, R. 2013 Another piece in the puzzle - A new PPNA site at Bir el-Maksur (Northern Israel). *Paléorient* 39(2): 155–172.

Malinsky-Buller, A, Ekshtain, R and Hovers, E. 2014 Organization of lithic technology at 'Ein Qashish, a late Middle Paleolithic open-air site in Israel. *Quaternary International* 331: 234–247. DOI: https://doi.org/10.1016/j.quaint.2013.05.004.

Motes-Rodrigo, A, McPherron, SP, Archer, W, Hernandez-Aguilar, RA and Tennie, C. 2022 Experimental investigation of orangutans' lithic percussive and sharp stone tool behaviours. *PLOS ONE* 17(2): e0263343. DOI: https://doi.org/10.1371/journal.pone.0263343.

Muller, A, Shipton, C and Clarkson, C. 2022 Stone toolmaking difficulty and the evolution of hominin technological skills. *Scientific Reports* 12(1): 5883. DOI: https://doi.org/10.1038/s41598-022-09914-2.

Novoselsky, I, Grosman, L, Herzlinger, G and Goren-Inbar, N. 2020 Limestone Wedges: ad hoc Quarrying Tools of the Kaizer Hill Quarry Site. *Lithic Technology* 45(2): 68–85. DOI: https://doi.org/10.1080/01977261.2020.1716165.

Paixão, E, Marreiros, J, Dubreuil, L, Gneisinger, W, Carver, G, Prévost, M and Zaidner, Y. 2022 The Middle Paleolithic ground stones tools of Nesher Ramla unit V (Southern Levant): A multi-scale use-wear approach for assessing the assemblage functional variability. *Quaternary International* 624: 94–106. DOI: https://doi.org/10.1016/j.quaint.2021.06.009.

Pedergnana, A, Cristiani, E, Munro, N, Valletta, F and Sharon, G. 2021 Early line and hook fishing at the Epipaleolithic site of Jordan River Dureijat (Northern Israel). *PLOS ONE* 16(10): e0257710. DOI: https://doi.org/10.1371/journal.pone.0257710.

Perston, Y, Wallis, LA, Burke, H, McLennan, C, Hatte, E and Barker, B. 2022 Flaked Glass Artifacts from Nineteenth–Century Native Mounted Police Camps in Queensland, Australia. *International Journal of Historical Archaeology* 26(3): 789–822. DOI: https://doi.org/10.1007/s10761-021-00624-5.

Proffitt, T, Luncz, LV, Falótico, T, Ottoni, EB, de la Torre, I and Haslam, M. 2016 Wild monkeys flake stone tools. *Nature* 539(7627): 85–88. DOI: https://doi.org/10.1038/nature20112.

Režek, Ž, Dibble, HL, McPherron, SP, Braun, DR and Lin, SC. 2018 Two million years of flaking stone and the evolutionary efficiency of stone tool technology. *Nature Ecology & Evolution* 2(4): 628–633. DOI: https://doi.org/10.1038/s41559-018-0488-4.

Roche, H, de la Torre, I, Arroyo, A, Brugal, J-P and Harmand, S. 2018 Naiyena Engol 2 (West Turkana, Kenya): a Case Study on Variability in the Oldowan. *African Archaeological Review* 35(1): 57–85. DOI: https://doi.org/10.1007/s10437-018-9283-5.

Sánchez-Yustos, P. 2021 Knocking on Acheulean's door. DK revisited (Bed I, Olduvai, Tanzania). *Journal of Archaeological Science: Reports* 35: 102763. DOI: https://doi.org/10.1016/j.jasrep.2020.102763.

Sánchez-Yustos, P, Diez-Martín, F, Díaz, IM, Duque, J, Fraile, C and Domínguez, M. 2015 Production and use of percussive stone tools in the Early Stone Age: Experimental approach to the lithic record of Olduvai Gorge, Tanzania. *Journal of Archaeological Science: Reports* 2: 367–383. DOI: https://doi.org/10.1016/j.jasrep.2015.03.005.

Sánchez-Yustos, P, Diez-Martín, F, Domínguez-Rodrigo, M, Fraile, C, Duque, J, Díaz, I, de Francisco, S, Baquedano, E and Mabulla, A. 2018 Acheulean without handaxes? Assemblage variability at FLK West (Lowermost Bed II, Olduvai, Tanzania). *Journal of anthropological sciences = Rivista di antropologia: JASS* 96: 53–73. DOI: https://doi.org/10.4436/JASS.96007.

Sano, K, Beyene, Y, Katoh, S, Koyabu, D, Endo, H, Sasaki, T, Asfaw, B and Suwa, G. 2020 A 1.4-million-year-old bone handaxe from Konso, Ethiopia, shows advanced tool technology in the early Acheulean. *Proceedings of the National Academy of Sciences* 117(31): 18393–18400. DOI: https://doi.org/10.1073/pnas.2006370117.

Scerri, EML, Frouin, M, Breeze, PS, Armitage, SJ, Candy, I, Groucutt, HS, Drake, N, Parton, A, White, TS, Alsharekh, AM and Petraglia, MD. 2021 The expansion of Acheulean hominins into the Nefud Desert of Arabia. *Scientific Reports* 11(1): 10111. DOI: https://doi.org/10.1038/s41598-021-89489-6.

Schmid, VC, Porraz, G, Zeidi, M and Conard, NJ. 2019 Blade Technology Characterizing the MIS 5 D-A Layers of Sibudu Cave, South Africa. *Lithic Technology* 44(4): 199–236. DOI: https://doi.org/10.1080/01977261.2019.1637627.

Sharon, G, Alperson-Afil, N and Goren-Inbar, N. 2011 Cultural conservatism and variability in the Acheulian sequence of Gesher Benot Ya'aqov. *Special Issue: Early-Middle Pleistocene palaeoenvironments in the Levant* 60(4): 387–397. DOI: https://doi.org/10.1016/j.jhevol.2009.11.012.

Sharon, G and Barsky, D. 2016 The emergence of the Acheulian in Europe – A look from the east. *The Acheulean in Europe: origins, evolution and dispersal* 411: 25–33. DOI: https://doi.org/10.1016/j.quaint.2015.11.108.

Shemer, M, Greenbaum, N, Taha, N, Brailovsky-Rokser, L, Ebert, Y, Shaar, R, Falgueres, C, Voinchet, P, Porat, N, Faershtein, G, Horwitz, LK, Rosenberg-Yefet, T and Barkai, R. 2022 Late Acheulian Jaljulia – Early human occupations in the paleo-landscape of the central coastal plain of Israel. *PLOS ONE* 17(5): e0267672. DOI: https://doi.org/10.1371/journal.pone.0267672.

Shipton, C, Clarkson, C, Bernal, MA, Boivin, N, Finlayson, C, Finlayson, G, Fa, D, Pacheco, FG and Petraglia, M. 2013 Variation in Lithic Technological Strategies among the Neanderthals of Gibraltar. *PLOS ONE* 8(6): e65185. DOI: https://doi.org/10.1371/journal.pone.0065185.

Shipton, C and Nielsen, M. 2015 Before Cumulative Culture. *Human Nature* 26(3): 331–345. DOI: https://doi.org/10.1007/s12110-015-9233-8.

Shipton, C, Parton, A, Breeze, P, Jennings, RP, Groucutt, HS, White, TS, Drake, N, Crassard, R, Alsharekh, A and Petraglia, MD. 2014 Large Flake Acheulean in the Nefud Desert of Northern Arabia. *Paleoanthropology* 2014: 446–462. DOI: https://doi.org/10.4207/PA.2014.ART85.

de la Torre, I, Benito-Calvo, A, Martín-Ramos, C, McHenry, LJ, Mora, R, Njau, JK, Pante, MC, Stanistreet, IG and Stollhofen, H. 2021 New excavations in the MNK Skull site, and the last appearance of the Oldowan and Homo habilis at Olduvai Gorge, Tanzania.

Journal of Anthropological Archaeology 61: 101255. DOI: https://doi.org/10.1016/j.jaa.2020.101255.

de la Torre, I, Mora, R, Arroyo, A and Benito-Calvo, A. 2014 Acheulean technological behaviour in the Middle Pleistocene landscape of Mieso (East-Central Ethiopia). *Journal of Human Evolution* 76: 1–25. DOI: https://doi.org/10.1016/j.jhevol.2014.06.008.

Valletta, F and Grosman, L. 2021 Local Technological Traditions in the Early and Middle Epipaleolithic of Ein Gev Area. *Journal of Paleolithic Archaeology* 4(2): 10. DOI: https://doi.org/10.1007/s41982-021-00079-4.

Zupancich, A, Shemer, M and Barkai, R. 2021 Biface use in the Lower Paleolithic Levant: First insights from late Acheulean Revadim and Jaljulia (Israel). *Journal of Archaeological Science: Reports* 36: 102877. DOI: https://doi.org/10.1016/j.jasrep.2021.102877.

Zupancich, A, Solodenko, N, Rosenberg-Yefet, T and Barkai, R. 2018 On the Function of Late Acheulean Stone Tools: New Data From Three Specific Archaeological Contexts at the Lower Palaeolithic Site of Revadim, Israel. *Lithic Technology* 43(4): 255–268. DOI: https://doi.org/10.1080/01977261.2018.1523098.